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Working Paper

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MARKETS AND GOVERNMENTS IN AGRICULTURAL AND INDUSTRIAL ADJUSTMENT

Tony Killick

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MARKETS AND GOVERNMENTS IN AGRICULTURAL AND INDUSTRIAL ADJUSTMENT

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Preface and acknowledgements

ODI Working Papers present in preliminary form work resulting from research undertaken under the auspices of the Institute. Views expressed are those of the authors and do not necessarily reflect the views of ODI. Comments are welcomed and should be addressed directly to the author.

This Working Paper is one of a series of draft chapters of a book currently under preparation by Tony Killick with the provisional title of The Adaptive Economy: Adjustment Policies in Low-income Countries. The purpose of this volume will be to discuss general principles of policies for what has become known as 'structural adjustment' and to set these in the context of longer-term economic development. Those who make or seek to influence policy are the chief target audience, although it is hoped that this work will also be useful for students and other members of the academic community. The complete set of papers to be issued in this series is as follows:

31 Economic development and the adaptive economy

32 Principles of policy for the adaptive economy

33 Exchange rates and structural adaptation

34 Markets and governments in agricultural and industrial adjustment

35 Financial policies in the adaptive economy (forthcoming)

36 Problems and limitations of adjustment policies (provisional, forthcoming)

The author is Senior Research Fellow of ODI and Visiting Professor of the University of Surrey. Thanks are due to the Economic Development Institute of the World Bank for financial support for this project but the author alone is responsible for any views expressed. Thanks are also due to Matthew Martin for invaluable assistance, particularly in preparing materials for the agricultural sections of this Working Paper, and to Roger Riddell for helpful comments on an earlier draft.

CONTENTS

I. INTRODUCTION

What is the appropriate balance between the 'invisible hand' of the market and what has unkindly been called the 'invisible foot' of state policy interventions in the pursuit of the adaptive economy? This question has been a recurring one in this series of Working Papers, particularly in Nos. 31 and 32. We take it up again here in the context of the two crucially important sectors of production, agriculture and manufacturing. In the case of agriculture the discussion centres around the uses and limitations of price incentives as instruments of adjustment policy. For manufacturing it is raised more fundamentally, by way of questions about whether the state has more than a passive role in the pursuit of industrialisation.

Before taking up these large issues, however, we should be clear about the problems we are addressing. No attempt is made here to cover the full range of problems and policy issues relating to these sectors. Thus in agriculture no substantial coverage is offered of such key issues as research and extension policies, marketing arrangements, the special problems of women farmers or pastoralists, and so on. Similarly with industry[1], the rehabilitation and/or privatisation of public enterprises, policies towards multinational corporations, and the special problems of informal or small-scale manufacturing are among the various topics which we omit. The approach is consciously selective in order to focus on what is probably the most central issue. Because it is difficult to obtain aggregated sectoral data to cover all small low-income countries, the focus is particularly on sub-Saharan Africa (SSA).

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[1] For present purposes it will be convenient to use 'industry' and 'manufacturing' interchangeably, even though mining, construction and utilities are also included in international classifications of industrial activities. In most countries these other industrial activities are also important, and in some cases contribute more to GDP than manufacturing. It is therefore useful to bear in mind that manufacturing and industry are not strictly synonymous.

II. A STATEMENT OF THE PROBLEMS

Since in many countries they are the two most important sources of output, the performance of agriculture and industry is clearly crucial to the ability of the economy to cope successfully with changing economic circumstances. Working Paper No. 31 argued the special importance of manufacturing in this regard - in terms of its influence on the balance of payments, its larger short-run supply elasticities, and its superior ability to generate technological advances, to take advantage of scale economies, and to stimulate production more widely through its linkages to other parts of the economy. It thus described industrialisation as one of the 'enabling' aspects of structural adaptation.

At the same time, we were careful to caution against any neglect of the primary sectors and to draw attention to the strong dependence of manufacturing on agriculture: as a source of final demand; as a supplier of raw materials; as a source of labour and capital; and probably as a source of the foreign exchange necessitated by the earlier stages of industrialisation.

Sub-standard performance by agriculture and industry is thus among the commonest sources of economies' inability to adjust successfully. Consider some evidence on this.

II.1 Problems with agriculture

In the long run the agricultural problem in structural adaptation is how to manage its decline, for we saw in Working Paper No. 31 a strong tendency for this sector to contribute diminishing shares of output and employment, relative to industry and services. The relative decline of agriculture is a problem confronted by many industrial countries, most of which have responded defensively by protecting agriculture, often to an absurd extent. It is a problem which is also beginning to surface in some of the newly-industrialising countries, such as South Korea.

In the small, low-income countries with which we are concerned, however, the characteristic present-day problem is the opposite one of how to reverse agricultural decline. In their cases, agricultural decline results more from poor performance than from long-term processes of structural transformation, for we go on in the next section to show that, far from supplanting agriculture with its dynamism, manufacturing in these countries also suffers from major performance weaknesses.

Concentrating on sub-Saharan Africa (SSA) for the time being, Table 1 provides a number of comparative indicators of the weaknesses of this sector. We can note, first, that agricultural growth in SSA has consistently been far slower than for developing countries taken together, and that, while other ldcs experienced accelerated agricultural expansion, there was a slowing-down in Africa, leaving the growth rate at only 1.2% *p.a.* in the 1980s, well below the rate of population growth. If we confine ourselves to food production, item 2 of the table shows no growth in *per capita* production in the 1980s, against an 11% increase in ldcs generally. Partly in consequence, dependence on food imports (item 3) has much increased and over twice

Table 1: Indicators of African Agricultural Weaknesses

		SSA	All ldcs
A. OUTPUT, TRADE AND CONSUMPTION			
1. Growth of agricultural output (% *p.a.*, real)			
	1965-80	1.7	3.0
	1980-87	1.2	3.4
2. Food production *per capita* (1979-81 = 100)			
	1985-87	100	111
3. Cereal imports and food aid (1974 = 100)			
	1986/87	223	157
4. Daily calorie supply *per capita*			
	1965	2096	2116
	1986	2101	2509
5. Share of SSA in world agricultural primary product exports (%)[a]			
	1970/71	31.8	-
	1983/84	23.6	-
B. PRODUCTIVITY INDICATORS			
6. Fertiliser consumption (hundreds of grams of plant nutrient per hectare of arable land)			
	1969-71	33	230
	1986	86	683
7. Average annual yields (tonnes per hectare)			
(a) Coffee	1969-71	0.40	0.47
	1978-80	0.33	0.49
(b) Rice	1969-71	1.35	2.28
	1978-80	1.34	2.63
(c) Maize	1969-71	1.02	1.62
	1978-80	0.93	1.85
(d) Sorghum	1969-71	0.68	0.85
	1978-80	0.69	1.06
(e) Ground nuts	1969-71	0.77	0.88
	1978-80	0.76	0.91

Sources: Item 5: computed from Svedberg, 1988, Table 4;
Item 7: Singh, 1983, Table 4;
All other items: World Bank, World Development Report, 1989, Tables 2, 4 and 28.

Note: (a) Weighted averages. Unweighted averages are 27.7% and 17.1%.

as fast as in other ldcs. Even with these imports, however, nutritional standards, as measured by the admittedly partial indicator of calorific intake (item 4), have remained static, while they have increased appreciably in other ldcs - a result all the more serious because of the poor diets that characterised SSA even in the 1960s.

Increased imports spell trouble for the balance of payments. So does the export performance displayed in item 5 of Table 1. Indeed this is arguably the most serious indicator of poor performance in the table, for SSA is heavily dependent on its earnings from primary product exports but has seen its share of these world markets decline over time. The table shows that in agricultural commodity markets Africa's share has diminished from a little under a third at the beginning of the 1970s to under a quarter by 1983/84 (the latest period for which such data are available). Moreover, this loss of market share was not a consequence of competition from the developed countries, for SSA's share of developing country primary exports went down equally fast in this period.[2] While adverse terms of trade and other external developments also made major contributions, this poor export performance was a major source of the foreign exchange constraint which became so acute in the 1980s, aggravated in some cases by substantial food imports.

Items 6 and 7 of the table provide productivity indicators and point to a serious technological backwardness in African agriculture. The figures on fertiliser consumption, for example, show far lower application rates in SSA than for ldcs generally in both years and that, although SSA use of fertiliser has increased over the period, the gap has widened. Item 7 compares yields for a number of major crops, from which two features can be observed: [i] in every case yields are lower in SSA than other ldcs; and [ii] while the trend was upwards in other ldcs it was static or deteriorating in SSA.[3]

It seems clear, then, that poor agricultural performance, and the low level of cultivation techniques which underlies this, is a serious problem. It is an obstacle to the raising of living standards in the rural economy, to the improvement of nutritional standards and to the strengthening of the balance of payments. Given the importance of the agricultural sector in most SSA economies, it also exerts a major drag on overall economic expansion, including industrialisation.

But perhaps this is over-stated? Some would say so. There are firstly major data problems, notwithstanding the confidence with which we have commented on Table 1. Indeed, one writer has gone so far as to assert that "The quality of agricultural production and price data for Africa is so poor that nothing reliable can be said about the nature and direction of agricultural production trends" [Fones-Sundell, 1987, p.18]. That the data are unreliable may be readily admitted. Fones-Sundell provides

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[2] SSA's unweighted average share in developing-country agricultural commodity exports declined from 36.6% to 25.6% in this period, against unweighted averages for total market shares of 27.7% and 17.1%.

[3] See also Jamal [1988, Table 1] for further, but not directly comparable, evidence of technological backwardness in SSA agriculture by comparison with other developing regions.

examples from Tanzania of inconsistent and widely varying production estimates which could be matched in many other countries. However, to sustain the argument that the type of comparisons set out in Table 1 are meaningless it is not sufficient to show that the data are subject to large error margins. It is also necessary to show that they are systematically biased relative to other ldcs, and that is a position much harder to sustain.

There may, indeed, be some biases. For one thing, part of the apparent stagnation may be the result of shifts of marketed output from official marketing channels (where the statisticians can operate) to traditional ones, which are likely to slip through the statistical net. Similarly, actual production trends may be more favourable than those counted because of a shift from marketed to subsistence (or barter) production. One difficulty about this line of argument, however, is that the same biases are liable to be present in the statistics of other developing countries, although perhaps to a lesser degree. A further difficulty is that a retreat from formal-sector marketing into subsistence production is itself likely to be a symptom of agricultural distress, and thus cannot reassure us that there may be no problem with African agricultural production.

A second type of objection is that we have been over-generalising. Again, we can grant the truth of this. There have been large differences in agricultural performance amongst African countries and between different agro-climatic zones within them.[4] Here again, however, it is difficult to see how this fact could vitiate the type of comparison offered in Table 1, although it does caution us to be careful in how we interpret the results.

Other types of criticism have been offered, chiefly by Jamal [1988]: that criticisms of Africa's agricultural performance overlook the damaging effects of adverse terms of trade movements and of the foreign exchange constraint; that rising food imports are partly a result of urbanisation and changing tastes and, in any case, still form only a modest part of total imports; and that production was particularly hard hit by the severe drought of 1983-85, which was exceptional and wholly outside the control of government. Again, however, the first two of these points appear no less valid for many non-African developing countries and not, therefore, to explain the contrasts in the table. The final point, about the influence of the drought, is valid but is weakened by the fact that rainfall since then has been generally better than average.

We must therefore reiterate that SSA suffers from a real problem of lagging agricultural performance and that this has been posing major economic difficulties in the countries affected. What now of industrial performance?

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[4] The conclusions of a major pending World Bank study of African agriculture by Uma Lele emphasise the diversity of country experiences in terms of variations of agricultural growth performance between and within countries.

II.2 Industrial weaknesses[5]

Since we see industrialisation as an important enabling aspect of structural transformation, which in any case features prominently among the goals of most developing country governments, one way of gauging the performance of the industrial sector is to examine its growth performance. Confining ourselves to SSA, the region for which data are readily available, what emerges is that the fairly rapid industrialisation that occurred in the 1960s has since run badly out of steam. That this is so, both absolutely and relative to the overall growth of the economy, is indicated by the figures in Table 2 (which relate to the whole of SSA). We see there that by the 1980s industrialisation had ground to a halt, with manufacturing output growth well below the growth of population. True, it was half as fast again as GDP growth - but that was only because of general economic depression, with total GDP growing at a mere 0.4% *p.a.* in 1980-87.

Table 2: The growth performance of African manufacturing, 1960-86
(% p.a. in constant prices)

	Manufacturing growth (1)	Ratio of (1) to GDP growth (2)
1960-65	7.3	1.7
1965-70	9.3	2.1
1970-75	5.3	1.0
1975-80	4.4	1.2
1980-87	0.6	1.5

Sources: Meier and Steel, 1989, Table 3.1.1. updated from the World Bank, World Development Report, 1989, Table 2.

Perhaps even more revealing evidence of substandard performance is provided by statistics on Africa's record as an exporter of manufactures because these give us an indicator of overall efficiency levels: in the absence of subsidies a firm has to be efficient to compete successfully on world markets, and there is a presumption that many of the firms which rely wholly on the domestic market do so because their costs are too high for them to succeed on world markets. By this test the figures in Table 3 tell us that African industry is inefficient indeed, with a truly appalling export record.

[5] Readers wishing to read more deeply into the subjects of industrial performance and policy are particularly recommended to consult Cody *et al.* [1980]; Lall [1989]; Meier and Steel [1989]; Riddell [forthcoming]; and Weiss [1988]. Much of the following is based on these sources.

Thus, while developing countries as a group were greatly expanding the value of their manufactured exports and their penetration of world markets, the nominal value of African industrial exports was static, and their share in world markets and in developing country exports plunged to minuscule levels. In consequence, African manufacturing had become almost wholly dependent on selling to the domestic market.

