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MACRO-ECONOMIC POLICY, EMPLOYMENT AND LIVING STANDARDS IN MALAWI AND TANZANIA, 1973-84

by

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Preface

The International Policies Unit of the ILO has been undertaking a series of comparative studies in order to illuminate the interaction between external constraints and the achievement of employment and development objectives. By selecting pairs of countries with structural similarities and which have faced similar shocks, the aim is to explore the scope for government policies to increase employment relative to the constraints imposed and opportunities offered outside the national domain. Comparisons of Egypt and Turkey, Nigeria and Ghana have already been issued as Working Papers.

Tanzania and Malawi provide a particularly interesting contrast. Ending their colonial periods with relatively similar endowments, they adopted radically divergent development paths. Malawi provided an environment conducive to private initiative and consumption. Tanzania focused on the provision of public goods and services.

Both countries achieved some improvement in basic indicators of survival. Both also experienced absolute declines in private per capita consumption, but the decline was far greater in Tanzania than Mali - greater by nearly 5 per cent annually 1973-1984. One is comparing stagnation with decline.

It is the argument of this study, which applies a systematic model, that the divergence in outcomes was a result of policy choices for short term economic management, not of differences in the availability of external resources, nor in the nature of the external shocks they faced. As a result of persisting longer with incompatible trade, exchange rate and monetary policies and delaying adjustment, Tanzania experienced a severe decline in the early 1980s.

This analysis contributes to an understanding of the degree to which national policies can alter development performance. And the study suggests a methodology which could be usefully applied to other cases.

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I. Introduction

Malawi and Tanzania are small, poor, open economies with populations of 7.0 million and 22.2 million respectively as of 1985. Even by the standards of Africa they faced the post-Independence period with very limited resources. Exports were confined to primary agriculture (chiefly coffee and tobacco), manufacturing was negligible, and factor markets were not well developed. Both economies remain among the low-income (and least-developed) group of developing countries: as of 1985 per capita GNP was around US$ 170 in Malawi and US$ 290 in Tanzania.

In this paper we focus upon the consequences of macro-economic policies for employment and living standards over the period 1973-84. This period is chosen because its start precedes the various macro-economic disturbances of the 1970s, while its end is unfortunately dictated by the lags in publication of statistics. Even for the years 1982-84 some series, such as employment in Tanzania, are not yet available, and others must be pieced together on a somewhat different basis from earlier years. Because of these data lags the paper cannot be fully current. However, there is much to be learned from the analysis of a period in which larger shocks made macro-economic management acutely difficult, and in which as a result major mistakes were made by most governments.

Both policies and outcomes diverged dramatically in Malawi and Tanzania during this period. Section 3 describes and compares key trends in employment, wages, living standards and basic indicators. Sections 4 and 5 address the problem of relating these outcomes to macro-economic policies. Section 4 demonstrates that outcomes are inexplicable in terms of trends in two conventional determinants of macro-economic growth, namely capital formation and foreign exchange availability, for the two economies had similar records for both of them. Section 5 applies a more recent analytic framework which instead focuses upon the relative prices at which the markets for money and non-traded goods clear, the policies which sustain such prices, and the consequences of departures from them. It should be stressed that this framework does not aim to provide a comprehensive account of the economy. As with all analytic macro-models, it is highly aggregated and therefore stylised. At their best such models, by dispensing with complex but minor detail, clarify major consequences of policies which might otherwise have been obscured. At their worst they are a misleading caricature, dangerous because of their apparent rigour. Readers must form their own judgement as to where on this spectrum the present model lies. The framework is set out in Section II.

II. An analytical framework

Malawi and Tanzania are both "small", "open" economies. "Smallness" means an inability to influence world prices of exportable or importable goods, and "openness" means that a large component of GDP is accounted for by international trade. Few economies are "small" in the strict sense: for most their export goods are sufficiently distinct from the products of other nations that extra export volume would somewhat depress the world price. Malawi and Tanzania are no exception: however, they are relatively small. The share of the world market in their principal export good is very low (unless the good is very narrowly defined). Malawi has 4.4 per cent of the

world tobacco market and Tanzania 1.0 per cent of the world coffee market (as of 1985). Hence, as a first approximation, neither country can influence the external terms of trade.

There is no single ideal measure of openness. For some purposes the key concept is the proportion of GDP which is actually traded internationally, for others it is the proportion which is "tradeable" internationally. However, the latter is very much harder to measure than the former. Taking a simple indicator, the proportion of imports to GDP, both economies are unusually open, Malawi having a share of 30 per cent and Tanzania 18 per cent whereas the average for low-income countries is 14 per cent (as of 1985).

In small, open economies such as Malawi and Tanzania macro-economic policy is predominantly about the interaction of three variables, the exchange rate, trade restrictions, and the domestically funded budget deficit. In turn, because of the absence of a domestic bond market, the latter determines the increase in cash balances. The willingness to hold these cash balances further determines the impact upon the price level.

If prices are allowed to clear markets, then between them, these three policies generate two domestic relative prices. First, trade restrictions obviously affect the domestic price of exportable goods relative to importables (imports and locally produced substitutes). In Malawi and Tanzania the crops important for the export sector, such as coffee and tobacco, are scarcely consumed domestically, and in what follows we simplify by assuming that domestic consumption is zero. Secondly, the money supply and the exchange rate jointly determine the price of these two tradeable groups of goods relative to goods which are not traded internationally. We now present a simple geometric model which relates the three macro-economic policies to these two relative prices.[1]

The two domestic relative prices form the axes within which the diagramatic account of the model is developed. Denoting exports, importables and non-tradeables by x, m and n, the vertical axis shows Px/Pm. The world prices of x and m (x/m denoting the terms of trade), will be treated as an exogenous constant, so that Px/Pm, the domestic relative price, varies only as a result of commercial policies such as tariffs, quotas and export taxes. The horizontal axis shows Pn/Pm. Such commercial policies plus the exchange rate determine Pm. By definition n-goods have no world price, their domestic price being determined under market-clearing conditions by the money supply. Along any ray from the origin Px/Pn is constant, so there is no price incentive to reallocate resources between exports and non-tradeables. Along any vertical line Pn/Pm is constant and so there are no substitution effects in consumption. Barring biased income effects, the pattern of demand is therefore constant. Along any horizontal line Px/Pm is constant: in effect, commercial policy is being held constant along such a line and the model reduces to the more familiar two-aggregate analysis of tradeables and non-tradeables.

We begin by identifying in turn the loci of equilibria in the non-tradeables and money markets. In figure 1 (see page 19) the schedule N-N denotes such a locus for non-tradeables. To the left of the locus non-tradeables are too cheap and are therefore in excess demand, to the right they are too dear and so are in excess supply.

The N-N locus is generally steeper than a ray through the origin. Point

A denotes the relative prices which clear the market under free trade (so that w is both the terms of trade and the domestic relative price). At B, a disequilibrium, import restrictions have lowered Px/Pm but there is as yet no change in Pn/Pm. This induces a shift of resources out of exportables into the production of both importables and non-tradeables, causing an excess supply of the latter. To restore equilibrium in the non-tradeables sector a lower relative price of non-tradeable goods is needed. To see the extent of such a fall in Pn/Pm we demonstrate that it must stop short of point D. At D Pn is so reduced that Pn/Px has reverted to its value at A. Thus the incentive for resources to shift from exportables into non-tradeables has been entirely eliminated while an incentive for consumption to switch into non-tradeables has been created. Hence, since A was by assumption an equilibrium, D must be a point of excess demand for non-tradeables. Therefore, the N-N locus of equilibria through A must be steeper than a ray through the origin.