Table 3: African manufactured export performance, 1960-85

	1960	1965	1970	1975	1980	1985
Total world manufactured exports ($ billion)	58.0	90.0	167.8	438.9	943.2	983.6
Total LDC manufactured exports ($ billion)	2.2	3.7	8.4	28.0	90.5	135.8
Developing Africa manufactured exports ($ billion)	0.2	0.4	0.6	0.8	1.5	0.5
Ratio of LDC to total manufactured exports (%)	3.8	4.1	5.0	6.4	9.6	13.8
Ratio of African manufactured to total manufactured exports (%)	0.4	0.4	0.3	0.2	0.2	0.1
Ratio of African manufactured to total LDC manufactured exports (%)	9.3	10.4	6.6	2.7	1.6	0.4

Source: Riddell *et al.*, forthcoming, Table 2.A3.

Underlying and compounding this evidence of inefficiency and stagnation are a number of structural weaknesses. These include:

[a] Heavy dependence on imported raw materials, equipment and skills, severely limiting linkages with the rest of the economy and the potential contribution of manufacturing to the balance of payments.

[b] Levels of capacity in excess of the economy's ability to utilise it, in terms both of the size of the domestic market and of its ability to sustain necessary imported inputs.

[c] A bias towards final-stage processing of consumer goods (symbolised by - invariably inefficient - assembly plants for vehicles and electronic goods), relative to the processing of local raw materials, and the production of intermediate and capital goods.

[d] A dualistic structure, with large numbers of 'informal' and small-scale enterprises coexisting with small numbers of (relatively) large-scale modern plants, and with few transactions between them.

[e] A still very small base of industrial skills and supporting services, and an absence, therefore, of 'agglomeration economies'; and much inappropriate, low-productivity technology.

[f] A heavy investment in state-owned enterprises which often - but not always - incorporate the worst of the above characteristics, as well as depending on large government subsidies which add to already acute budgetary difficulties.[6]

As a result of these various deficiencies industrialisation in most African economies has quite failed to raise their adaptive capacities along the lines we predicted. The structural transformation has gone only skin deep, and few of the expected externalities have been realised. Box I on Nepal suggests that many of the deficiencies described above are by no means peculiar to the countries of SSA. It provides a thumbnail sketch of a typical industrial situation in the type of economy with which this series of Working Papers is chiefly concerned.

We should, however, qualify our bleak account of the African situation in a number of ways. First, we have been over-generalising. The position differs among countries even within SSA, to say nothing of the small low-income countries in other parts of the world. There have been a number of bright spots, some of which will be mentioned later. In many of them there is a thriving 'informal' manufacturing sector, often meeting local needs at low prices and providing a cockpit from which some genuine entrepreneurs are graduating into running larger-scale businesses. Even within modern industries generally characterised as inefficient, there are commonly large variations among enterprises within them, with some managing to achieve high productivities and low costs. Some progress has been made, in terms of building up a labour force with industrial skills, developing local sources of supply - and generally moving up the learning curve. But the success stories are overshadowed by the many inefficient enterprises which have come to comprise part of the adjustment problem rather than part of its solution.

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[6] The subject of public enterprise performance is largely outside the scope of this Working Paper. Readers wishing to pursue this topic further are referred to Meier and Steel [1989, chapter 10]; Millward [1988]; and Killick [1983]. See also Grosh [forthcoming] for an interesting study of the Kenyan case which disputes the generalisation that state manufacturing enterprises are particularly inefficient. Jones [1975] reaches highly favourable conclusions about the efficiency of state enterprises in South Korea.

BOX I. PORTRAIT OF THE MANUFACTURING SECTOR IN NEPAL [7]

With a *per capita* income in 1987 of just $160, Nepal rates as one of the world's poorest nations; and with a population of around 18 million the economy offers a small market for manufactures. It remains chiefly agricultural, and manufacturing makes up only 4% of GDP - a share which has changed little since the mid-1970s. Typically, the manufacturing sector is bimodal, with a third of its output coming from cottage industries (much of it the processing of food for family consumption). Even many of the 'modern' enterprises are very small. Nine-tenths of the output of modern manufacturing is of consumer goods, with food processing easily the most important branch. A high proportion of manufacturing output is sold on the domestic market (for example, only about 6% of the output of the dominant food processing sector was exported in 1983/84) and there remains heavy dependence on imports of many manufactured goods. Nevertheless, some industries are successful exporters and - untypically for such a poor country - manufactured goods make up over half of the country's total exports - 59% in 1985/86. The chief manufactured exports are jute products, hand knotted woollen carpets and garments, from which it may be judged that Nepal's revealed comparative advantage is based on local raw materials.

Another characteristic that Nepal's manufacturing sector has in common with other countries is that there are wide variations in efficiency when measured in terms of the amount of domestic resources used to earn or save a unit of foreign exchange. Industrial domestic resource cost calculations vary from well under 1.0 (including jute goods and carpets) to a maximum of 21.2 for footwear. The most inefficient, like footwear, survive by a structure of protection which - also characteristically - contains large variations, with effective protection rates at the sectoral level varying between -4% for jute processing (*i.e.* an implicit tax) to +10,989% for furniture. The Nepalese pay dear for having a furniture industry, it seems. Nevertheless, the average protection rate for manufacturing as a whole is relatively modest. There is much under-utilisation of capacity, with an average for eight of the most important industries showing a 49% utilisation rate in 1985/86.

Both private foreign subsidiaries and public enterprises are important within modern manufacturing. Information on the former is sparse; the latter have well below-average, and declining, gross profit rates, and it seems that they depend upon budgetary subsidies or government-guaranteed loans to meet their capital needs.

Growth of manufacturing productivity has been slight in recent years. The performance of the sector has been influenced by the overall condition of the economy, with *per capita* incomes growing at only 0.5% *p.a.* in 1965-87, and with serious problems in agriculture. But manufacturing is particularly hard hit by high transport costs arising from an underdeveloped infrastructure, with under 3,000km of paved roads and just 52km of railways.

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7 This box is culled from a 1988 report by UNIDO on industrialisation in Nepal.

Finally, having now drawn attention to deficiencies in both agriculture and industry, it is hardly necessary to point out that these interact upon each other. Past agricultural stagnation has limited the market for local manufactures, has made it difficult to rely upon local sources of raw material supplies and has contributed to a scarcity of foreign exchange that during the 1980s starved the factories of the imports upon which they relied. In turn, inefficient factories weakened agricultural incentives by offering inadequate supplies of consumer goods at high prices and of poor quality, raising the costs of farmers depending on locally-made implements, fertilisers, *etc.*, and by absorbing resources that otherwise could have been devoted to agriculture.

III. THE ROLE OF PRICE POLICIES IN AGRICULTURE

III.1 The taxation of agriculture

The output and productivity of agriculture are constrained by a number of fundamentals: ecological conditions, including the climate and the inherent fertility of the soil; the availability of labour and capital; the technologies employed. In the long run the performance and adaptability of the sector will depend on such factors as these. The chief focus of the next several pages is elsewhere, however, being on the role of pricing policies in agricultural adjustment. This is because the intention of this Working Paper is to explore the relative roles of the state and markets rather than to offer comprehensive treatments of the massive subjects of agricultural and industrial policy - and also because the uses and limitations of pricing policies in agriculture have become one of the liveliest areas of controversy in the literature on adjustment policies.

Given this focus, the first question that arises is whether we can explain the laggard performance of African agriculture, described earlier, in pricing terms. That inadequate price incentives are indeed likely to be part of the story is suggested by the long-term downward global trend in the real prices of the agricultural and other primary product exports on which SSA particularly depends, discussed in Working Paper No. 31. As was stated there, the signal conveyed by this trend is for countries to reduce their reliance on such exports and to shift resources in favour of goods with more dynamic markets. In some cases, however, the effects of such adverse trends have been magnified by the unintended effects of state interventions.

The most notorious past example of this has been the heavy taxation of export crops engaged in by many governments in the 1960s and 1970s, either directly or through the medium of transfers from state marketing board monopolies. A World Bank report studied the extent to which export crops were being taxed or subsidised by African governments in 1976-80.[8] All but four of 29 separate estimates were negative, *i.e.* showed net taxation, and the estimates showed an overall average tax rate of 35% - an under-estimate because it takes no account of either the inflated costs of inefficient state marketing boards or the widespread existence at that time of over-valued currencies.

To some extent the taxation of agricultural exports has been understandable, indeed justifiable. It has commonly represented the only effective way of taxing a major source of income accruing to relatively prosperous farmers in countries with narrow tax bases and fragile tax administrations. Had it been combined with positive inducements for the development of alternative products, it could have been seen as encouraging a desirable diversification of exports and safeguarding against excessive investment in traditional products facing weak long-term market prospects. But it often went too far, imposing an excessive burden of taxation and doing so in an environment which also discouraged the development of non-traditional alternatives.

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[8] See World Bank [1981, Box D, p.56].

The taxation of exports is, however, by no means an exclusively African tendency, as is illustrated in Table 4. The column showing the direct 'protection' of agricultural exports shows negative protection, *i.e.* net taxation, in all but three of the entries, with an average net rate of taxation of 11%.[9] Comparison of these figures with those for the direct protection of cereal foodstuffs brings out a further feature, that the net taxation of agricultural products is confined mainly to exports, with most of the governments listed providing positive protection for local producers of these foodstuffs, with an average level of 21%. Within SSA most foodstuffs fall outside the net of taxation, not least because of the infeasibility of bringing them within it, although there are cases in which governments attempt by means of marketing monopolies or other devices to regulate food prices in favour of urban consumers and to the disadvantage of the farmers. Usually, however, net taxation is far less for food farmers than for export producers. If governments seek to enforce severely sub-market prices the effect will simply be to push food supplies onto 'parallel' markets - an option not so readily (or cheaply) available to the cultivator of export crops.[10]

The direct effects of taxation and protection are, however, only part of the story. One of the themes emerging from the preceding Working Papers in this series is the pervasive influence of the general policy environment. We saw this in Working Paper No. 31's discussion of influences on the supply of entrepreneurship; in No. 32's warning of the importance of regarding policies as a system; and in No. 33's stress on the importance of supporting policies for translating nominal devaluations into real ones. The columns for the indirect 'protection' of agriculture in Table 4 attempt to capture some of the effects of the broader policy environment - specifically the effects of policies on the exchange rate and on industrial protection.

Every entry in the two 'indirect protection' columns is negative, indicating that the effects of these two aspects of policy have been to the disadvantage of agriculture. This arises partly from exchange rate over-valuation, for we saw in Working Paper No. 33 how over-valuation discourages exports and the domestic production of importables. The negative effect of industrial protection arises from the fact that it is a kind of transfer tax, shifting welfare in favour of manufacturers at the expense of their customers. Industrial protection disadvantages farmers by making them pay more for their locally-manufactured inputs and consumption purchases. Moreover, these two policy biases interact, with protection encouraging currency over-valuation, and over-valuation appearing to justify more protection. The combined effect for agricultural

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[9] Note, however, that the authors of the study from which Table 4 is derived calculated their results from a notional free-market price, with the numerical results depending on the assumptions used in calculating this notional basis.

[10] Thus, Lipton [1987 p.204]:

It sounds terrible that official maize procurement in Tanzania has been at 'only a quarter of the border price'... , but of course farmers so act as to evade such extraction. Thus in 1982-5 about 85% of Tanzanian maize output was consumed by the grower or traded locally; 10% was traded more widely, but in unofficial 'parallel' markets; and only about 5% of production was procured at the very low official price.

Table 4: Direct and indirect 'protection' of agriculture, 1980-84

(Percentages)[a]

COUNTRY	EXPORT PRODUCTS			FOOD PRODUCTS (CEREALS)		
	Product	Direct	Indirect	Product	Direct	Indirect
Argentina	Wheat	-13	-37	-	...	...
Brazil	Soybean	-19	-14	Wheat	- 7	-14
Chile	Grapes	0	- 7	Wheat	+ 9	- 7
Colombia	Coffee	- 5	-34	Wheat	+ 9	-34
Côte d'Ivoire	Cocoa	-21	-26	Rice	+16	-26
Dominican Rep.	Coffee	-32	-19	Rice	+26	-19
Egypt	Cotton	-22	-14	Wheat	-21	-14
Ghana	Cocoa	+34	-89	Rice	+118	-89
Korea (South)	-	...	...	Rice	+86	-12
Malaysia	Rubber	-18	-10	Rice	+68	-10
Morocco	-	...	...	Wheat	0	- 8
Pakistan	Cotton	- 7	-35	Wheat	-21	-35
Philippines	Copra	-26	-28	Corn	+26	-28
Portugal	Tomatoes	+17	-13	Wheat	+26	-13
Sri Lanka	Rubber	-31	-31	Rice	+11	-31
Thailand	Rice	-15	-19	-	...	...
Turkey	Tobacco	-28	-35	Wheat	- 3	-35
Zambia	Tobacco	+ 7	-57	Corn	- 9	-57
UNWEIGHTED MEANS		-11	-29		+21	-27

Source: Krueger *et al.*, 1988, Tables 1 and 2.

Note: (a) Percentage deviations from the prices that 'would have prevailed in a well-functioning market at free trade'.

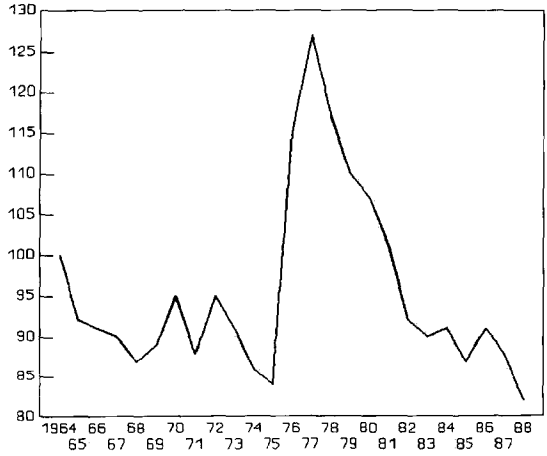
exports and for foodstuffs facing competition from imported substitutes is strongly negative, as the table shows. Indeed, the size of the indirect effects is larger than the direct effects for both categories of crop, and, in the case of foodstuffs, is large enough to dominate the nominal protection provided. (We should bear in mind, however, that many locally-grown foodstuffs do not face much international competition, so the position of the whole foodstuffs sector is not as adverse as that shown in the right-hand part of Table 4).[11] In the case of the export crops, the average combined effect of the two types of influence is to impose implicit taxation of 40%.

Another useful way of illustrating the type of anti-agriculture bias just described is to use the concept of the internal or domestic terms of trade. This is used to measure movements in the prices received and paid by farmers (or some other group in society),

[11] Green [1989, p.40] suggests that in Africa well under 10% of all food output is directly affected by government-set prices.

and is recorded as a weighted index of prices received by farmers for their output deflated by a weighted index of the prices they pay for their purchased producer and consumer goods. By way of illustration, Figure A shows long-term trends in the agricultural terms of trade in Kenya, from which can be seen an apparent long-term downward trend, periodically arrested by short periods of improvement (chiefly resulting in this country from movements in world coffee and tea prices), especially in 1976-77.

Figure A: Agricultural Terms of Trade in Kenya, 1964-88
(1964 = 100)



Sources: 1964-77: Sharpley, 1981, Table 1;
1977-88: Government of Kenya, Economic Survey (various issues).

An adverse trend is regarded as a common phenomenon and the results in Table 4 help to explain why, by showing that the net effect of government interventions is often to worsen farmers' terms of trade, reducing the prices they receive for some of their crops and increasing the prices they have to pay for industrial producer and consumer goods. A particularly useful feature of the domestic terms of trade concept is that it provides an indicator of the price incentives for agriculture as a whole, as distinct from incentives for particular crops. An adverse trend in agriculture's terms of trade can be expected to result in a relative, and possibly absolute, migration of capital and labour out of this sector to more favoured parts of the economy, reducing agriculture's productive capacity.

There are thus grounds for believing that inadequate price incentives, often government-induced, have contributed to agricultural stagnation, and there are nowadays few economists who would dispute this. There is much less agreement, however, on how much weight should be given to these pricing considerations relative to other factors. We approach this by attempting a systematic consideration of the factors which are likely to bear upon farmers' production and marketing decisions.[12]

III.2 Influences on farm profitability

We start from the premise that, other things being equal, agricultural production - or that part of it which is marketed (as distinct from subsistence self-consumption) - will be a function of the profitability of output. If that is granted, we can consider the influences on costs and on revenues which will determine profitability.

On the side of costs, the price and availability of material inputs and of labour and capital (including credit) will be crucial variables, as will the state of knowledge and technology. State price interventions of the type already discussed are liable to affect the prices paid by farmers for imported and domestically-manufactured inputs, such as fertilisers, insecticides, tools, *etc.*. The relative protection of industry (and other urban-based activities) is also liable to attract labour and capital out of agriculture, thus tending to raise their prices (and it is a common paradox that countries apparently faced with large-scale under-employment of labour nonetheless experience acute seasonal shortages of agricultural labour).

Input and factor availabilities will, however, also be affected by non-price influences, such as population growth, the borrowing requirements of the public sector, imperfections in the markets for these goods and services, the efficiency of the distributive system, and the influence of the balance of payments on import capacity. This latter consideration has borne particularly heavily upon many developing countries in recent years, with foreign exchange constraints starving productive sectors of essential inputs. The determinants of the state of knowledge and cultivation techniques also take us well beyond pricing considerations, into such questions as the quality and coverage of education, the adequacy of agricultural extension and research services, the influence of traditional *mores*, and so on.

Turning to the revenue side of the profitability equation, we can relate this [a] to the situation in the final markets for the commodities in question and [b] to the various influences which drive wedges between the final prices and those received at the farm gate. As regards the final markets, we have already reminded ourselves of the fundamental weakness of the world markets for many primary products. We can jog our memories of Working Paper No. 31 further by recalling that this weakness was

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[12] In the case of smallholders, it is the family which is the key production and decision unit. Production decisions will thus also be influenced by the distribution of the costs and benefits of agricultural work within the family, particularly how it is shared between husband and wife. It is, however, beyond our scope here to go into these important intra-familial questions.

related to universal regularities in income elasticities of demand (see Working Paper No. 31, Figure B). Engel's law, which predicts a relative decline in demand for food as *per capita* income rises, is one of the more firmly established generalisations about economic behaviour. This does not necessarily result in declining relative food prices, depending on what happens to supply, but it does caution against expecting final prices to be very buoyant.

In some measure, then, weak agricultural revenues may result from fundamental forces of demand and it is desirable for that price signal to be passed on to producers. However, and as we have already discussed, they may also result from the taxation, protection and pricing policies of governments. Further wedges will be created by the costs of storage, marketing and transportation. How large these will be will depend upon location, the adequacy of the rural infrastructure and the efficiency of the distributive system. This latter factor is, in turn, likely to be influenced by the extent of competition in marketing and transport, whether it be undertaken in the private or in the public sector. Some state marketing monopolies have developed notoriously exorbitant cost levels which have absorbed large proportions of the final price and lowered the price paid to the farmers. This has happened to the cocoa farmers of Ghana, to the producers of various cash crops in Nigeria, and we have already cited a Tanzanian example in Working Paper No. 33. Rwegasira [1984] points out that inefficiency in that country's agricultural marketing boards led to drastic declines in the share of world prices being passed on to farmers during 1969-80, including the following examples:

	1969	1980
cashew nuts	70%	35%
coffee	81%	45%
cotton	70%	45%
tobacco	61%	48%

Besides these influences on costs and revenues there will be other factors affecting farmers' production and investment decisions. One such will be the overall macroeconomic environment, with rapid inflation, acute balance of payments difficulties, past economic stagnation and unstable or non-credible government policies all tending to discourage investment and expanded output. Mention was already made in Working Paper No. 31 of the role of imported and other manufactured consumer items as 'incentive goods' and of country examples where shortages of such goods (at any price) had acted as disincentives to greater agricultural output.

Closely related to the economic environment are the predictability and stability of the prices received by the producers. Farmers are typically risk-averse, in the sense of placing a premium on the stability of their cash incomes, being willing to trade higher but less stable prices for lower but more dependable ones. Another important factor is the amount of food set aside by farmers for the subsistence requirements of their families. Although this, and the resulting surplus for sale on markets, will be responsive to price incentives, it will also be influenced by risk aversion and the search for food security, to ensure dependable access to essential foods to keep farmers' families healthy and active. It will further be influenced by family size and, therefore, by the use of family planning methods.

Land tenure arrangements are yet another influence. Where sharecropping is common, for example, responses to price incentives may be dampened by the fact that only part of any increase in revenue will be enjoyed by the sharecropper, while he or she is likely to have to shoulder most or all of any increase in costs.

Reviewing these many influences on profitability and production, it is evident that, important though they are, prices are only part of a rather complex story. Moreover, the influence of governments on prices is limited, with pricing policy considerably more important for exports than for food. So, while there is no serious dispute that 'prices matter' and that excessive taxation of the sector has contributed to poor performance in a number of countries, price is by no means the only consideration.

III.3 Principles of pricing policy

Nevertheless, since price is important so is the question of how prices should be determined. One issue which poses itself here is whether what is needed is for prices to be freer, to find their own levels according to supply and demand, or whether government-determined prices should simply be 'better', offer improved incentives. We will return to this question shortly but, in either event, the general principle which many economists urge is that producer prices should be equated with the prices at which the country could buy or sell the same products on world markets, subject to certain adjustments. This is known as the border-pricing principle, and may be thought of as reproducing the outcome that would result if prices were determined in a free and efficient market system without taxes or subsidies.

The idea underlying this principle is that border prices, expressed in local-currency terms, represent the opportunity costs to the country of [a] foregoing a marginal increase in the output of an export crop or of [b] a marginal increase in imports to fill a gap between domestic demand and production. Using this principle, adjustments then have to be made to determine the prices that 'ought' to be offered to producers. Domestic marketing and distribution costs are the most obvious ones, with such costs being subtracted from the prices offered to export producers. 'Non-market' adjustments may also be made, principally to accommodate taxes or subsidies. The government may wish, for example, to avoid penalising remote regions subject to high distribution costs either by overt subsidies or by means of 'national' prices, in which low-cost regions would effectively subsidise high-cost regions. It may wish to promote export price stabilisation by creaming off windfall gains during temporary booms on world markets and using the accumulated reserves to maintain better-than-world prices during temporary slumps (see Box "Surviving Favourable Shocks" in Working Paper No. 31). It may wish to protect all or part of agriculture from foreign competition by means of export subsidies and/or import restrictions. Except perhaps in the case of price stabilisation, such uses of fiscal weapons are liable, however, to incur an efficiency cost.

One feature of the border pricing principle is that it draws attention to the crucial importance of the exchange rate, for it is this which determines the local-currency equivalent of a given world price. Governments which maintain over-valued exchange rates have difficulty in maintaining attractive production incentives. Budgetary costs

are unlikely to permit them to enter into extensive subsidies but the world price multiplied by an over-valued currency (*i.e.* a rate which results in a smaller number of local currency units per unit of foreign exchange) may not provide a sufficient margin over production costs to be attractive to farmers. To put it another way, a depreciated currency results in higher local-currency border prices and thus can improve farmer incentives. With over-valuation even border-pricing without taxation provides no assurance of adequate producer incentives. This is particularly so when world prices are weak. Indeed, a further possibility is that currency depreciations can help compensate for declining world prices (although governments need to be careful about policies which encourage production of commodities facing weak demand).

Even with appropriate exchange rates, the border-pricing principle is by no means without critics. A common objection is that many international prices reflect major market imperfections, of which the high levels of protection offered to farmers by most industrial countries would be an example, and hence do not serve to guide resources into their globally most efficient uses. The standard response to that argument is that it is irrelevant: that, whatever the admitted imperfections in these markets, there is nothing that a single small developing country can do about them and that world prices therefore still represent the opportunity cost of exports or import-substitutes foregone. If agricultural protectionism by the European Community has the effect of depressing the world prices of, say, sugar or wheat, that is a factor which developing countries must take into account when making decisions about their own exports of these goods, and is an opportunity to take advantage of by consuming nations.

This line of argument is valid, however, only if the factors making world markets imperfect can be depended upon over time. If that condition is not satisfied then today's (distorted) prices will not provide a sensible basis for production decisions for the future. To continue with our earlier example, the protectionist policies of the European Community are at the time of writing the subject of intense negotiations as part of the Uruguay Round of trade-liberalisation negotiations under the General Agreement on Tariffs and Trade (GATT). They are, in addition, the subject of much controversy within the Community itself. It is thus possible that these policies could be significantly modified at any time, so whether present prices provide a sensible guide for the future is essentially a matter of judgements about the likelihood of policy changes in the Community and elsewhere.

Quite apart from such considerations, it is notorious, as discussed in Working Paper No. 31, that world commodity prices are unstable, with modest changes in conditions of supply or demand resulting in large price movements. Another example: in May 1989 the world price for Robusta coffee beans was $2.013 per kilogramme, but two months later this price had fallen to $1.438. What were the governments and farmers of Brazil, Kenya or other coffee exporting countries to make of these signals? Maybe one or other of those prices provided a reasonable basis for decisions about production and investment - but certainly not both of them, being separated by so short a time. Production on the basis of either one (and quite possibly both) of them may well turn out to be 'wrong' in the light of subsequent market developments. Moreover, the fact of price instability (combined with incomplete or imperfect provisions of credit and insurance services) is itself likely to cause farmers to decide on a socially sub-optimal level of investment.

Even on efficiency grounds, then, departures from the border pricing principle in order to smooth-out short-term fluctuations are desirable, a conclusion reinforced by our earlier observation that farmers are risk-averse, placing a premium on the dependability of income and being unlikely to respond favourably to sharp short-run price shifts.[13] While we have stressed the taxation element in government price interventions we should note too that they have sometimes had beneficial effects in reducing price instability.[14]

Most industrial countries in practice reject the border pricing principle by providing protection to their farmers against foreign competition, often to a massive extent.[15] We take up the *pros* and *cons* of protectionist arguments in the following sections dealing with industry, and there suggest that there is an 'infant sector' argument for providing some general protection for local manufacturers. We will therefore not anticipate the protectionism debate here except to point out that most of the arguments used in favour of protecting manufacturing as a sector, mainly on the grounds that it is likely to generate technological and other externalities, are far less persuasive in the case of agriculture. It is precisely one of the weaknesses of traditional agriculture that it is often marked by technological backwardness, has limited linkages with the rest of the economy and limited capacity either to create its own research capabilities or to impart the types of skill that can be fruitfully employed elsewhere in the economy. We should bear in mind a point made at the outset of our discussion: that the long-term problem of agricultural adjustment is how to manage its relative decline. The erection of protective barriers will scarcely help that.

On the other hand, we have in an earlier Working Paper suggested that there is a food security case for providing some protection to food farmers in order to reduce the riskiness inherent in dependence on international commerce in a volatile world economy (see Working Paper No. 31, p.43). There may also be distributional or social arguments in favour of protecting agriculture. It is on this type of ground that the industrial countries rationalise their own protectionism, although it is very doubtful whether their policies could be justified in terms of any welfare calculation.[16] In reality the magnitude and persistence of their agricultural supports has far more to do with the political clout of farmers.

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[13] See Timmer [1989] for a statement of the case for governments to intervene to stabilise prices in the face of short-term fluctuations, and for a discussion of the practicalities of doing so.

[14] Thus, the Krueger *et al.* study cited earlier also found that the effects of direct interventions were price-stabilising, reducing price variability for export crops by an average of 27% and by 31% for cereal crops facing import competition.

[15] It is estimated that in 1980-82 average agricultural producer prices in Japan were 2.4 times higher than world prices, with ratios for the European Community and USA of 1.5 and 1.2 respectively. There were, of course, far higher ratios for individual crops.

[16] See World Bank [1986, chapter 6] for an excellent discussion of these issues.