The R-R locus represents equilibrium in the money market for given asset demand, real income and money supply valued in foreign currency. It is convenient to measure the money supply by its foreign currency value since changes in the supply of domestic currency and in the exchange rate then have equivalent effects: a doubling of the supply of domestic currency combined with a halving of the exchange rate keeps the money supply constant. Above R-R the price level is too low and there is excess supply of money, below R-R the price level is too high and there is excess demand. Letting E be a point of monetary equilibrium, at F, a disequilibrium, there is an increase in Pn/Pm. If the exchange rate and trade restrictions are the same at F as at E then the nominal price of importables is unchanged. Hence, the only way for Pn/Pm to have risen is for Pn to have risen. Hence, with one price constant and the other increased, nominal expenditure must rise to maintain real income and so at F there is excess demand for money. The move from F to G restores monetary equilibrium: the tariff rate is reduced, lowering the nominal price of importables. But since Pn/Pm is unchanged the nominal price of non-tradeables also falls. Hence the move from F to G represents a reduction in the price level.

Combining the two loci, we now introduce the concept of a compatible policy set which generates a sustainable equilibrium. Point E denotes such a position in which the exchange rate and trade restrictions fix Pm, and Pn is then determined by the money supply generated by the budget deficit. At these prices the non-tradeables market clears. By assumption there is no net asset accumulation and so the budget is in balance. The money market clears, and hence by Walras Law the balance of payments is in equilibrium. This in turn implies that there is no change in the money supply.

The disequilibrium dynamics of the model are generated partly by endogenous changes in prices, the money supply and investment, and partly by cnahges in the policy variables. Endogenous changes in prices can occur only in the non-tradeables sector and, unless these prices are controlled, are determined by excess supply or demand as classified by N-N. Endogeneous changes in the money supply are determined by the balance of payments and the fiscal deficit. An increase in the money supply converts some points of excess demand for money into excess supply of money and so shifts the R-R locus downwards. Endogenous changes in investment occur if the capital stock is gradually re-allocated towards the sector in excess demand. For example, at F the excess supply of non-tradeables is gradually removed by depreciation of the non-tradeable-specific capital stock and net investment in the

tradeables sector, leading to an eastward shift in N-N.

We now use the model to illustrate policy options by considering the consequences of departures from a compatible policy set. Figure 2 (see page 20) illustrates the impact effect of each of the three policy instruments. The impact effect of a trade liberalisation is to lower the price of importables, shifting the economy from E to L, a disequilibrium. The R-R and N-N loci are unaffected. A reduction in the supply of domestic currency with a given exchange rate lowers the money supply in units of foreign currency and thereby shifts the R-R locus to R'-R'. The initial prices as depicted by E now generate a disequilibrium. A devaluation has an impact effect upon both prices and the R-R locus. The effect on prices is to raise the domestic price of tradeables, shifting the economy from E to a point such as K. By reducing the money supply in units of foreign currency the devaluation also shifts the R-R locus to R'-R'. Clearly, since the locus is so defined, proportional devaluations and domestic currency reductions have equivalent effects.

We will shortly apply the concept of compatible policies to Malawi and Tanzania during our period, and analyse the qualitative impact of changes in their exchange rate, trade and monetary policies. First, however, we review the outcomes of these policies for employment and living standards.

III. Outcomes: Living standards and employment, 1973-84

The two governments adopted radically divergent development paths. That of Malawi was to provide an environment conducive to growth in private incomes and consumption. That of Tanzania was to increase the provision of public goods and services. The outcomes of these divergent paths are set out in tables 1 to 4. We start with the ultimate of Sen's "capabilities", namely survival, which we measure by mean life expectancy and the infant mortality rate. Between 1973 and 1985 both countries enjoyed substantial improvements in these indicators, though from very unsatisfactory initial levels. On these criteria performance was very similar: life expectancy increased a little more rapidly in Tanzania, infant mortality declined a little more in Malawi. This similar improvement in the basic capability came about through radically different processes: the different "strategies" indeed had different consequences. Table 1 shows that on two indicators of public provision, primary education and rural water, Tanzania substantially exceeded Malawi in its improved provision.

Although Tanzania succeeded in that part of its strategy which aimed at improved provision of basic services, the objective of stimulating growth was not achieved. Per capita GDP stagnated 1973-80 and thereafter declined, so that by 1985 it was around 11 per cent lower than in 1973. See table 2. The Malawian strategy was successful relative to Tanzania but in absolute terms was scarcely satisfactory (although the period under consideration included the two oil shocks). In twelve years per capita GDP rose by 6 per cent. Relative to Tanzania, Malawi improved its position by around 20 per cent, or 1.5 per cent per annum, quite a rapid rate of divergence. However, this is dwarfed by the divergence in per capita private consumption. In both countries this declined in absolute terms and relative to GDP. Partly, this was because both countries experienced a decline in the terms of trade, and Malawi lost its remittance receipts from South Africa. However, the deterioration in Tanzania was remarkable: relative to the inhabitants of Malawi, private consumption declined at an annual average rate of 4.7 per

cent. Over the twelve years Malawians improved their relative position by nearly three quarters. Hence, social provision improved in Tanzania relative to Malawi, whereas private consumption improved in Malawi relative to Tanzania, yet the net result in terms of the capability of survival was, as far as can be determined, rather similar.

The differing strategies may be expected to have generated different consequences not only for average living standards but also for their distribution. However, although there are some snapshots of income distribution for each country provided by budget surveys, both inter-temporal and international comparisons of such surveys are problematic. In the case of Tanzania, urban and rural survey snapshots spanning 1962-84 have been compared and appear to substantiate the annual wage and National Accounts data which we will rely upon below (see Bevan, Bigsten, Collier and Gunning, ILO, forthcoming). The rural surveys show per capita incomes in 1980 and 1983 to have been some 30 per cent below their 1969 level. The urban surveys show an even larger decline between 1969 and 1984. There are fewer such snapshots for Malawi, and the basis for comparison is weaker. In both countries the major socio-economic cleavage has been between employees in the formal sector and peasant households. Between them these two groups account for the

Table 1. Health and public services indicators

	1965	1973	1985	Percentage Change 1973-85
Life expectancy				
Malawi	39.0	41.1	44.8	9.3
Tanzania	42.7	46.2	51.6	11.7
Infant mortality rate				
Malawi	200.5	189.6	157.8	-16.8
Tanzania	139.0	129.5	111.4	-14.0
Primary enrolment				
Malawi	44.0	36.0	65.0	80.6
Tanzania	32.0	34.0	87.0	155.9
Access to safe water (rural)				
Malawi	-	29.0	37.0	27.6
Tanzania	-	9.0	28.0	211.1
Energy cons. per cap (kg oil)				
Malawi	25.5	41.8	43.4	3.8
Tanzania	36.9	73.0	37.8	-48.2

Source: Social Indicators of Development, 1986, World Bank.