Where do these various considerations leave the border pricing principle? They certainly suggest it is not sacrosanct. We have shown that there may be legitimate reasons for departing from it and that, in any case, it will be desirable to smooth out short-term movements in world prices. On the other hand, a country which allows its agricultural prices to diverge persistently by wide margins from border prices is likely to incur a substantial efficiency cost for the luxury of so doing, and this is not a luxury which low-income developing countries are likely to be able to afford. Trend (or moving average) values of border prices provide a useful norm for the determination of domestic prices.

What might we infer from this for the roles of the state and of markets in agricultural price determination? We suggested earlier that the border pricing result is the one that would be generated by a freely-working and efficient market mechanism in the absence of taxes and subsidies. That suggests that our qualified conclusion in favour of the border pricing principle points in the direction of leaving prices to be determined by markets, perhaps with the addition of a government stabilisation fund. But are rural markets efficient, free of major imperfections, so that they would in practice generate such an outcome? There is no general answer to this but we suggest later that often they are not. In situations where rural markets are seriously incomplete or uncompetitive there may result large divergencies between border prices and what farmers actually receive, with all the associated efficiency costs, as well as widening income inequalities.

These dangers thus have to be set against the risk of repeating the inefficiencies with which government interventions have been associated in the past. Governments, too, have armed themselves against farmers with monopsony powers, often by means of marketing boards using their powers as legal monopolies to pay farmers far less than the border price, sometimes seriously delaying payments to farmers, to the latter's great distress, and sometimes failing to honour their obligations to accept all that is offered at the official price. Governments have also often got prices 'wrong', although for reasons different to those resulting from market imperfections.

In short, we have no grounds for any across-the-board preference for market- or state-determined producer prices. It will depend on the circumstances of the case; on judgements about the strengths and weaknesses of alternative modalities. Often, we suspect, the best solution will be a combination of private markets and public interventions, with governments acting to improve the efficiency of rural markets and working through them to raise agricultural efficiency and in pursuit of other social goals.

III.4 Farmer responses

In earlier suggesting that the direct and indirect taxation of the sector had contributed to the poor performance of African agriculture we were taking for granted that farmers are responsive to price incentives. That prices are important for production was also assumed in the above discussion of the principles of pricing. There is now such an overwhelming volume of evidence that farmers are indeed price responsive that we were justified in taking that for granted. But if farmers are responsive just how large

a result can be expected to a given price increase? How large is the elasticity of supply?

We can here recap from what was said in Working Paper No. 31 about the determinants of supply elasticities, where we saw them as particularly influenced by: the existence of excess capacity in the sector; the mobility of the factors of production; the availability of material inputs; the extent of competition in the relevant markets; and time, with elasticities expected to be larger in the long run than in the short.

We shall return to a number of these determinants shortly, but it is here worth commenting on the position *vis à vis* excess capacity. It is often said that it is a characteristic of agriculture that there is not normally much excess capacity, and this position is often contrasted with that of manufacturing. However, this should not be accepted too readily. While it may be rare for land to go completely uncultivated, the intensity of cultivation can be substantially varied. Thus, among the responses of the over-taxed cocoa farmers of West Africa was to cut back on the labour they devoted to weeding their farms and to harvesting the crop, as well as on the money and time spent on spraying their trees against diseases. Cocoa production could then expand rather quickly and substantially when prices were improved, as previous levels of husbandry were restored.

We should also bear in mind that Africa's farmers devote some of their land and labour to meeting the needs of their families for food staples, even though few of them could be described as subsistence farmers in the sense of not normally producing any marketed surplus at all. However, the extent of this subsistence production is itself not insensitive to price. If a good price can be secured for marketed output and farmers have reasonable confidence about their economic security, they are likely to respond by switching resources to cash crops and by selling more of their food output, using the resulting increased cash income to buy in more of their families' food requirements. The continuing importance of subsistence production acts as a sort of reservoir of excess capacity that can increase short-term responsiveness to improving prices.

We should perhaps clarify the meaning of 'short-term'. Although multiple cropping is becoming more common, a high proportion of crops are still grown on an annual cycle, with planting in one season and harvesting in another, determined by rainfall and other climatic factors. For tree crops and livestock the product cycle is a good deal longer. This factor strongly limits the extent of response to a price change <u>within</u> a given product cycle. A wait of at least a year is likely to be necessary before the first-round benefits can be secured of any price-induced increase in planting, in which case we could think of twelve months as 'the short term'.

Bearing these factors in mind, how large a response is it reasonable to expect to a given price change? It is important here to introduce a further distinction: between the output response from a change in the price of one crop relative to that of another, and the response of the whole sector to an across-the-board increase in agricultural prices relative to non-agricultural prices, *i.e.* to an improvement in its terms of trade. The importance of this is clear if we think back to factor mobility as a determinant of supply elasticities. If the price of a specific crop is raised it will be open to farmers

to redirect their labour, land and other resources away from other crops to grow more of the favoured item. There will hence be a ready mobility of factors, a condition favourable to a good price response. Most measurements of agricultural supply elasticities are of this type, relating to a shift in relative prices within agriculture, and there is much evidence not only that response will be positive but also that it will sometimes be large.

We have already presented some such evidence, but relating to export products only, in Working Paper No. 33 (see pp.23-24). This reproduced Bond's [1987] survey of other studies and the results of her own estimates, which showed short-run elasticities of 0.27 to 0.43 for major product groupings, and long-run figures of 0.46 to 0.80. The estimates in Table 5 below provide averages from other surveys for specific crops. The lower end of each entry represents an average short-term response and the upper end gives the long-run average. Here again we see that all the results are positive and that some of the long-run elasticities are quite large.

Table 5: Summary of agricultural supply elasticities

Crop	Africa	Other developing countries
Wheat	0.31 - 0.65	0.10 - 1.00
Maize	0.23 - 2.43	0.10 - 0.30
Sorghum	0.10 - 0.70	0.10 - 0.36
Groundnuts	0.24 - 1.62	0.10 - 4.05
Cotton	0.23 - 0.67	0.10 - 1.62
Tobacco	0.48 - 0.82	0.05 - 1.00
Cocoa	0.15 - 1.80	0.12 - 0.95
Coffee	0.14 - 1.55	0.08 - 1.00
Rubber	0.14 - 0.94	0.04 - 0.40
Palm oil	0.20 - 0.81	...

Source: World Bank, 1986, Table 4.4. Based on Askari and Cummings, 1976; Scandizzo and Bruce, 1980.

When we turn to consider the responsiveness of agriculture as a whole the position is different, for the option of increasing output by switching resources between crops is largely ruled out. Some increases in total output can be won by greater applications of fertilisers, insecticides and the like, but if we see the output of a sector as fundamentally determined by factor inputs and technologies then agriculture can increase output in response to an improvement in its terms of trade chiefly by attracting factors from other sectors and/or by improving cultivation techniques. In the short run both techniques and factor supplies will be relatively fixed, except in countries where there is still an abundance of good uncultivated land; it is only after a considerable period - perhaps several years - that much can be done about these

things. In brief, we must expect the supply elasticity of the sector to be small in the short-run and to be quite limited even over the longer term.

Aggregate elasticity estimates bear out these predictions. Chhibber [1989] estimates long-run elasticities in the range of 0.7-0.9 in land-abundant countries, but of only 0.3-0.5 in low-income developing countries. Even this range of values looks large by comparison with other estimates and Table 6 reproduces the results of Binswanger's [1989] survey of estimates by a variety of authors, showing particularly low values for African countries. All the estimates are positive, however. Agriculture's terms of trade do matter, but it would be a mistake to expect dramatic results from policies which enhance them.

Table 6: Some econometric estimates of agricultural price response

Country or Region	Short-run estimate	Long-run estimate	Period
Argentina	0.21-0.35	0.42-0.78	1950-74
Argentina	0.07		
India	0.20-0.30	0.30	1952/53-74/75
India	0.28-0.29		1954/55-77/78
India	0.24		1955/56-76/77
Semi-arid tropical India	0.09		1955/56-73/74
India	0.13		1961/62-81/82
Ghana	0.20	0.34	1963-81
Kenya	0.10	0.16	1963-81
Côte d'Ivoire	0.13	0.13	1963-81
Liberia	0.10	0.11	1963-81
Madagascar	0.10	0.14	1963-81
Senegal	0.54	0.54	1963-81
Tanzania	0.15	0.15	1963-81
Uganda	0.05	0.07	1963-81
Burkina Faso	0.22	0.24	1963-81
SSA average	0.18	0.21	1963-81
Cross-country	0.06		1969-78

Source: Binswanger, 1989, Table 2.

Since the focus of this Working Paper is the respective roles of markets and the state, it is interesting at this point to compare the price elasticities just reviewed with output responsiveness to non-price, or structural, variables, although only limited evidence is available. One result is drawn from work on India by Chhibber [1989, pp.65-66], who compares aggregate short- and long-run elasticities with respect to changes in

agricultural terms of trade and access to irrigation facilities, the proxy for structural variables. He found some tendency for response to irrigation to be larger in the short run but obtained a much stronger result from long-run elasticities: " . . . in India in the period 1954-5 to 1977-8 the elasticity of aggregate output with respect to non-price factors, was approximately three times the elasticity with respect to inter-sectoral prices."

This result is consistent with others, relating both to India and a sample of other countries, surveyed by Binswanger [1989, pp.13-16]. He concludes that it is easier to show that structural variables have a positive impact on aggregate output than it is to show price effects. Access to irrigation again emerges as a highly influential force. So do educational and health indicators; and measures of the quality and density of the rural roads network. Public research and extension services can have a powerful influence on the output of particular crops but much less on total agricultural output. Further support is provided in a rather different type of test by Diakosavvas [1989]. He investigates, for 35 developing countries in 1974-84, the impact on output of changing levels of government expenditures on agricultural services and infrastructure, concluding that, on average, a 10% increase in government spending will induce an approximately 3% increase in output.[17] The more common case of declining government expenditures was associated with reducing agricultural output, which also reacted adversely to instability in the provision of government services.

III.5 Balance and sequencing in agricultural policy

A strong implication of these results, and a theme also emerging from our earlier discussion of influences on farm profitability, is that a mix of price and structural measures is needed to maximise the output response of agriculture. Streeten [1987, chapter 7] has put the point memorably by referring to the 'six ins' of agricultural policy:

> **IN**centives in the form of sustained adequate prices.
>
> **IN**puts and delivery systems, especially seeds and new planting stock, fertilisers and insecticides.
>
> **IN**novation: crop research and adaptation of existing knowledge to local circumstances.
>
> **IN**formation: education, extension, training and other support services.
>
> **IN**frastructure: roads, particularly feeder farm-to-market roads and other links to markets; storage facilities; irrigation; water, power and communications; educational and health services.

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[17] Statistically the result was highly significant; the response was recorded as simultaneous (or very short-run) but lagged variables were not tried. Diakosavvas cites Elias [1985] as having reached similar conclusions.

INstitutions, including for rural credit, marketing and land reform.

Most of these, moreover, require a seventh 'in': INvestment.

Precisely what is the appropriate balance between these agenda items is a matter that can only be settled case-by-case, and there is little general that can be said except to reiterate that neither price nor structural measures are likely by themselves to call forth an optimal response; some combination of both is likely to be desirable in most cases - a conclusion illustrated by Box II on the Tanzanian case. This suggests that ideally what will usually be desirable is the simultaneous implementation of a package of price and structural measures.

Not all would agree with this, however. Those optimistic about the efficacy of market forces argue for a sequencing that gives priority to measures to improve price incentives. Their case is not merely that public, structural interventions will be wasted without such incentives but that if strong incentives are provided, and sustained so that farmers come to believe that they can plan on the basis of some continuation of these in future years, this will raise private investments in rural infrastructure and improved technologies. It will also create a demand - and profit opportunities - for improved private transport and marketing services, and for rural credit. Where the physical infrastructure is inadequate, these developments will, in turn, create more powerful political pressures for action by the state, whereas if the state comes in prematurely with a plethora of structural interventions this could undermine the development of local markets.

A weakness in this case, however, is that it rests tacitly on a presumption that the forces of competition are strong enough in rural areas to produce efficiently-operating markets. In the circumstances of many low-income countries this presumption is open to question. Thus, Timmer [1988, p.326]:[18]

> *The strategic dilemma is how to cope with segmented rural capital and labour markets, poorly functioning land markets, the welfare consequences of sharp instability of prices in commodity markets, the pervasive lack of information about current and future events in most rural economies, and the sheer absence of many important markets, especially for future contingencies involving yield or price risks.*

Where the conditions for competitive markets are not well satisfied the temptation is instead to suggest a 'structures first' strategy, in which the institutional and

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[18] This view is echoed by Lele [1988] examining the African situation. She writes of the "absence of capital markets" as a major constraint on production growth, and of inaccessibility of markets and poor and costly communications (p.199). She refers to 'unintegrated food markets' (giving rise to large differences in the prices for the same products in markets of the same locality) and observes that "Even where the private sector is allowed to operate freely in marketing and agro-processing as, for instance, in Nigeria, trade by licensed buying agents for cotton and rubber is often said to be far less than competitive" (p.202).

BOX II. COMPLEMENTARITY OF PRICE AND STRUCTURAL MEASURES IN TANZANIA [19]

Tanzania's independent structural adjustment programme (SAP) of 1982-85, and its IMF-sponsored economic recovery programme (ERP) of 1986-88, provide examples respectively of non-price response constrained by low prices, followed by gradual response to price and non-price measures; and of price response constrained by inadequate non-price measures.

The SAP relied largely on non-price measures: increasing inputs and incentive consumer goods; improving farmer payment, crop marketing and collection procedures, and extension services; and raising budget expenditure on agriculture from 13% in FY1982/83 to 28% in FY1984/85. However, these measures were not successful: in spite of higher expenditure, there was no marked improvement in incentives. Inputs were given priority on foreign exchange allocation, but transport problems reduced their availability. Imports of consumer goods were cut until 1984, due to foreign exchange shortage. Producers had no additional non-price incentive to sell to parastatal marketing organisations.

Producer prices were merely maintained for food crops at the depressed real levels which existed at the beginning of the SAP, with marginal rises for export crops. Rising parastatal marketing costs and appreciation of the real exchange rate reduced the share of f.o.b export prices going to producers (see page...), even though export duties were gradually removed.

Officially marketed production of most export crops fell in each year in 1981-84. Where production grew (*e.g.* sugar in 1983/84) it was due to excellent weather and targeted import support aid. Elsewhere drought, lack of incentive consumer goods and inputs, and the small price rises lowered responses. However, the parallel market offered incentives for food production: higher prices, immediate payment and consumer goods and inputs. It handled 60-80% of maize traded by 1985 and, together with food insecurity due to drought and poor incentives for export crops, induced farmers to switch to maize production. Maize output grew each year in 1983-86, and all food crops rose sharply in 1985-86.

In 1984 agricultural buying was transferred to cooperatives, to increase marketing and input supply efficiency, but they faced the same transport and foreign exchange problems as had the parastatals and, although more efficient, could not boost supply. However, in 1984-85 real producer price rises, more consumer goods imports, and aid for inputs (helped by good rains) boosted maize production. In 1985-86, the same combination of price and non-price measures (and advance notice of price rises for 1986-87) increased output of all food crops, and began to increase marketed output of export crops, notably coffee, cotton and cloves.

Thereafter, the ERP relied much more on producer price rises. Prices for export crops were raised by 30-80% in 1986/87, 15-30% in 1987/88, and 10-35% in 1988/89. Prices for food crops rose 20% in 1986-87, 25-50% in 1987-88, and 15-20% in 1988-89. The effects on production were mixed: food output reached record levels in 1986-87, but in 1987-88 and 1988-89 maize and rice production fell by 10% *p.a.* Price incentives were outweighed in both years by drought in some regions.

Export crops responded more where inputs were made available and payment and crop collection were improved. For example, 1987-88 saw record cotton production. In contrast, coffee production fell by 10% in 1986-87, due to disease, lack of fertiliser and slow crop collection. Though prices rose less in 1987-88 and 1988-89, production increases matched 1986-87: higher availability of incentive goods and inputs was responsible. Price incentives elicited substantial supply responses only in individual crops, not an aggregate response throughout the sector; and only in specific seasons, not as a consistent trend.

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While the ERP did not initially emphasise investment in fertiliser, seeds, technology, irrigation, replanting and extension, by 1988 aid donors had realised the importance of non-price measures: aid was being channelled to boosting fertiliser production; a World Bank loan to agricultural research aimed to improve seed and technology use; and sub-sector loans were stimulating replanting. However, by 1987-88 80-90% of fertiliser was still imported, less than 4% of land was irrigated and there had been no overhaul of extension. All these factors were constraining response to price and other non-price incentives. Action to change them remained urgent.

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[19] Source: UNCTAD Trade and Development Report, 1989, Part II, Section 2. See also World Bank, 1986, pp.74-75.

infrastructural reforms are put in place prior to action upon price incentives - a line of action supported by the research findings discussed above showing elasticities of aggregate output to be greater with respect to structural than to price variables. There may also be political considerations which reinforce this sequencing, namely that, given that raising producer prices is likely to involve the government in political costs, it makes sense first to ensure that the conditions are in place that will maximise the production stimulus derived from improved prices [Lipton, 1987, pp.205-06].

A further implication of the evidence adduced above is that programmes which seek to stimulate output through improved prices but which simultaneously cut back on government services and investments in the rural economy, probably as part of wider attempts to reduce budget deficits, are liable to be self-defeating. This is a point of some seriousness because many of the adjustment programmes currently in place in developing countries are required to conform to the policy conditionality of the IMF, which often indeed requires across-the-board reductions in government spending. An apparent trade-off is thus signalled between the requirements of macroeconomic management and the revival of agriculture as part of the process of structural adaptation. We return to this trade-off in Working Paper No. 36.

We should be clear, however, that this conclusion relates primarily to sector-wide policies to stimulate output, for we have also shown that price elasticities are substantially larger for individual crops, in response to changes in relative agricultural prices. The other side of that coin, however, draws attention to the pitfalls of looking at these matters crop-by-crop. The danger of such a piecemeal approach to agricultural policy is that price measures to induce a desired increase in the output of one crop may simply be at the (undesired) expense of reducing the production of other crops. For example, Hugon [1988] has argued that in Madagascar a rise in the official price of cotton (which was a condition for an IMF credit) increased cotton output but led to a sharp fall in peanut production. Similarly, improved rice prices led to greater output - but only by switching resources from the production of the important export crop of coffee. This type of consideration may be of particular importance for achieving a desired balance in the production of export crops and foodstuffs.

III.6 Concluding cautions

However the balance is struck, and whatever the sequencing chosen, the thrust of the foregoing is to urge the need for a mutually-reinforcing combination of market-oriented price incentives and of non-price, structural interventions by the state. To quote Timmer [1988, p.328] again:

> *The factors needed for inducing agricultural transformation, to 'get agriculture moving', involve a complex mix of appropriate new technology, flexible rural institutions, and a market orientation that offers farmers material rewards for the physical effort they expend in their fields and households and for the risks they face from both nature and markets.*

If this conclusion seems bland, even obvious, it is not without attendant dangers. One of these is the danger of using too broad a brush where greater refinement is called for. We have stressed at a number of points the difficulties of generalising across countries and within them. The level of development of the rural economy; how it meshes into the national economy; its infrastructure and its markets; the ecological conditions in which crops must be cultivated; the mixture of crops that is grown; the seriousness of initial problems - all these are liable to vary greatly within countries. No single policy decision or package can be uniformly appropriate in such circumstances. Rather the need is indicated for flexibility, experimentation and decentralisation in policy. The need is indicated too for the devotion of additional resources to crop-and locality-specific research so that local situations can be better understood and appropriate policy responses designed. Our conclusion may be bland but it is certainly not easy, nor cheap.

A further way in which it may be difficult arises from the politics of agricultural reform. The taxation of agriculture described earlier did not occur as a result of carelessness. It was no accident. Rather it reflected a distribution of political power which favoured the urban economy and those who depend on it.[20] By comparison with urban groups - and with the highly mobilised farming communities of Western Europe - farmers in low-income countries tend to be ill-organised and to have much less political clout than their numbers and their importance as producers should merit. One of the difficulties of urging more remunerative prices for farmers, especially for growers of foodstuffs, is that these are almost certain to result in higher food prices in the towns or in probably insupportably large subsidies financed from the exchequer.

Not that the reform of agricultural policy is politically impossible. Too great an urban bias and the over-taxation of agriculture tend in the end to break down as a political strategy, for failing supplies of foods and industrial raw materials will eventually come to threaten the stability of the government and create a powerful incentive for policy change. But the political sensitivities do mean that policy-makers need to give careful thought to the tactics of the reform of agricultural policies. This may, for example,

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[20] See Lipton [1977] for an early and influential statement of the 'urban bias' argument, and Bates [1981] for a classical analysis of the politics of the taxation of agriculture.

strengthen the 'structures first' school which would first put in place the improvements in state-provided services and infrastructure before acting on price incentives, in order to maximise the volume of output response to the price improvements. The greater the response the less the potentially adverse impact on the urban economy. There may similarly be a case for timing price improvements to coincide with a year of good harvests - although once embarked upon it will be essential for credibility that the government persists with the price reforms.

Finally, we should caution against the danger of 'attention bias'. The focus of our treatment here - on the respective contributions of market incentives and state interventions - reflects a present-day preoccupation in policy debates. But we should not let the influence of fashion on governments, aid agencies and academics divert attention from the fundamental determinants of agricultural performance: the availability of land and other factors; the techniques employed; population pressures; climatic and other ecological conditions. It is easy to exaggerate the extent and speed with which improvements in either government services or market incentives can influence these fundamentals, but in the end it is the impact upon these that will determine the long-term strength of agriculture.

IV. WHAT CAN GOVERNMENTS DO FOR INDUSTRY?

IV.1 Diagnosing the problems

In Part II we drew attention to the weakness of industrial performance in SSA. We pointed out that industrialisation had virtually ceased in the 1980s, that an appalling export record pointed to general inefficiency by international standards, and that various structural shortcomings are preventing African industry from performing its 'enabling' role in the quest for economic adaptation. Before turning to consider possible policy responses to this situation we should examine some of the causes of substandard industrial performance. It is convenient to classify these as either exogenous - outside the industrial sector and the reach of industrial policy - or endogenous.

- **Exogenous factors:** First, the heavy reliance of African manufacturing on the domestic market leaves it very vulnerable to fluctuations in the levels of activity at home - and most African economies have been stagnant, even declining, during the 1980s.[21] Much of the industrial deceleration shown in Table 2 (p.6) is attributable to this general slowdown and the manifold causes which underlie it. Box I describes a similar situation for Nepal.

  One of these causes, of course, is the balance of payment constraint, discussed in Working Paper No. 31. But the resulting shortages of foreign exchange have also contributed more directly to industrial stagnation, because of industry's dependence on imported supplies. Here again many forces have been at work, prominent among them being adverse movements in African countries' commodity terms of trade and declining African shares in their traditional export markets. In some measure, industry's own export failings and import reliance have also contributed to the foreign exchange constraint, and to that extent the problem cannot be considered exogenous to the sector. But manufacturing's own failings can explain only part of SSA's payments problems.

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[21] Various authors have decomposed SSA's post-Independence industrialisation as stemming from [a] the satisfaction of an expanding domestic market for manufactured goods; [b] import-substitution, in the statistical sense of reducing shares of imports in total consumption of particular goods; and [c] exportation. Both [a] and [b] represent sales to the domestic market, and both represent import substitution in the sense that the goods would have to be imported to meet the demand if they were not produced at home. There is thus no rigid distinction between them. But there is a difference in that [a] results from increases in the total size of domestic demand while [b] is a result of the replacement of imports in the satisfaction of a given market. It is [a]-type industrialisation which is particularly vulnerable to changes in the condition of the domestic economy. Riddell's [forthcoming, p.32] seven country studies showed that between 54% and 72% of industrial expansion could be accounted for in terms of [a]; similarly, Gulharti and Sekhar in Meier and Steel [1989, p.56] show domestic demand to account respectively for 70%, 96% and 44% of the industrial growth of Kenya, Tanzania and Zambia.

Weaknesses in other parts of the domestic economy have added further to industry's woes. We have already described the consequences of poor agricultural performance (p.4). High transportation costs have been another problem, illustrated in Box I on Nepal. Another sector which deserves special mention is the inadequate support provided by financial institutions and capital markets, which has sometimes kept manufacturers short of risk capital and of credits to finance working capital needs. The performance of the financial sector is the subject of the next Working Paper in this series.

So long as these exogenous factors remain in place there is a limited amount that specifically industrial-sector policies can hope to do. We are reminded once again of the cardinal importance of the quality of overall economic management. But we should not shift all the burden of policy responsibility in this direction.

- **Endogenous factors:** Most of the sources of weakness internal to the sector can be summarised as inadequate concern with efficiency. The ideology of nationalist independence movements and the dominant opinions in development economics into, and beyond, the 1960s both placed much stress on the desirability of industrialisation, and there was a distrust of considerations of comparative advantage and international efficiency. One consequence was the fostering of industry by an often undiscriminating but *ad hoc* provision of protection against competition, either by imposing tariffs or imposing quantitative restrictions on competing imports, sometimes complete prohibitions. An example of the sometimes extreme .resulting levels of protection is provided below in Table 9 (p.44). It was also quite common to set up state-owned concerns to promote further the objective of industrialisation on the basis of investment criteria which similarly placed little weight on considerations of international competitiveness.

  In consequence, industries were able to achieve profitability without efficiency because they were selling on a more-or-less captive market, sheltered from foreign competition, favoured by the state and often with little domestic competition. One result of this was a bias against exports in favour of selling on the domestic market, meeting demands that otherwise would be met mainly by imports. This goes far to explain the export failure displayed in Table 3 - exporting was simply not the motivation for establishing much local industry and there were incentive biases against it. It also helps to explain why industrialisation has run out of steam, for it is the experience of developing countries with much larger domestic markets that import-substituting industrialisation does not provide an adequate basis for sustained industrialisation.[22] Such was inevitably the result for economies offering the minuscule markets for industrial goods shown earlier in Table 1, Working Paper No. 32, even though there does remain scope for some further import substitution.

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[22] See Little *et al.* [1970] for a classical critique of inward-looking industrialisation, based on six country studies.

> Finally, unconcern with efficiency led to the creation of 'import-substituting' enterprises that, in fact, were a net drain on the countries' foreign exchange because of their dependence on imported materials, equipment, skills and capital, and because of the large inputs of domestic resources they required to save a unit of foreign exchange. Such enterprises thus added to balance of payments difficulties while contributing little or nothing to the transformation of the domestic economy.

Of course, we are here painting with a broad brush. The deficiencies just described are far more serious in some countries than others,[23] and there are many other more specific sources of difficulty in particular countries and industries. Nevertheless, writers from all parts of the theoretical spectrum are agreed on the essentially self-defeating waste of resources resulting from the inward-looking industrialisation of the 1960s and into the 1970s.[24]

IV.2 A consensual minimum role for the state

Many policy instruments are available to governments wishing to influence the pace and pattern of industrial development. These are summarised in Table 7, which is an augmented version of the results of a survey of industrial policy measures in use in developing countries. These could be re-classified in other ways, one of which would be to distinguish between positive and negative instruments. Into the latter class would come measures intended to regulate or control industry, including industrial licensing, labour legislation, price controls, and restrictions on foreign ownership. Examples of positive instruments would be the provision of tax incentives, favourable credit rules, protection, provision of supporting infrastructure, and the various forms of export subsidy listed in the table. As already mentioned, policy measures intended to have economy-wide effects (not included in the table) can also have a large impact on industry, of which the most obvious is the exchange rate. How, then, should governments deploy this formidable arsenal?