Table 2. Real per capita GDP, consumption and wages
(Index numbers 1973 = 100)

	GDP		Private Consumption		Wages	
	M	T	M	T	M	T
1973	100	100	100	100	100	100
1974	104.3	99	99.9	104	94.5	123.4
1975	106.9	101	95.8	95	82.3	97.6
1976	110.4	106	101.2	99	82.1	96.8
1977	112.0	105	110.1	97	82.1**	91.1
1978	117.8	104	102.5	109	88.3	83.3
1979	118.3	103	108.0	100	83.5	80.4
1980	114.1	100	104.9	97	82.2	67.1
1981	105.0	97	99.4	84	84.1	54.7
1982	105.0	94	96.0	79	90.3	51.4
1983	105.7	91	96.4	67	75.0	43.6
1984	107.0	90	99.1	57	68.1	37.1
1985	105.8	89	99.7			
1986			95.4*			

* Provisional.
** Break in series, assumed constant.

Source: National Accounts for GDP and Private Consumption; Wages (formal sector only) as for table 4 deflated by the CPI.

overwhelming majority of the population. Whereas budget surveys provide occasional direct observations of wage earner and peasant living standards, for a more continuous indicator of trends in wage earner - peasant differentials we must resort to a proxy. One such proxy is provided by the mean formal sector wage relative to mean per capita consumption as estimated by the National Accounts. The latter is, of course, the average for the entire national population, including wage earners themselves. The inclusion of wage earners has the effect of dampening the ratio: if wages fall and all other incomes are constant, the national average will also fall but by less than wages. Other than wage earners, most consumption will be that of peasants. Hence, the ratio is a proxy (albeit a poor one), for the direction of change of wage earner - peasant living standards.[2] Table 3 shows that over the eleven year period Malawi and Tanzania experienced rather similar and powerful changes in the differential between these two groups. In each case,

by 1984 wages had fallen by around a third relative to total (and hence approximately to peasant), consumption. This decline, which also occurred in several other African countries (on Kenya see Collier and Lal, 1986), probably reflected the unwinding of a differential in favour of wage earners which had built up during and shortly after the struggle for Independence, broadly 1950-65. The time path of its erosion differs between countries: in Malawi the erosion occurred earlier and was at a more modest pace than in Tanzania.

Table 3. Wages relative to mean consumption

Index	(1973 = 100)	
	M	T
1973	100	100
1974	95	119
1975	86	103
1976	81	98
1977	75	94
1978	86	76
1979	77	80
1980	78	69
1981	85	65
1982	94	65
1983	78	65
1984	69	65

Derived from table 2.

Although the path of relative wages was similar, both the growth and composition of wage employment differed considerably. Total wage employment grew at 4.9 per cent per annum in Malawi against only 3.5 per cent in Tanzania, so that as a proportion of the labour force, wage employment rose in Malawi but was constant in Tanzania. Compositional differences were most marked in formal sector agriculture and in government non-market employment such as administration and education. In Malawi the former grew at 7.2 per cent per annum and the latter at 1.4 per cent, whereas in Tanzania the rates were 1.2 per cent and 8.7 per cent: agricultural employment grew five times more rapidly than government employment in Malawi, and seven times less rapidly in Tanzania.

Table 4. Formal sector wage employment

(A) in thousands

	Agriculture		Government: Community and Social		Total Employment[5]	
	M	T	M	T	M	T
1973	76.3	109.0	48.6	87.4	215.3	472.5
1974	80.4	124.0	48.1	106.5	226.9	484.1
1975	93.0	121.8	51.2	84.4	244.7	470.8
1976	103.9	132.3	51.5	89.5	264.1	480.7
1977	154.7[1]	122.3	35.7[4]	104.3	307.6[3]	479.2
1978	168.9	123.4	36.6	141.0[2]	339.3	535.9
1979	182.3	128.0	37.6	180.7	357.8	599.8
1980	181.2	131.0	42.5	182.0	367.5	603.2
1981	157.2	119.5	42.4	209.5	327.5	621.8
1982	158.2		41.9		326.5	
1983	197.2		41.9		387.4	

(B) Index 1973 = 100

	Agriculture		Government: Community and Social		Total Employment[5]	
	M	T	M	T	M	T
1973	100	100	100	100	100	100
1974	105.3	113.8	99.0	121.9	105.4	102.5
1975	121.9	111.7	105.3	96.6	113.7	99.6
1976	136.2	121.4	106.0	102.4	122.7	101.7
1977	157.4	112.2	101.2	119.3	128.0	101.4
1978	171.8	113.2	103.5	131.6	141.2	113.4
1979	185.5	117.4	105.6	168.6	148.9	126.9
1980	184.3	120.2	115.6	169.8	152.9	127.7
1981	159.9	109.6	115.4	195.5	136.3	131.5
1982	161.0		114.4		135.9	
1983	200.6		114.4		161.2	

1 Change in basis of series, 138.8 on old basis.
2 Change in basis of series, 115.0 on old basis.
3 Change in basis of series, 275.6 on old basis.
4 13.7 transfer to agriculture.
5 This includes in addition to agriculture and government, manufacturing, trade, construction, utilities and services.

Sources: Malawi Statistical Yearbook, Reported Employment and Earnings, various years. Tanzania Statistical Abstract, 1973-79, 1982 and 1984.

The radically divergent trends in government employment are qualitatively consistent with the radically different deliveries of public services noted above. Similarly, the large differences in agricultural wage employment had as a counterpart, differences in agricultural exports. This is because in both countries formal agricultural wage employment occurs predominantly on estates and medium-size farms growing export crops. Note, however, that many agricultural exports are grown by peasants rather than the estate sector.

To summarise, some of the employment and living standard outcomes appear to be fairly directly explained by policy choices. There was evidently a major difference in the expansion of public service employment and public service provision. Clearly, there is some link between the fact that the proportion of children in school expanded more rapidly in Tanzania and the fact that the public sector labour force expanded more rapidly. In the same category, the success of Malawian agricultural exports accounts for the expansion of agricultural wage employment. However, the major divergence in outcomes is clearly the radical decline in both wages and per capita consumption in Tanzania relative to Malawi, and this remains to be explained. We begin with an attempt to account for this in terms of the conventional constraints to economic growth.

IV. Conventional constraints: Foreign exchange and capital formation

In explaining developing country growth rates the most influential macro-economic framework has been the "two gap model" (Chenery and Strout, 1966). This focused upon two constraints, namely, foreign exchange and domestic savings. Hence, within that framework, if Malawi grew more rapidly than Tanzania, with consequent improvements in mean living standards, it might be expected that this would be attributable to a more rapid growth in foreign exchange availability or capital. The former might indeed appear likely, for there was a large divergence in agricultural exports. In volume terms agricultural exports increased rapidly in Malawi and declined rapidly in Tanzania, growing in Malawi at 13 per cent per annum faster than in Tanzania. However, although Malawi devoted more labour resources to the export sector, and achieved far more rapid export growth, this did not materially enhance its import capacity relative to Tanzania. For both countries the volume of imports stagnated, hence declining substantially in per capita terms. Relative to 1973, on average over the period Malawi was able to raise imports only five per cent more in volume terms than Tanzania (table 5). This was because the better export performance was broadly offset by lower aid receipts. In total, over the period Tanzanian net receipts per capita in real terms were 40 per cent higher (table 6). Further, although volatile, they tended to grow more rapidly: prior to 1980 net receipts per capita were only 29 per cent greater than in Malawi; post-1980 they were 56 per cent higher. The decline in aid to Malawi was compounded by the fall in remittances. In the 1960s there were more Malawians in wage employment outside Malawi than within the country, and their remittances were a major source of foreign exchange. Much of this was in the South Africa goldmines. This relationship became unacceptable to the government of Malawi and the flow of receipts was severely curtailed.

Given that the trend in import volumes turned out rather similar for the two countries, foreign exchange availability cannot be the explanation for the very different GDP and private consumption performances.