Although there is much disagreement about the design of industrial policy, by no means all of it is controversial. There would, we suggest, be widespread agreement that any country's industrial policies should, as a minimum, include measures providing a combination of supporting services, promotional measures and public interest safeguards, along the following lines.

The category of supporting services would include the provision, and periodic updating, of an appropriate legal framework within which firms can operate, particularly in the laws relating to companies and to patents. It would also include the provision by the state of a supporting physical infrastructure - a transport network, modern communications, adequate and reliable power and water supplies - to which might be

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[23] For an African example where such mistakes were generally avoided see the study dealing with Botswana in Riddell *et al.* [forthcoming].

[24] Weiss [1988], in particular, surveys the opinions of authors from a wide range of different schools of thought.

Table 7: Industrial Policy Measures in LDCs

Area of intervention	Examples of policy measures used
Production and marketing	Industrial licensing, regulation of restrictive business practices, tax incentives to particular industries, provision of land, creation of industrial estates, provision of power, water, roadways, communications and other infrastructure, price controls, national planning, development and regulation of public enterprises and joint ventures, environmental regulations
Employment and other factor markets	Minimum wage legislation, labour training schemes, restrictions on use of foreign labour, interest rate and credit controls, capital subsidies, tax benefits for business income
Foreign investment	Prohibition of private foreign investment, requirement for domestic majority ownership, constraints on profit remittances abroad and capital repatriation, exclusion of foreign investment from key industries, direct subsidies and tax incentives for foreign investment
Technology	Patent laws, research and development support, regulation of TNCs and technology agreements
Imports	Import licensing, quotas and prohibitions, import tariffs, multiple exchange rates
Exports	Export licensing, taxes and customs duties on exports, income tax and customs duty concessions for export earnings, export credit, foreign exchange earnings retention schemes, favourable exchange rates, export processing zones, marketing assistance schemes

Source: Based on Donges [1976], cited by Weiss [1988], Table 6/1; augmented by additional entries.

added measures to ensure an adequate supply of land for industrial development and the provision of industrial estates for small-to-medium-sized firms. There would be agreement too on the responsibility of the state to contribute a 'human infrastructure' in the form of an effective national educational system, participation in industrial training programmes, and support for industrial research and development (where the presence of externalities would otherwise lead to under-investment by the private sector). Where comparable market failures occur in capital markets, the state should ensure that the institutional and regulatory framework exists that will meet the legitimate capital needs of industry. It should also provide specialist supporting

services, *e.g.* for the marketing and insurance of exports, when there are reasons for expecting that these will not be adequately provided by the private sector. Somewhat more controversially, there would be support for the proposition that exchange rate policies should be such as to provide reasonable incentives for would-be exporters and should not unduly encourage the importation of goods competing with local products - arguments against over-valuation.

Moving to more positively promotional measures, there is, despite often fierce arguments, much support for the provision of at least moderate 'infant' protection against competing imports, subject to certain public interest safeguards. This is discussed more fully later. Whether the state should enact special investment codes and other measures aimed at encouraging private foreign investment has in the past been highly controversial but is becoming less so, if only because the plight of developing countries has become one in which they need capital from wherever they can get it. A high proportion of developing country governments have now enacted such provisions. Finally, we might mention the particular desirability for small countries of regional co-operation arrangements, so as to minimise the disadvantages of small domestic markets and to foster trade among them. That governments should seek to negotiate some form of regional trading arrangements would be widely agreed, even though their realisation is, of course, beyond the power of any one government and the record to date has been discouraging.

Among the 'public interest' measures for which there would be wide support are included legislation to safeguard against the abuse of unequal bargaining strength in labour markets, concerning employment of children, excessive hours of work, safety, *etc.* And while there is nowadays more support for the encouragement of foreign investment, safeguards are needed there too, on such matters as the training of local workers, technology transfers and accurate financial reporting. There is a public interest too in industry-wide environmental safeguards, *e.g.* against the discharge of poisons into the air, the sea and the rivers, the observation of safety standards for workers and nearby communities, the destruction of non-renewable resources, and so on.[25] There would probably also be concurrence with the need to safeguard the public against the mis-use of monopoly power, given the prevalence of high degrees of industrial concentration in many small developing countries. In principle, there would also be acceptance that governments should safeguard the public interest in its protection policies by carefully quantifying the costs and benefits to be gained from protection and by keeping protection to the minimum consistent with the achievement of the benefits.

IV.3 Beyond the consensus: the swing issues

On no reading does the above consensual programme add up to a policy of *laissez faire*. There is much for governments to do. Nevertheless, it is a programme that

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[25] Significantly, Donges did not report finding any such safeguards in his 1976 survey, reminding us how recently it is that such 'green' concerns have moved on to the policy agenda.

relies heavily on the efficacy of creating an appropriate framework to encourage efficient private industrial investment. It is, in that sense, a relatively passive, or enabling, programme. The real controversies start when we consider whether governments should go further than this.

There are a number of swing issues around which opinions tend to divide. One is whether the best way forward is to continue to promote industry or to concentrate on improving the efficiency of the industries already in place. Closely related to this is the question, what to do with the chronically inefficient: provide long-term support or allow them to go bankrupt? It is probably fair to say that the World Bank, for example, belongs more to the reform camp and is more apt to take a hard line on the chronically inefficient than many of the governments with which they deal.

Another swing issue concerns how key decisions about new industrial investments should be taken: should these be taken wholly by private investors acting upon present market signals or does government planning have a role to play, seeking to 'pick winners' in anticipation of future market developments? This is a well-trodden battleground. So too is protection policy. Our earlier claim of wide support for a moderate degree of protection of 'infants', subject to public interest safeguards, leaves much to argue about: how much protection, for how long and of what type? Another 'how much' issue takes us back to the role of planning: how much control should be exerted over industrial development? This is likely to revolve around the use of industrial licensing: should industry be licensed at all and, if so, with what objectives and how restrictive should it be?[26] We cannot cover the ground of all these controversies here, wishing instead to concentrate on the key issue of trade policy, but we can at least briefly summarise the *pros* and *cons* of the larger debate before turning to trade questions.

IV.4 An outline of the arguments

To a large extent, the swing issues turn on the alleged failings of markets and governments. Those who argue for confining the role of government broadly to the minimum role described above draw attention to the negative results secured from past attempts at industrial planning and control. We have already suggested that much of the poor record of industry in SSA can be attributed to the industrialisation policies pursued in earlier decades, and some go further to suggest that there are few grounds for expecting much better of governments in the future. This has to do partly with objectives. Ministers are not just concerned to promote long-run development. They are concerned also with staying in power, rewarding supporters and, sometimes, with party or personal gain. Their officials also sometimes have mixed motives and, in any case, there are too few able officials available to give disinterested advice and to administer industrial policies as intended.

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[26] For a valuable essay on the neglected topic of industrial licensing see Guisinger's chapter in Cody *et al.* [1980, chapter 6].

The result, the argument continues, is that the realities of planning and control are far removed from the textbook advantages. Thus, for all the lip service that may be paid to confining protection to the quantified and temporary needs of genuine infant industries, real-life protection continues to be arbitrary, excessive and permanent. The realities of licensing and controls are similarly alleged to be strongly at variance with the theoretical benefits. Thus, experiences with industrial licensing show that it adds to uncertainties, is inflexible, slows down investment decisions, favours the large firms that can afford to devote resources to lobbying the licensing authorities, and invites inefficiency and malpractice through its lack of transparency. Price controls are another example often cited of a policy instrument whose results are often perverse. In Zimbabwe, for example, an official commission of inquiry reported that price controls in that country were being asked simultaneously to pursue a multiplicity of potentially conflicting objectives; were unable significantly to reduce the underlying rate of inflation; were associated with long delays and the politicisation of pricing decisions; were inadequately staffed and thus could not be used systematically as a control against the abuse of monopoly power. It found that in consequence the controls were having an adverse effect on industrial investment, output and profitability. Similar conclusions have been reached elsewhere.[27]

The end result of these government failures, the critics argue, is to create precisely the types of weakness diagnosed in our earlier discussion of the performance of industry in SSA, to divert large resources into unproductive rent-seeking, to discourage investment and to make industrial profitability more a function of an enterprise's relations with the machinery of state than with its international competitiveness. More positively in favour of the market, many have pointed to the excellent industrial progress achieved by various Southeast Asian countries, although discussion of these cases in Box III points to more ambiguous conclusions.

Against these considerations, those who favour a more active state role (whom we will call 'the planners') point to evidence that a liberal economic regime is by no means necessary for industrial efficiency. This is a feature of some of the Asian cases discussed in Box III. Zimbabwe provides an African example, having built up a substantial and relatively efficient industrial sector behind protective barriers and energetic government promotion during the pre-Independence UDI years, when sanctions were imposed by many other countries on trade with what was then Rhodesia. They also point out the wide range of efficiencies commonly found within individual branches of industry, which suggests that micro-level influences, including the quality of management and choice of technology, are no less important than the sector- and economy-wide policy environment, and that efficiency may best be raised by micro interventions to bring the less efficient up to the standard of the best.[28]

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[27] See Republic of Zimbabwe, Report of the Commission of Inquiry into Taxation, Harare, April 1986, p.195. See also Killick [1973] for an earlier study of Ghanaian experiences.

[28] This argument is deployed by Riddell [forthcoming].

BOX III. LESSONS FROM SOUTHEAST ASIA

Great interest has been generated by the success of a number of Southeast Asian countries in rapidly expanding their exports of manufactures, and there is much controversy about what general lessons might be drawn from their experiences. Some hold them out as illustrating the superiority of market-based solutions but others have disagreed with such an interpretation, pointing out that there has been pervasive government intervention in almost all these cases (except Hong Kong). Spurred by small domestic markets and technological backwardness, the governments of such countries as Taiwan and South Korea (and Japan before them) have provided protection in order to promote import substitution. In Japan and Korea public enterprises were created that were crucial to industrialisation.

Some governments similarly took an active position on the desirable future structure of industry. The governments of both Singapore and South Korea judged that their countries' initial advantages in labour-intensive manufacturing would not last and engineered shifts towards more capital- and skill-intensive industries. Similarly, the government of Taiwan deliberately fostered the development of small-scale enterprises. Industrial licensing was one of the tools used to achieve the desired results and (in South Korea) a system of export targeting. There was also a good deal of unofficial 'guidance' from officials to businessmen. Governments were also interventionist in the provision of certain supporting services, most notably by using controls over financial markets to ensure that industry's credit needs were met, and also with support for export marketing.

Besides questioning a pro-liberalisation reading of the record of these countries, critics are also sceptical about whether they provide a model that could be replicated in the small developing countries of Africa and elsewhere. They point out that several of the most successful of these countries already had an import-substituting industrial base before World War II upon which they could build their export drive; that they started with larger economies than those of SSA (in 1960 South Korea's GDP was about $11.5 billion in 1987 prices, against an average for the countries reported in Working Paper No. 32, Table 1, of $2.8 billion); and that they started with a distribution of political power which favoured industry, and with substantial educated and trained professional bureaucracies.

But while it is beyond doubt that there was much interventionism, it is also central to an understanding of these cases that their governments sought to work through, not in opposition to, market forces. Excessive protection of industry was rare, it was selective and time-bound, and the average was moderate; the net effect of the incentives offered was broadly neutral as between import-substitution and exporting; the input and output prices faced by exporters were maintained at around world levels; and an aggressive exchange rate policy has been pursued to give strong incentives to the industrial sector. Moreover, state interventions were not infallible, as in Korea's promotion of heavy and chemical industries after the mid-1970s.

The lessons that appear to emerge from these success stories are the importance of:

- relationships between the state and private industry which are supportive, non-antagonistic;
- maintaining balance within the overall economy, both in terms of macroeconomic management and in not neglecting agriculture; and
- the political and administrative conditions which allowed these countries to intervene successfully without many of the costs and abuses which have occurred elsewhere.

The planners can also point to continuing and pervasive market failures as constituting a case for intervention. One of these is a tendency to concentrations of monopoly power in the industrial sectors of small economies, to which we return shortly, and of the large power that can be exerted by these 'big fishes in small ponds'. Conversely, there may sometimes be a tendency for too many firms to be created, leading to industries comprising firms too small to reap important economies of scale and thus doomed to high cost structures - in which situation the case can be argued for using industrial licensing to permit only one or a few firms to manufacture a given type of product. The market may fail also because of external economies. We suggested earlier that industrialisation has a special, enabling, value in progress towards an adaptive economy. The implication is that it is likely to bring benefits over and above the financial rates of return enjoyed by individual investors. From society's point of view, there may thus tend to be under-investment in industry. This tendency may be reinforced by an exaggeration by individual investors of the risks and uncertainties surrounding their decisions, for they will not have available to them the full range of information possessed by the government on future economic prospects and on investments being undertaken by others.

Finally, the planners can urge the necessity for governments consciously to 'take a view' of the products in which the country is likely to have a comparative advantage in the future. Indeed, we have already supported such a position in Working Paper No. 32, when urging the need to diversify out of primary product exports in favour of manufactured and other items facing more dynamic world markets. Here too, the example can be cited of the success of some of the Asian countries discussed in Box III in taking a long-run view of comparative advantage and of deliberately engineering a restructuring of industry in line with that view.

Before we try to draw any conclusions about these controversies let us look in greater depth at what is arguably the key policy influence on industrial development: protection.

IV.5 The key importance of trade policy

When, in Working Paper No. 31, we explored the attributes of an adaptive economy we emphasised the importance of competition and of well-functioning markets for the flexibility with which economic agents respond to changing conditions. In this Working Paper we have drawn attention to evidence of pervasive inefficiency in African industry. Since the inefficient cannot survive in a competitive environment, this too points to the desirability of fostering greater competition in the manufacturing sector.