Table 5. Export and import volumes
Index 1973 = 100

	Agricultural Export Volume		Import Volume	
	M	T	M	T
1973	100	100	100	100
1974	95	69	102	102
1975	101	76	116	104
1976	113	99	85	97
1977	121	87	99	99
1978	117	65	130	120
1979	150	67	132	106
1980	175	48	120	104
1981	130	69	101	101
1982	135	59	96	102
1983	135	48	98	73
1984	181	47	75	82
		mean	104.5	99.2

Source: Malawi: Pryor; Tanzania: Statistical Abstracts and Quarterly Statistical Bulletins.

Table 6. Per capita aid flows at constant prices
(Dollars, 1983)

	Official Development Assistance		Total Net Receipts	
	M	T	M	T
1973	12.2	14.2	13.9	18.1
1974	13.3	17.7	15.4	18.5
1975	17.4	27.5	23.2	30.2
1976	16.5	23.6	21.3	29.7
1977	18.6	26.8	26.8	33.2
1978	19.1	27.5	23.7	33.5
1979	23.9	33.2	35.5	42.0
1980	21.6	33.5	28.6	42.9
1981	21.0	35.7	29.5	44.7
1982	18.1	34.3	20.2	37.5
1983	16.7	29.6	15.1	28.9
1984	22.5	25.1	22.8	27.3
Total	220.9	328.7	276.0	386.5

Source: World Bank.

The comparative trends in the capital stock are even more remarkable. At the start of our period, in 1973, the two economies had similar investment rates. The share of gross fixed capital formation (GFKF) to GDP was 23.9 per cent in Malawi and 21.1 per cent in Tanzania. In total over the period there was little difference in capital formation (table 7). Neither economy raised its GFKF in absolute terms much above that at the start of the period. Indeed, to the extent that there is a difference it favours Tanzania: relative to 1973, GFKF averaged around six per cent more than in Malawi. Hence, given the initial similarity of investment rates, unless depreciation rates differed markedly, Tanzania must have increased its capital stock slightly more than Malawi. Since GDP rose considerably in Malawi relative to Tanzania, the investment effort (GFKF/GDP) increased in Tanzania relative to Malawi. There is, however, a major difference in the time path of GFKF. Three phases can be distinguished: during 1974-77 the rate of GFKF relative to 1973 is slightly higher in Malawi, on average by 3.3 per cent. During 1978-80 it is far higher, by 25.1 per cent. Thereafter, it is massively lower, by 28.8 per cent. This trajectory of the difference is the more remarkable because Malawian GDP was steadily growing relative to Tanzania. Hence, in the absence of major shifts in the investment effort, there should have been a steadily growing difference in favour of Malawi.

Table 7. Gross fixed capital formation (constant prices) (Index: 1973 = 100)

	M	T	Difference (M-T)
1973	100	100	0
1974	94.5	103.1	-8.6
1975	122.8	95.0	+27.8
1976	110.2	113.4	-3.2
1977	126.4	125.8	+0.6
1978	185.6	125.6	+60.0
1979	148.8	140.7	+8.1
1980	130.7	123.5	+7.2
1981	88.6	133.8	-45.2
1982	86.3	133.4	-47.0
1983	84.1	101.4	-17.3
1984	81.5	93.3	-11.8
1985	77.9	123.5	-45.6
mean	110.6	116.5	-5.9

Sources: For Tanzania, Statistical Abstract 1973-79, and National Accounts, 1976-84. For Malawi, Statistical Yearbook (various years).

In view of the differences in GDP growth despite similar increases in volumes of imports and capital, there was evidently some major divergence in

economic policy not properly identified by the aggregates considered so far. We turn, therefore, to an investigation of whether macro-economic policies were compatible in the sense defined in Section 2.

V. Relative prices and compatible policies

At the start of our period, in 1973, both economies had approximately compatible trade, exchange rate and monetary policies. There were no significant attempts to control goods prices at levels which created shortages, so that goods markets (both tradeable and non-tradeable) were clearing. There were restrictions on imports, but these were consistent with the other macro-economic policies, so that the balance of payments was in equilibrium. By the early 1980s both economies had departed from compatible policies but in rather different ways. In particular, the government of Tanzania chose to maintain incompatible policies for longer than that of Malawi by controlling prices at non-market-clearing levels. The resulting excess demand had multiplier consequences for the reduction in the output of the manufacturing and export crop sectors, and helps to account for the severe decline in Tanzanian living standards during the 1980s.

Table 8 sets out a comparison of policies. Nominal exchange rate policies were very similar: the cross rate changed little over eleven years.

Table 8. Trade, exchange rate and monetary policies

	Relative exchange rate (sh per K)	Domestic financing of budget deficit as percentage of GDP				Relative inflation(CPI)	Relative protection
		M	T	T-M	T-M Cumulative	T/M	M/T
1973	8.57	2.0	2.1	0.1	0.1	100	100
1974	8.49	1.0	4.5	3.5	3.6	103	101
1975	8.58	2.2	5.3	3.1	6.7	113	122
1976	9.18	3.4	3.5	0.1	6.8	116	121
1977	9.16	2.8	4.0	1.2	8.0	124	153
1978	9.11	0.8	9.5	8.7	16.7	128	95
1979	10.06	1.7	10.1	8.7	25.4	131	79
1980	10.09	4.1	5.7	1.6	27.0	144	86
1981	9.25	9.3	10.3	1.0	28.0	165	93
1982	8.79	3.2	9.4	6.2	34.2	194	
1983	9.49	5.8	6.9	1.1	35.3	214	
1984	10.82						

Sources: Exchange rates (average for year) from IMF, International Financial Statistics. Budget data: Malawi, Pryor table 12.3a; Tanzania 1973-80, Bevan et al, table 7:11; 1981-83 Statistical Abstract 1984, tables F1 and F12. There are problems of comparison between all three of these sources. CPI data from IFS. Protection data from Table 9.

Monetary policy we have suggested is best regarded as synonymous with that part of government expenditure which is in excess of domestic revenue or foreign borrowing. Tanzania persistently ran a larger deficit as a proportion of GDP than did Malawi, especially in 1978-79. Cumulatively, the difference in the deficits amounted to 35 per cent of GDP. Since this could only be financed by printing money, the price level more than doubled in Tanzania relative to Malawi in spite of price controls. However, both governments had sudden slackenings of monetary policy, with the deficit rising by more than five percentage points of GDP in a single year (1977-78 in Tanzania, 1980-81 in Malawi). Thereafter, in both countries the deficit doubled relative to GDP: in Malawi pre-1981 it had averaged 2.25, while post 1981 it was 4.5; in Tanzania pre-1978 it averaged 3.88, post-1978 8.48.

The measurement of trade policy is problematic. Both countries intervened to depress domestic prices of peasant export crops relative to world prices either by explicit export taxes or through marketing board pricing policies, and to raise domestic prices of imports relative to world prices by tariffs. In table 9 we calculate the trend in the incidence of protection as the trend in the ratio of demestic prices of exports and importables to world prices of exports and importables:

$$\text{Protection} = (P_m^d / P_m^d) \;/\; (P_m^w / P_x^w)$$

where superscipts denote domestic and world, and subscipts denote importables and exports.