On the other hand, we have also drawn attention to the minuscule size of domestic markets for industrial goods and to the large importance of scale economies in modern industry. Here, then, is a dilemma. Competition requires there to be a large number of sellers in the market; scale economies in small markets will permit only one or a few efficient-sized firms. As a result the pursuit of multi-firm competition within domestic industry may well not, in many cases, be in the public interest. There is, for example, African evidence that large-scale manufacturing firms have greater success

in exporting than small ones.[29] There is also a possibility that industrial concentration - the dominance of a given industry by one or a few firms - may in some cases be associated with greater efficiency, although the benefits of this are more likely to be retained as profits than to be passed on to consumers.[30]

How, then, to reconcile the desire to promote efficiency by more competition with the desire to promote efficiency through scale economies? The answer lies with trade policy, not the least because manufactures are the tradeable goods *par excellence*. A judicious trade policy will ensure that domestic industrialists are kept under pressure to minimise costs through competition from imports while allowing them to reap scale economies by producing a large share of total domestic output of the good in question. To summarise it: **monopoly at home but competition from abroad.** A judicious trade policy will also allow local manufacturers to escape the confines of the domestic market by allowing them to compete successfully on world markets.

A 'judicious trade policy' does not mean free trade, however, so the key question emerges as to how much protection ought to be given, in what conditions and by what means?

IV.6 The case for protection

In reviewing the *pros* and *cons* of protection, we might start by pointing out that policy in this area needs to be considered in conjunction with exchange rate policy, the subject of Working Paper No. 33. It is pointed out there that an over-valued exchange rate discourages both exports and import substitution. It has been a contradiction in the policies of many countries in the past that they have simultaneously clung to over-valued exchange rates and espoused protectionism. The thrust of Working Paper No. 33 was to recommend the maintenance of competitive real exchange rates. The move to such a position by countries with previously over-valued currencies would itself be a major shift in favour of local producers of tradeable goods. To put the matter another way, currency over-valuation is one reason why many developing countries have judged it necessary to provide protective barriers. As countries move to more competitive rates the need for protection will be reduced.

A second preliminary comment is to point out that all local industry enjoys a degree of 'natural' protection, which biases the pattern of development somewhat in the direction of production for the home market. The chief element here is the transport and related transactions costs which importers have to pay in order to bring competing

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[29] See Lall *et al.* [1987], and Jebuni *et al.* [1988], both of whom find export success to be positively associated with scale. The former, however, also find export success to be negatively correlated with the degree of industrial concentration, which further points up the difficulty of striking the right balance between these two factors.

[30] See the essay by N. Lee on industrial concentration in Kirkpatrick, *et al.* [1984, chapter 3, p.83]. This essay is recommended as one of the few available overviews of a much neglected topic.

goods into the country. For small, high value products such natural protection is modest, but it can be large for items with the opposite attributes. In addition the local producer has, or ought to have, the advantage of an intimate knowledge of the domestic market, and of local *mores* and institutions. There may also be a local prejudice in favour of buying locally-made over imported goods - although that can work the other way, with people preferring imports because they regard them as being more prestigious or of better quality.

There are liable to be powerful offsets to these natural advantages, however, including the generally far greater financial strength of foreign competitors, their probable long experience in producing and selling the goods in question, and their ability to reap economies of large-scale production. Such considerations have given rise to perhaps the best known and most appropriate argument for industrial protection in developing countries, the so-called 'infant-industry' argument. This is premised on the existence of significant start-up costs for a new industry and of a learning curve up which it must travel if it is to succeed. The expectation is that as they move up the learning curve, becoming established in the market, increasing their scale of production, increasing their knowledge of the technologies, new firms' unit costs start at internationally high levels but will then fall until at some point they become able to compete with foreign producers. The argument, then, is for temporary protection until the firms reach this stage.

The infant industry argument relates to the position of newly-created firms, but its logic has been extended into an 'infant sector' argument for the general protection of industry in countries at an early stage of industrialisation. In this form, the argument is that at the early stages the cost structures of industry as a whole are likely to be high, owing - in addition to the factors just mentioned - to shortages of skilled workers, undeveloped sources of raw material supplies, reliance on foreign technologies and other inputs, inadequate local infrastructure and supporting services and inability to reap scale economies. In the early stages, then, it is argued that local industry cannot realistically be expected to compete internationally and will need to be sheltered from competition from long-established producers abroad.

Moreover, if we were right earlier in suggesting that the industrial sector generates externalities which are not reflected in firms' revenues and profits, this too can be a public-interest argument for general protection, to avoid what otherwise might be a socially suboptimal level of industrial investment. This is an argument which, for example, can be applied to industries which are expected to generate technological spillovers. Such general arguments are often buttressed by appeals to historical precedent, pointing out that many of the now high-income countries, including most of the Southeast Asian countries discussed in Box III, achieved their own initial industrialisation behind protective barriers.

We will return to these arguments shortly, but it is worth first giving some thought to the modalities of protection. If the case for general protection is accepted, it is often suggested that this would be best secured by imposing a uniform proportionate tariff on all industrial goods. So far as import-substitutors are concerned, the effect of this would be akin to a devaluation: it would affect the local price of manufactures relative to other goods and services but would not change relativities within industry and would

thus still allow price signals to determine in which branches of industry investment should be undertaken.[31] More specifically, it would eliminate the near-universal bias in structures of protection which favour consumer goods (particularly those regarded as non-essentials) and provide low, sometimes negative, rates of protection for the production of capital and intermediate goods.

Elimination of this latter bias is certainly likely to be desirable, as also is the minimisation of the distortions created by the system of protection. But the logic of the protectionist case unfortunately does not point to uniformity. Take the scale economies argument, for example. The importance of these varies greatly across different lines of production, so that some industries would need more of this type of protection than others. Similarly with externalities. These are most unlikely to be generated in equal degree by different types of industry. Technological externalities are, for instance, likely to be particularly concentrated in the engineering and machine tool industries. By contrast 'finishing-touch' and some other consumer goods industries are unlikely to generate many externalities at all. These considerations point to selective discrimination in favour of producer-good industries - quite the opposite of the usual structure of protection.

Probably the best compromise between these competing considerations is to aim for a moderate uniform level of protection which, however, is varied in either direction according to the special characteristics of the industries in question. It should also be remembered that all the above arguments are for temporary protection, although there is much scope for argument about how long it should last. The practical point is, then, that provisions of protection should be time bound, phased out gradually according to a pre-determined timetable.

Finally on modalities, there is the question if there is to be protection, by what means should it be provided? Although it is possible to do it in a variety of ways the chief contenders are subsidies, tariffs and quotas. Subsidies are the theorist's favourite, on the grounds that they leave relative prices unaffected and thus minimise any new distortions that might be created (although the taxes necessary to pay for the subsidies are themselves likely to introduce distortions), but they are usually ruled out in practice on the grounds that the exchequer could not afford them.

As between tariffs and quotas, the arguments go strongly in favour of the former. For one thing, tariffs will bring in some revenue to the government while quotas will confer scarcity premia on local producers which are unrelated to their own productive efforts, giving adverse income-distribution effects. Second, the degree of protection accorded by a given level of import restriction is difficult to judge and far less transparent than the equivalent tariff. Quotas are thus an instrument more difficult to use in a discriminating and carefully calculated manner. They may also be open to greater abuse. Finally, and partly in consequence of the above, the outcome of the use of quotas tends to be less competitive than that of the use of tariffs. Protective quotas

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[31] This argument is closely related to the literature on the 'effective' rate of protection, which measures the extent of protection of local value-added and where uniform nominal tariffs reduce (but do not eliminate) the distortions arising from widely varying effective protection rates.

are nevertheless common, not least because it is difficult to forecast what the consequence of a tariff will be on the quantities of demand for imported and local substitutes.

IV.7 Is protection cost-effective?

What, now, are the arguments against a protectionist approach? One way of responding to this is to make the argument in terms of the maximisation of world economic welfare, for most protectionist arguments are about winning advantages for the home country at the expense of the rest of the world. Governments, however, have the pursuit of the national interest as their prime responsibility, so we will not adopt an internationalist standpoint and will ask rather, is the type of protectionism advocated in the previous section likely to be in the national interest?

When discussing the position of agriculture we made the point that the protection of industry has an adverse effect on agriculture. Protection affects relative prices so it imposes costs as well as conferring benefits. Favouring one sector of production will make others worse off. In the case of protection against imports of manufactured consumer goods, many of the costs will be borne by the consumer in the form of higher final prices. But that is not the end of the matter. As we have just pointed out, protection permits a higher exchange rate to be maintained than would otherwise be viable, and the effect of this is to disadvantage exporters and producers of other types of import substitutes, and to encourage the production of non-tradeables. In the case of the protection of producer-goods industries the same exchange rate influence is at work but, in addition, other productive sectors, including agriculture, have to bear additional costs, in the form of higher prices for the inputs in question (again placing exporters at a disadvantage). In principle it is possible to offset this anti-export bias by the provision of subsidies, but in practice export subsidy schemes rarely provide full compensation and shortages of government revenue militate against the widespread use of this technique.

Nor is this bias a minor one. Table 8 reproduces estimates of the so-called 'shift parameter', which measures the extent to which import protection becomes an implicit tax on exports. The lowest value in the table is the Côte d'Ivoire's 0.43, which tells us that a 10% level of protection against imports would have the effect of imposing a 4% tax on exports. In the highest case, Colombia, the ratio is almost one-to-one. An alternative way of calculating the bias is to compare effective protection rates for imports and exports. Here too the results are almost invariably to the detriment of exports, sometimes massively so.[32]

The obvious question to ask is whether countries facing acute foreign exchange shortages can afford to maintain this kind of bias, and the discussion again points up the importance of exchange rate policies. There is, in addition, a more general question about the effects of protection on the efficiency with which resources are employed and on the pattern of investment. In principle, it is desirable to create

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[32] See, for example, the estimates for 6 countries in Weiss [1988, Table 5.3, p.191].

Table 8: The protection tax on exports, selected countries

Country	Period	Shift parameter
Côte d'Ivoire	1970-84	0.43
Uruguay	1959-80	0.53
Chile	1959-80	0.55
Argentina	1935-79	0.57
Mauritius	1976-82	0.59
El Salvador	1962-77	0.70
Brazil	1950-78	0.70
Côte d'Ivoire	1960-84	0.82
Mauritius	1976-82	0.85
Colombia	1970-78	0.95

Source: World Bank, World Development Report, 1987, p.80. Derived from Clements and Sjaasted, 1984; and Greenaway and Milner, 1987.

Note: The lower estimates for Mauritius and Côte d'Ivoire refer to nontraditional exportables; the higher estimates to traditional exportables.

incentives that will steer investment and other resources into industries where the country has a long-term comparative advantage but this result is singularly difficult to achieve in practice. Whatever the good intentions might be, studies of actual systems of protection almost invariably show an extremely wide dispersion of protection levels which, being usually the outcome of a series of *ad hoc* decisions, is difficult to rationalise by comparative advantage or any other efficiency criteria. Take, for example, the summary of effective rates of protection in Bangladesh in Table 9.

The measurements in question are of effective protection, and these can be either positive or negative - the latter occurring when local producers pay more in duties on the imported input requirements than the value of the tariffs on imports which compete with their final products. The entries in the category of 'negative value added' arise where the value at world prices of the imported inputs needed to produce a certain good exceeds the world-price value of the final product. In this case, the firms are actually subtracting value from the country's domestic product and rely wholly for their continued inefficient existence on large-scale protection. Three features emerge from the Bangladesh case which are typical: [a] the spread of effective protection rates is extremely wide; [b] some manufacturers enjoy extremely high levels of protection, including some who contribute negative value added; and [c] the pattern of protection appears arbitrary, difficult to rationalise in economic terms.

In other words, protection in practice is apt to bear rather little relation to the theoretical justifications for it. We are reminded of the earlier discussion of the gap between the theoretical arguments for an active government industrial policy and the reality of the results. A further way in which this gap manifests itself is in the

Table 9 - Effective rates of protection in Bangladesh, 1985-86

Range	Products
> -100%	Textile machinery, machine tools
-1% to -99%	Nylon socks (domestic), cotton vests (domestic), paints and varnishes, diesel engines, power-tiller (-1%), bulbs (-2%)
+1% to +100%	Nylon socks (exports), cotton vests (exports), trousers (exports), ship-making, bicycles
Over +100%	Sugar manufacturing, cotton yarn, grey cotton, shirting (handloom and powerloom), grey polyester shirting and suiting (handloom and powerloom), sulphuric acid, transformers, assembled TVs
NVA (negative valued added)	Bleaching powder, caustic soda, dry-cell batteries, mild steel billets, plate-(heavy)

Source: UNIDO, 1989, Table 2.14, p.38.

tendency for firms' initial needs for 'temporary' protection to become permanent, leading to what a disillusioned Minister in Ghana called 'infants with big teeth'. One of the problems with 'infant' protection is that it weakens the pressure upon them to move up the learning curve and reduce their costs to internationally competitive level. Another is that, once established, protected firms acquire political clout, not least because of the jobs they have apparently created,[33] increasing their ability to depend upon continued assistance in the future.

The theory-reality gap has made many economists who are sympathetic to the principle of infant-sector protection wary of advocating it as a practical policy. As Helleiner [1988, p.23] has put it:

> *Protection in support of import substitution may be usefully thought of as a temporary, and obviously costly, device to assist in the restructuring and development of an infant economy. Its costs are unfortunately . . . more certain than its ultimate benefits.*

Given the realities of Africa's industrial record to date, we may wonder whether continuation of an approach based on the protection of industries producing for the domestic market in practice offers a workable way forward.

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[33] The job creation their protection has frustrated in export and other industries is, of course, invisible.

An additional ground for doubting this concerns the scope for further import-substitution. While there are undoubtedly specific products in particular countries where scope remains for local production to replace imports,[34] much substitution has already occurred. The figures in Table 10 suggest that many of the easiest possibilities have already been taken up, with a sharp decline in the share of consumer goods in the end-use composition of African imports.

Table 10: The changing pattern of African imports[a]
(percentages of totals)

Import type	1960s[b]	1972	1978-82
Consumer goods	42	32	20
Intermediate goods	34	39	49
Capital goods	24	29	32

Source: Calculated from Steel and Evans, 1984 Table 12.