As discussed in the notes to table 9, severe data problems are encountered in applying this procedure. For Malawi there are no sector-specific GDP deflators; however, there is reliable direct information on P_x^d, P_x^d, P_m^w and tariff rates. Since Malawi did not use either import quotas or price controls, the latter can be used to infer P_m^d. Since Tanzania by contrast used both extensively, tariff rates would be a poor guide to P_m^d. However, Tanzania does have sector-specific GDP deflators and this enables the net effect of price controls, tariffs and quotas to be inferred from the manufacturing GDP deflator relative to the deflator for the c.i.f. cost of non oil imports (manufacturing being the major import substitute sector). This unavoidable difference in procedure must qualify the reliability of the resulting estimates.

The trend of protection in Malawi relative to Tanzania is shown in the final column of table 8. Malawi started the period with a much less protectionist trade regime than Tanzania (although this is not shown in the table). In 1973 Malawi had one of the least restrictive trade regimes in the developing world, with tariffs averaging only 14.6 per cent and no quotas. Tanzania had already imposed a range of quantitative restrictions in response to balance of payments problems in the early 1970s. Subject to the data qualifications made above, table 8 and 9 imply that in the late 1970s Tanzania attempted a trade liberalisation not matched by Malawi, hence Malawi is shown to have become relatively more protectionist - compared to 1973. In the early 1980s both economies became more protectionist, but Tanzania more so than Malawi; hence by the end of the period Tanzania had become even more protectionist relative to Malawi than at the start of the period.

Table 9 shows estimates of the trends in the relative prices considered in Section 2. In addition to the changes in protection discussed above, in both economies non-tradeables became markedly cheaper relative to

Table 9. Relative prices, 1973-84

(A) MALAWI	Exports		Importables		Clothing		Non-[1] tradeables	Change in protection[4]
	fob	dom	cif	dom[7]	cif[3]	dom[2]		
1973	100	100	100	100	100	100	100	100
1974	127	118	135	132	108	119	108	105
1975	149	127	164	158	115	150	117	113
1976	166	146	188	182	141	166	126	110
1977	219	163	209	206	190	168	131	133
1978	197	202	210	210	230	167	135	97
1979	178	213	239	243	256	176	143	85
1980	184	214	291	308	350	184	149	91
1981	239	212	340	377	295	192	171	125
1982	262	205	369		364	204	192	
1983	268	209e	411		444	225	209	
1984	329		465					

(B) TANZANIA	Agricultural exports[5]		Non-oil importables		Non-tradeables[6]	Change in Protection[4]
	fob	dom	cif	dom		
1973	100	100	100	100	100	100
1974	140	106	144	116	120	106
1975	141	125	168	139	134	93
1976	159	141	193	155	142	91
1977	225	209	212	172	161	87
1978	236	194	228	191	176	102
1979	260	186	281	215	199	107
1980	286	225	336	279	241	106
1981	281	246	329	390	284	135
1982	286	307	348	458	339	123
1983	342	342	398	522	397	131
1984	418	507	515	612	452	98
1985	519	731				

[1] This is the simple average of three categories: (a) school fees, entertainment, personal services and travel, (b) domestic help, (c) low income housing. For 1973-80 (c) is not available and for 1983 (b) is not available.

[2] Retail index of clothing and footwear for high income groups.

[3] Import unit value of cloth, 1973-82. Series discontinued in 1982; for 1982-83 we have used "other non-durable consumer goods".

[4] (importables in domestic prices/imports cif)/(exports in domestic prices/exports fob).

[5] From price policy recommendatons for the 1985 Agricultural Price Review, MDB, 1985.

[6] Weighted average of GDP deflators for construction, wholesale and retail trade, and transport.

[7] cif import prices times one plus the average tariff rate, estimated as tariff revenue as a percentage of imports, from Pryor table 11.2. The 1973 rate of duty is 14.6 per cent. Note that this differs from the procedure used in Tanzania, where the manufacturing value added deflator was used. For Malawi there are no sector-specific deflators, so this procedure could not be replicated. Conversely, because in Tanzania most trade restrictions have been non-tariff unlike in Malawi, the Malawi procedure would be a poor guide to the effect of trade policy on domestic prices.

importables. This was much more marked in Malawi where price signals were powerfully redirecting resources into both components of the traded goods sector. In Tanzania, for most of the period there was a price incentive for resources to be redirected out of the export sector towards non-tradeables production. Both economies also experienced a decline in their terms of trade. Again this account of trends in relative prices must be somewhat qualified. For Tanzania we are able to proxy prices in the non-tradeables sector by the GDP deflator for construction, wholesale and retail trade and transport. For Malawi, the absence of sector-specific deflators precludes this option, and so we have constructed an index from three non-tradeable components of the consumer price index (see the notes to table 9 for details).

We now relate the above policy and relative price changes to the analytic geometry developed in Section 2. We begin with Malawi. The three major changes were the exogenous deterioration in the terms of trade, the expansionary monetary policy of 1981 onwards, and the modest increase in protectionism. Point E in figure 3 (see page 21) depicts the 1973 position of the economy, in which policies were compatible. The two oil shocks caused a deterioration in the term of trade which lowered real incomes and hence the market clearing price of non-tradeables, shifting the N-N locus to the left, to N'-N'. From 1980, the expansionary monetary policy shifted the R-R locus substantially downwards, to R'-R'. The initial relative price configuration, E, thus ceased to be sustainable: there was an excess supply of money and excess domestic demand for tradeable goods. The expansionary monetary policy was not compatible with the existing trade and exchange rate policies, especially in view of the deterioration in the terms of trade. The options were either a large devaluation, a restoration of the initial monetary policy, or a large increase in protection. All three responses were adopted in some measure in the immediate post-1980 period, but none sufficiently to return the economy to compatible policies. Instead, the balance of payments was permitted to go into unsustainable deficit, financed by short-term commercial borrowing. Thus in the early-1980s the economy had traversed only part of the way to a new sustainable equilibrium, being at a point such as F. By the mid-1980s this strategy could not be sustained, and there was a sharp reduction in import volumes (see table 5) together with a Structural Adjustment Programme involving reductions in the budget deficit and large devaluations. The economy was thus returned to compatible policies at F, at an as yet unascertainable adjustment cost in terms of employment and living standards, by means of an upwards shift in the R-R locus to R"-R".

Now consider Tanzania. First, Tanzania shared with Malawi the terms of trade deterioration which reduced the demand for non-tradeables through its real income effects, shifting the N-N locus to the left. However, due to the particular non-market allocations of foreign exchange and investment adopted, these being discussed below, domestic production of import substitutes also declined massively. By 1984 manufacturing output at constant prices was only 45 per cent of its 1973 level. This decline in the supply of the importable good further shifted the N-N locus to the left. Since there was no such development in Malawi, the N-N locus thus shifted much further in Tanzania. Secondly, we have seen that domestic currency expansion as determined by the budget deficit was far larger in Tanzania, and occurred earlier, while nominal exchange rate policies were similar. Thus, the R-R locus shifted down considerably further. Thirdly, we have seen that during 1976-78 Tanzania reduced the incidence of protection both absolutely and relatively to Malawi (though from a much higher initial level of protection). Subsequent to 1978

this was reversed: protection increased both absolutely and relative to Malawi.

In Figure 4 (see page 22), point E again depicts the initial compatible policy configuration which characterised the economy in 1973. By the late 1970s the two loci had shifted to N'-N' and R'-R'. That is, given the domestic currency and exchange rate policies and the decline in real income, a sustainable equilibrium required the prices depicted by G: Pm needed to rise relative to both Pn and Px. Because demand for non-traded goods was sustained by the monetary expansion (excess demand for money spilling over into demand for non-traded goods), there was little tendency for the relative price of non-traded goods to fall. Extra demand for importables was satisfied by temporary trade liberalisation. However, this contributed towards an unsustainable balance of payments deficit. The economy was thus at point such as F at which policies were radically incompatible. As with Malawi, the available options would normally have been to devalue or reduce the budget deficit, shifting the R-R locus back up, or to greatly increase protection, shifting the economy to G. To some extent, as shown in table 9, the last policy was indeed adopted. However, during the early 1980s a further, and highly demanding policy was adopted, namely an attempt to suppress a wide range of prices at well below market-clearing levels. Excess demand for both importable and non-tradeable goods built up, counter-balanced by persistent excess supplies of money. The economy thus traversed to a point such as H, a radical disequilibrium in that the consequences of incompatible policies were transmitted to all transactions rather than just causing an unsustainable balance of payments deficit as had temporarily been the case in Malawi. Further, whereas in Malawi the loss of foreign exchange reserves had fairly rapidly brought about an abandonment of incompatible policies, in Tanzania the incompatibility manifested itself as increasingly acute scarcities of goods. Although this was ruinously inconvenient, it was technically sustainable for far longer than a payments deficit. Hence, Tanzania persisted with incompatible policies for rather longer than Malawi. The severe decline in the Tanzanian economy during the early 1980s, shown dramatically in table 2, was, we will argue, a consequence of this chosen response to the consequences of an incompatible stance of macro-economic policy.

Excess demand intensified for both consumer and intermediate goods. In each case, shortages gave rise to a multiplier process which induced further contractions in output. Consumer goods were allocated to the population through the Board of Internal Trade, the prices of these goods being set by the Price Commission on cost-plus criteria. At the peak, around two thousand prices were regulated in this way. Peasant households were faced with mounting shortages which created a disincentive to produce export crops or, indeed, any cash crops. The theory of how shortages reduce incentives has recently been formalised (see Bevan, Bigsten, Collier and Gunning (1987a)). However, in essence it is quite straightforward: when extra goods are unobtainable, there is no incentive to earn extra income even if goods are cheap. Of more importance, recent empirical research has established that shortages intensified 1978-84 in most areas of Tanzania, and that these shortages explain part of the reduction in the volume of exports noted in Table 5 (see Bevan, Collier and Horsnell (forthcoming)). This was, of course, a vicious circle, because declining export earnings contributed to the reduced availability of imported consumer goods. The decline in imported consumer goods might have been offset by increased production of import substitutes. However, this did not happen: price controls restricted the incentive to increase production, and imported intermediate inputs became scarce and were inefficiently allocated.

Intermediate imported inputs were allocated through a complex bureaucratic process involving the Board of External Trade, the Central Bank and the Cabinet. Allocations of foreign exchange became specific both as to firm and to input: firm X would be assigned Y dollars for input Z. As excess demand mounted, firms inflated their bids, knowing that only a few would be successful. Those deciding input allocations lacked the information needed to identify the most urgent bottlenecks. As a result, the efficiency of allocations probably deteriorated. In the most imported-input-dependent sector, manufacturing, the decline in output is well explained by imported inputs lagged one year, and a negative time trend (the latter meaning that in successive years a given quantity of inputs generated less output). This suggests that the allocation of inputs was becoming progressively less efficient, and one explanation for this is that the task of prioritising was becoming harder as excess demand became more severe. Again this gave rise to a vicious circle. As manufacturing output declined, the supply of consumer goods was reduced, which aggravated rural shortages, reduced export production and reduced imported inputs in the next period.

VI. Conclusion

Malawi and Tanzania have in common an acute poverty of resources even by African standards, political stability, and several national aspirations (such as a new capital city). In the period under consideration neither economy was successful: we are comparing stagnation with decline. Nevertheless, the decline in Tanzania was sufficiently rapid that outcomes have diverged very substantially. In Malawi wage employment grew considerably more rapidly: wages and average living standards relative to those in Tanzania improved by around 75 per cent. Some of these relative gains in private cosumption were at the expense of a less rapid growth in the provision of public services. The similar trends in infant mortality and life expectation suggest that Tanzania's strategy of improved social provision may well have been cost effective unless it was itself responsible for much of the decline in private consumption (a hypothesis for which there seems little evidence).

This decline is not explicable in terms of either capital formation or foreign exchange, since the two countries have rather similar, and dismal, paths of investment and import volumes. Rather, we have suggested, the explanation lies in differing macro-economic strategies. Neither country adopted ideal macro-economic management during this period. External shocks substantially changed the set of policies which were compatible. These posed both technical problems in trying to quantify the appropriate policy changes and political problems from the redistribution caused by price changes. In addition to external shocks, both countries experienced a period of explosive growth in the budget deficit. Without a bond market there was a resulting large increase in the supply of currency. This internal shock compounded the external shocks, so that the policy configuration became incompatible and hence unsustainable. Malawi reverted to compatible policies through a conventional structural adjustment package. Tanzania persisted with incompatible policies by means of a non-market allocation process: excess demand was suppressed in the markets for most goods. Although this enabled the macro-economic policy configuration to be maintained for rather longer than in Malawi, the pervasive shortages which it entailed had contractionary macro-economic repercussions. Peasants were unwilling to sell crops while consumer goods were in limited supply, and manufacturing firms were unable to secure a continuous flow of complementary inputs appropriate for efficient

production. These shortage-induced contractionary forces probably account for a substantial part of the decline in per capita GDP in Tanzania relative to Malawi.

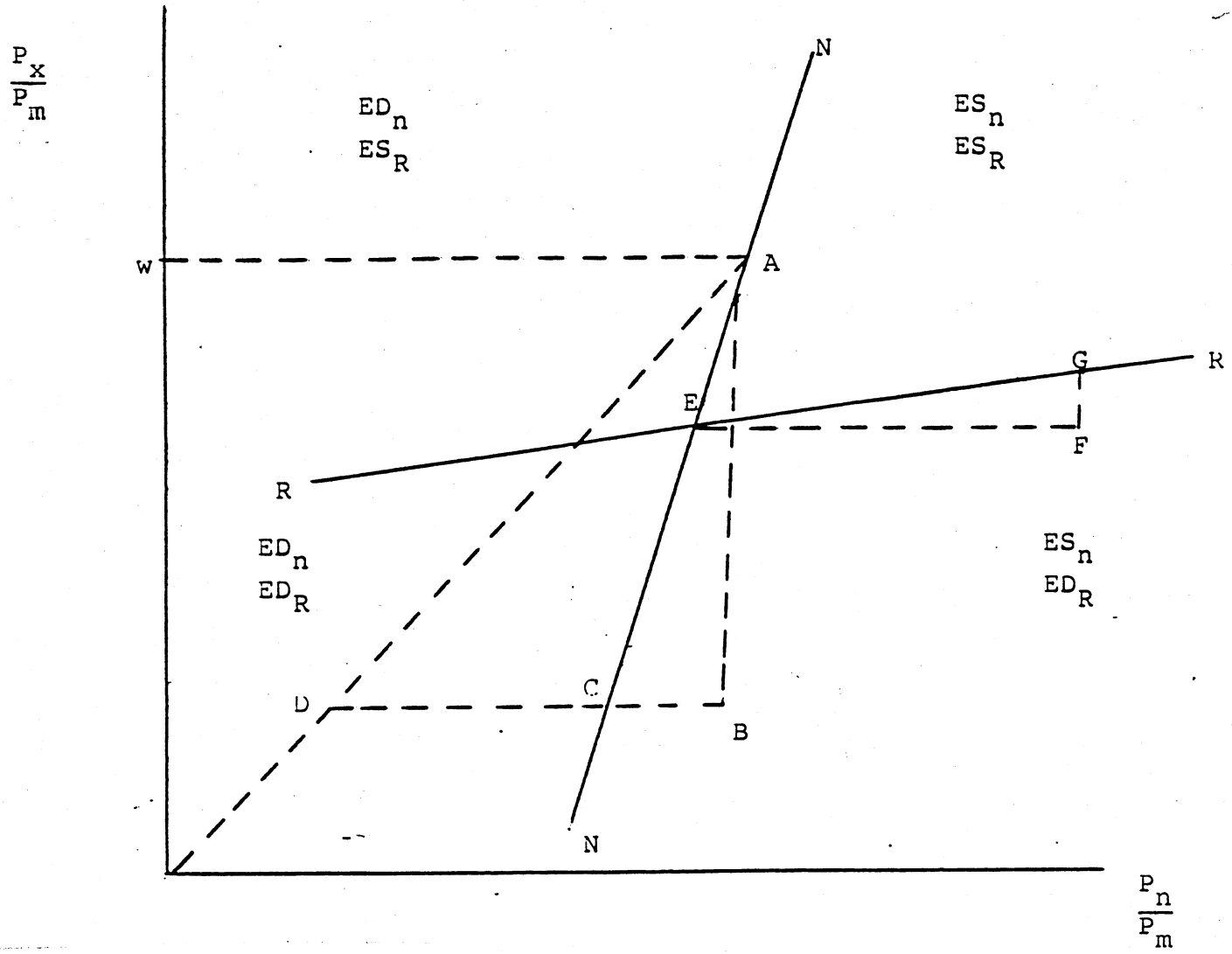
In this paper the emphasis has been on the consequences for growth and employment of short-term macro-economic management. This has involved the deliberate neglect both of long-term macro-economic policies, such as capital formation, and of micro-economic interventions, such as agricultural policies. Obviously, the policies which we have neglected matter. A government can maintain compatible policies and yet the economy can fail to grow either because capital formation is slow or because of mistaken sectoral policies. However, the mismanagement of short-term macro-economic policies can also have overriding effects. Mismanagement can take two forms. First, not all compatible policy sets are equally desirable: there is a large literature on the relative merits of more or less protection for example. This paper has concentrated on a second, and more fundamental mismanagement. If policies are not compatible then the economy is characterised by an unsustainable disequilibrium. Whereas it might be desirable to switch between compatible policy sets, it is imperative to achieve some such set. The room for choice is therefore limited.

Notes:

1 The model is more fully presented in Collier (1987). The foundations of the model are Dornbusch (1974), Mussa (1976), and Neary and Wijnbergen (1986).

2 An alternative proxy which is smetimes used is agricultural GDP per capita. A disadvantage with this is that a substantial proportion of peasant income is non-agricultural. Our chosen proxy would be less satisfactory were peasants not so large a group of the population and non-peasant self-employment not so small.

Figure 1. Money and goods market equilibrium



ED = excess demand
ES = excess supply
n = non-tradeables
R = money
N-N = non-tradeable goods equilibrium locus
R-R = money equilibrium locus

Figure 2. The impact effect of policy changes

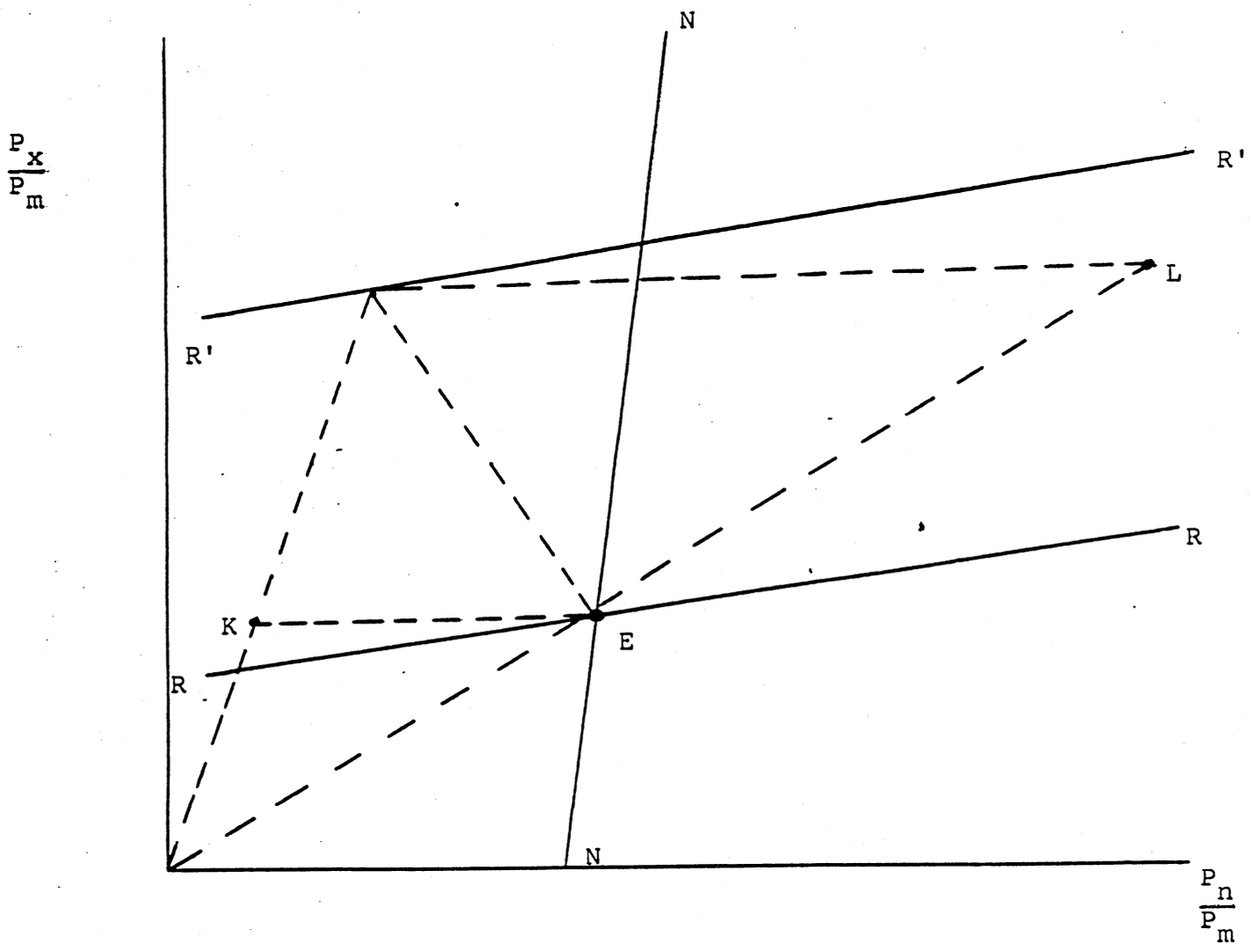


Figure 3. Malawi: the path from compatible policies

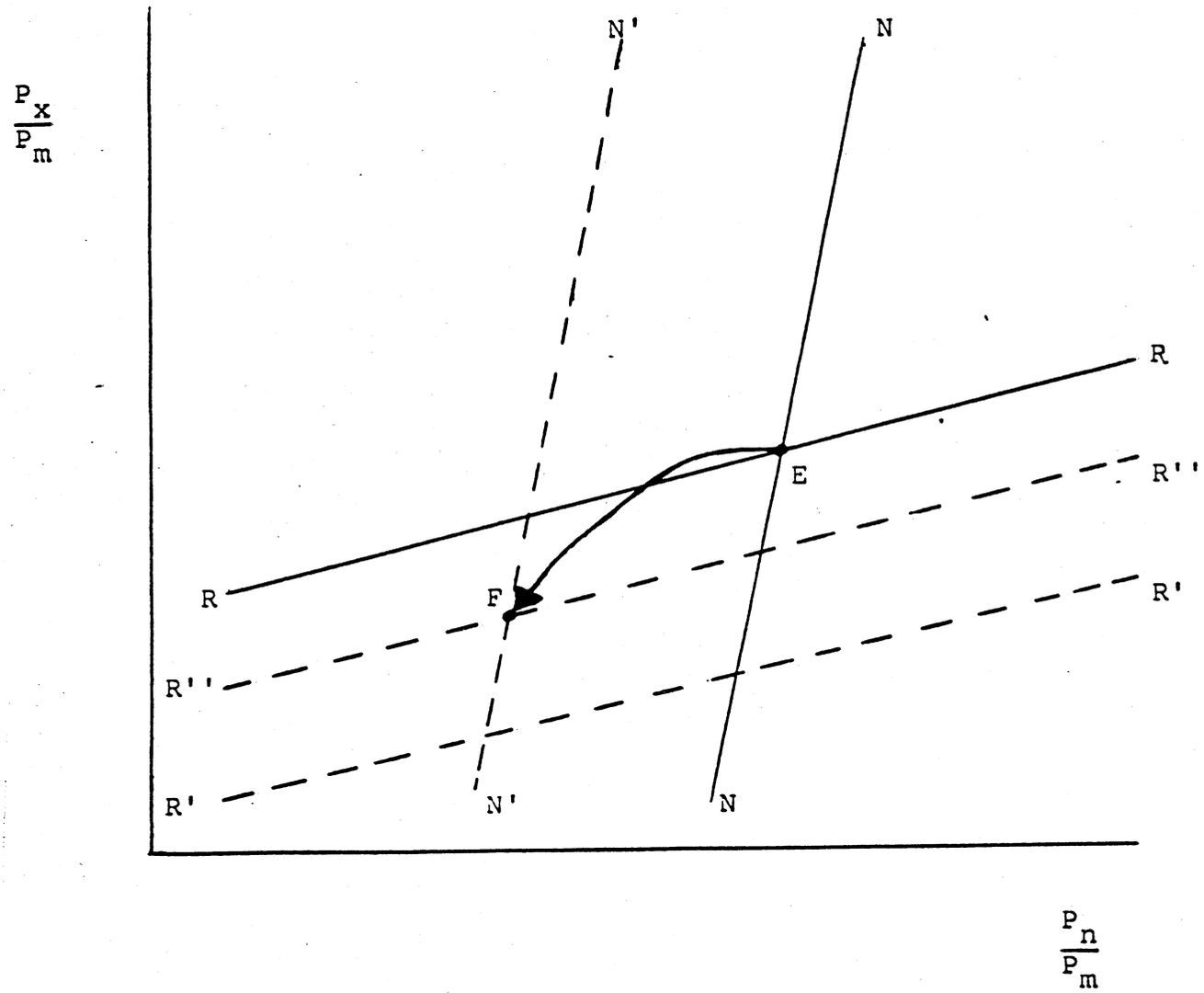
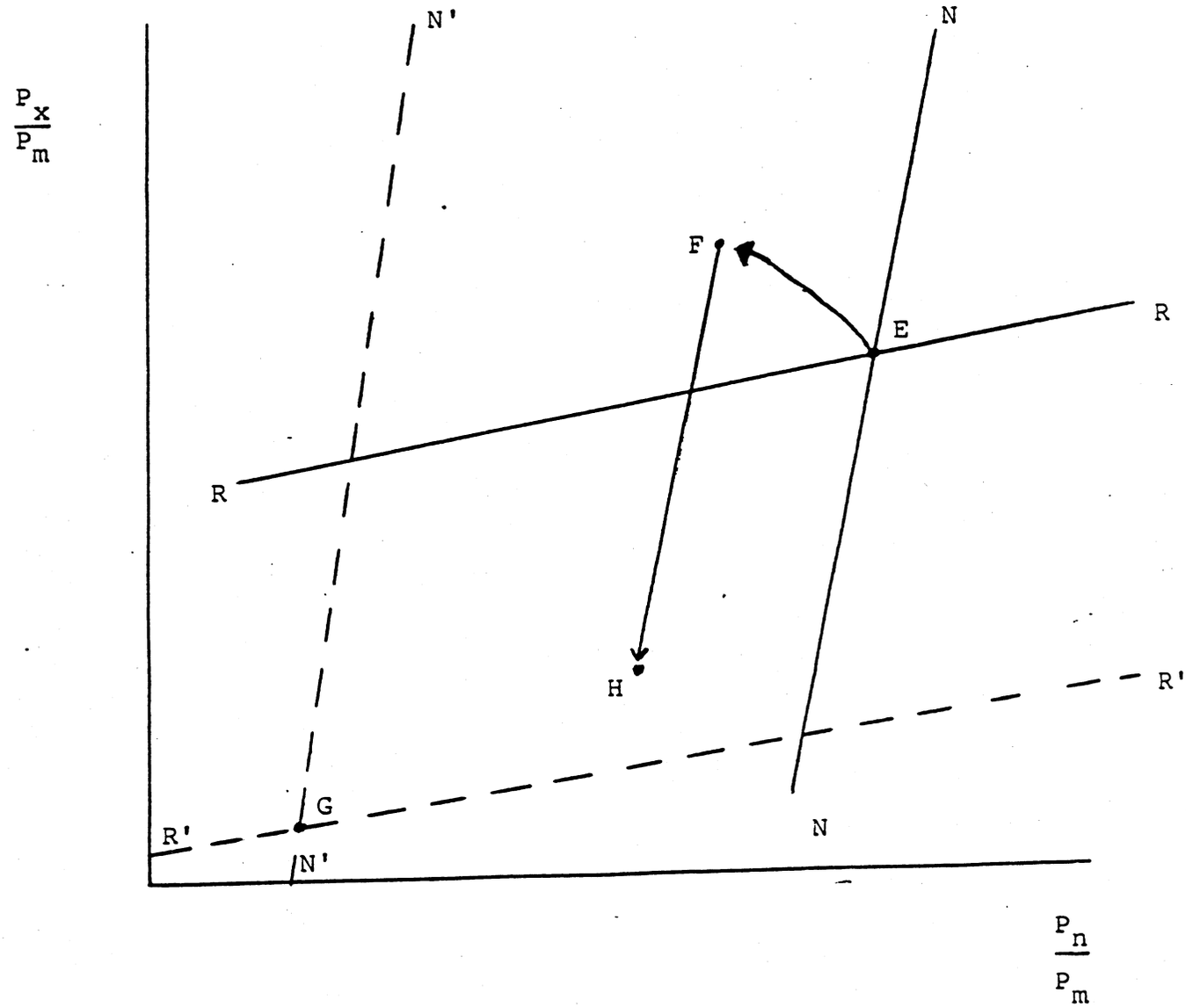


Figure 4. Tanzania: the path from compatible policies



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