Notes: (a) These figures are the unweighted means of data for seven African countries.
(b) The figures in this column relate to various years in the 1960s.

These statistics suggest that the greatest scope for import substitution now exists in the production of producer goods, and the desirability of moving in this direction is reinforced by the earlier identification of engineering and other capital-good industries as those particularly likely to generate technological and training externalities. Unfortunately, however, it is this type of industry which tends to be most demanding in terms of capital, technological and skill requirements, and most subject to economies of scale. In other words, it is generally not the type of industry in which SSA is likely to have a comparative advantage for a long time, even though there are likely to be specific exceptions to this generalisation.

Even in industries where a case is recognised to exist for providing support, trade theorists tend to dispute that protection, *per se*, is the appropriate policy response. This takes us back to the 'assignment rule' discussed briefly in Working Paper No. 32, Box III. This rule states that the best results will be obtained from policy interventions which most directly address the sources of the market failure in question.

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[34] Riddell [forthcoming, Table 2.5] provides figures for selected products showing for SSA as a whole a number of cases where African production is only a small proportion of total purchases of the goods in question, although it is notable that most of the products for which the figures indicate much scope for further import substitution are producer goods.

It is a rule used to question the appropriateness of using tariffs or quotas as an appropriate response to the 'failures' giving rise to the need to support an industry. Take the infant-industry argument, for example. This, we saw, is an argument for transitional assistance during a 'growing-up' period, which implies that consumers and others are being asked to finance transitional costs that it ought to be possible for the infant to finance by borrowing. If it foresees an initial period of unprofitability prior to full competitiveness why should the costs of that not be included in the initial financing needs of the investment? The answer might be given in terms of the inadequacies of capital markets - that it is simply not possible to borrow on the scale to finance the transition. If so, the argument concludes, the government can more appropriately help the industry by ensuring that credit is made available, directly or through an agency like a development bank. This would have the great merit of being self-liquidating over time and of minimising the risks of permanency. Of course, the need may arise because of externalities but in this case the theorists point to the superiority of subsidies over tariffs - a point dealt with above (p.41).

A final argument that might be made against generalised industrial protection in SSA is that it may, in any case, be ineffective in stimulating additional investment, further reducing the chances that the benefits will exceed the costs. Early in this Working Paper we saw how strongly the economic health of the industrial sector is influenced by the overall condition of the economy, particularly its overall growth and its access to foreign exchange. Industrialists are no less aware of this than economists. They will place little value on protection if they do not think they will be able to import essential supplies or repatriate their profits (in the case of foreign-owned firms), or if they see the domestic market as stagnant or even shrinking. Indeed, if they recognise the effects of protectionism as actually contributing to the wider problems of the economy, it may even be seen negatively. In other words, governments which can relieve the foreign exchange constraint and revitalise the economy are likely to have greater success in stimulating industrial investment than those which rely upon the offer of special favours.

IV.8 Managing the transition

The balance of the arguments surveyed in the last two sections suggests the prudence of proceeding cautiously with protection, looking for alternative ways of promoting industrialisation, avoiding extreme protective barriers, and paying heed to political-economy questions about how protection is likely to work in practice. Movement to such a policy stance would imply, in many countries, reduced levels of protection for many industries, allowing those that are unable adequately to raise their efficiency to decline in favour of the development of efficient lines of manufacturing. At the same time, we earlier identified the problem of what to do with the chronically inefficient as one of the swing issues, separating the 'planners' from the pro-marketeers.

It is a real dilemma. If any radical restructuring is to be achieved - and the performance data for SSA suggest it is needed - that must imply the dying off of those firms which owe their existence to protection and which can never achieve efficiency in international terms. But they represent sunk investment and they employ workers. In some cases firms may be the chief source of income for whole communities. The

closure of factories will thus impose social costs, as well as being politically unpopular, and we argued in Working Paper No. 32 that there is a need for defensive action to alleviate social costs.

It is impossible to judge what proportion of SSA's manufacturing would eventually need closure. The strong words used earlier about its export record suggest a sizeable proportion, but one expert takes a more optimistic view; Lall [1987 p.117] places modern SSA manufacturing into three categories:

[i] A small group of firms already efficient in the sense of already being successful exporters or with the capability of becoming so.

[ii] A large group of firms which are at present inefficient but are not structurally unviable and could achieve efficiency with policy and other changes.

[iii] A group of white elephants, small in number although quite large in terms of resources used, embodying investments which were fundamentally mistaken and should be written off.

For the firms in groups [ii] and [iii] what seems to be indicated is a gradual scaling-down of protection according to a pre-announced schedule, accompanied by state provision of advisory and other back-up services and measures to alleviate the unemployment and other social costs created by the restructuring. Such a strategy should allow those firms which are capable of it to adjust to this shift in policy by raising productivities, lowering costs and, perhaps, diversifying output, at the same time allowing governments to put measures in place which would reduce the employment and other social costs of the restructuring.[35] Nevertheless, it should be stressed that the idea that restructuring can be painless is wishful thinking. For example, the argument is sometimes made that even the white elephants should be kept going so long as their short-term marginal costs are not uncompetitive, because past investments in them are sunk costs. That proposition can readily be accepted - so long as it is recognised as just a different way of saying the firm should wither away, for a firm which is selling at a price equal to short-term marginal cost will not be recouping its capital costs and thus will not be in a position to renew its plant as it wears out. What should also be stressed is that the undoubted costs of restructuring should be seen in the context of its benefits. New investments will be made, new jobs created, new goods produced.

IV.9 Overcoming the anti-export bias

If we were correct earlier in suggesting that the limited scope for further industrialisation on the basis of import substitution and past policies have created an

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[35] See Lopez-Claros [1988 pp.18-19], for a description of a Spanish 'industrial reconversion' programme undertaken along these lines in the 1980s.

anti-export bias, and in view of the need for SSA to diversify out of primary product exports, the question arises what might be done to achieve in Africa the kind of industrial exporting success achieved by some other developing countries? Its poor record to date suggests the need for fairly drastic action and that merely diminishing the bias by reducing protection is unlikely to go far enough.

One absolute necessity, without which most other actions will prove fruitless, is to maintain a highly competitive real exchange rate, along the lines of the Southeast Asian countries discussed in Box III.[36] Once that is in place, however, there is a variety of other things that governments can do to help exporters.[37] A possible package of measures might include:

- duty-free access to imports and favourable treatment on other indirect taxes and on profits taxes;
- foreign exchange retention schemes, allowing firms to keep a proportion of their foreign exchange earnings which can be applied to meeting their import requirements;
- measures to ensure that exporters' credit needs are fully met;
- provision of marketing, advisory and export insurance services;
- provision of industrial land; improvement of supplies of utilities and other infrastructure;
- exemption from certain labour market restrictions, *e.g.* on dismissal of workers;
- payment of export subsidies on infant-industry or infant-sector grounds.

Such a comprehensive package would probably go further than is justified by our espousal of 'price-neutral openness'. Arguably, not all the measures would be necessary if the exchange rate were competitive. The list does, nonetheless, give a good idea of the instruments available. Another possibility, which incorporates many

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[36] This prerequisite points to a difficult problem for the member countries of the Franc zone (see Working Paper No. 33, Box I), for we suggested in Working Paper No. 33 that this arrangement, for all its benefits, has tended to result in an over-valued CFA franc and that it would be difficult for them to rectify this without some change in the nominal exchange rate between the CFA and French francs. Modification of this scheme may be necessary for any sustained resumption of industrialisation and any major progress on the export side.

[37] On this see the essay by Donald Keesing in Meier and Steel [1989, chapter 5.4].

of the features of the above package, is the creation of Export Processing Zones (EPZs). These too are debatable, so we will take a closer look.

An EPZ has been defined as "a clearly delineated industrial estate which constitutes a free trade enclave in the customs and trade regime of a country, and where foreign manufacturing firms producing mainly for export benefit from a certain number of fiscal and financial incentives."[38] Box IV sets out a brief case study of a successful EPZ, in Mauritius, which illustrates the wide range of incentives provided in that case. Export promotion and employment creation are the objectives. In pursuit of these, firms are allowed to import freely and duty free, and are exempted from various restrictions concerning use of foreign exchange, employment conditions, industrial licensing and the like.

Devised initially in Ireland in 1959, there has been a rapid expansion of such schemes in recent years. By 1986 it is estimated that some 1.3 million workers were employed in EPZs in 46 developing countries (compared with only 70,000 workers in 1970), with many plans for new ones in the pipeline. Far from all of them have been runaway successes, however, and some may actually have involved net costs, so it is important to examine their record with care.

While most EPZs have resulted in the development of new industrial exports, much of this has been on the basis of imported raw materials and other inputs, so it is the net export record that is relevant. By this test the result is varied. The large net export success of Mauritius has not, for example, been replicated by any mainland SSA country.

The employment record is rather ambiguous too, although for different reasons.[39] EPZs have proved effective means of employment promotion, as the figures suggest, but at a price. This has to do with the nature of the labour force and the conditions in which they are employed. By comparison with industrial employment outside, EPZ labour forces consist disproportionately of young single women - employed because they are cheap, and easier to discipline and dismiss. The physical working conditions and safety provisions are sometimes unsatisfactory; women workers are sometimes required to work at night, contrary to international standards; and trade union rights are sometimes circumscribed. Attempts to apply more demanding labour standards to EPZs tend to be self-defeating because it is precisely the relative freedom from restrictions which is one of their attractions to investors.

However, although there has rightly been much concern about the social consequences of EPZs, it seems that the worst fears have not be justified. With exceptions, there is no clear evidence that wages in the Zones are lower than for comparable employment elsewhere in the economy, nor that working hours are systematically

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[38] From the ILO/UNCTC [1988, p.4]. This publication is strongly recommended as a balanced and insightful study of EPZs. See also Shoesmith [1986], who provides a more negative view.

[39] In addition to the sources cited in the previous footnote, see also ODI [1989] on this subject.

longer. And from the patchy evidence available it does not appear that trade union activity is more difficult in EPZs than elsewhere in the economy.

BOX IV. EXPORT PROCESSING IN MAURITIUS [40]

During the 1960s the position of Mauritius typified that of many small low-income countries. It was heavily dependent on a single primary product, sugar, which made up over three-quarters of export earnings but which faced a weak world market and an exceptionally volatile price. There was a small rather static industrial sector based upon import-substitution, with effective protection rates varying between -24% and +824%, slow economic growth, high unemployment and substantial balance of payments difficulties.

In 1970 the government set up an EPZ which provided unrestricted repatriation of dividends and capital, duty-free entry of inputs, a ten-year holiday from company taxation, a five-year exemption from the taxation of dividends, and export financing on preferential terms. Restrictions on the dismissal of Mauritian workers and the employment of specialist expatriates were eased (although other laws protecting workers were retained). Land and factory space were developed. Later an export credit guarantee scheme was introduced.

No less important, the government has pursued macroeconomic policies that have brought relative stability to the economy - and an aggressive exchange rate policy. There were devaluations of 30% and 20% in 1979 and 1981 and thereafter a policy of exchange rate flexibility which resulted in average real depreciations of 2.5% *p.a.*

The results have been dramatic. The structure of exports has been transformed, so that by 1987 manufactures, mainly knitwear and other clothing, made up 40% of exports, from virtually zero in 1970, giving the country an overall export growth rate of 25% *p.a.* in the 1980s. The share of manufacturing in GDP has similarly risen, from 12% in 1970 to 20% in 1987, with industrial growth particularly strong in the 1980s and contributing much to a more general revival of the economy. As of mid-1986 about 68,000 workers were employed in about 400 EPZ companies, making up nearly half of total recorded employment in the economy and three-quarters of employment in manufacturing. Much new investment has been attracted in, a high proportion of it from Hong Kong.

So successful have Mauritian exporters been that they have begun to run into one of the biggest obstacles to successful developing country adjustment in the 1980s: protectionism in industrial countries. Even though its exports remain minuscule by world standards, its successful penetration of the markets of Britain, France and the United States called forth defensive actions by them to restrict Mauritian exports, by way of 'voluntary' or imposed sales quotas. Not all of these have been sustained, however, and, as in other countries, these measures have not prevented continued rapid expansion of the country's manufactured exports.

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[40] This box is based largely on Meier and Steel [1989, chapter 6.4].

An acknowledged limitation of the EPZ model is that they tend to lead to an enclave development. The nature of the EPZ incentives encourages this, tending to be dominated by foreign-owned firms, and by one or two industries (typically electronics or clothing) based upon imported materials, selling almost exclusively on world markets.

There is little inducement, therefore, for the creation of backward and forward linkages with the rest of the economy. As a result the number of secondary jobs created as a result of EPZs may be quite small - perhaps only about one for every five primary jobs created. There may similarly be few technological or training spin-offs. In short, EPZs are not an ideal model for creating the type of external benefits which we have stressed in our advocacy of industrialisation. At the same time, the costs incurred by the government in establishing an EPZ may be substantial, in investments in infrastructure and, perhaps, in tax revenues foregone, and it is possible for costs to exceed benefits.

On the other hand, governments can create inducements to stimulate linkages, *e.g.* by favouring local suppliers of intermediate goods, and in some of the more successful cases the EPZ concept has been gradually widened to include all or much of the domestic economy (as in Singapore and Macau). It is also important not simply to judge the *pros* and *cons* of EPZs in static terms. One of their attractions is that they can provide a transitional device, from an initial situation where most manufacturers are relatively high-cost producers confined largely to the domestic market to a more open situation where a sizeable part of the manufacturing sector is export-oriented. For individual firms, they may be a short cut into exporting without the normal initial phase of import substitution, and an escape from the constraints imposed by the congenital shortages of foreign exchange that mark so many of the economies we are concerned with. One of the advantages of this deliberately created dualism is that it is possible simultaneously to promote industrial exports whilst allowing existing, internationally uncompetitive, firms time to adjust to a less protected environment.

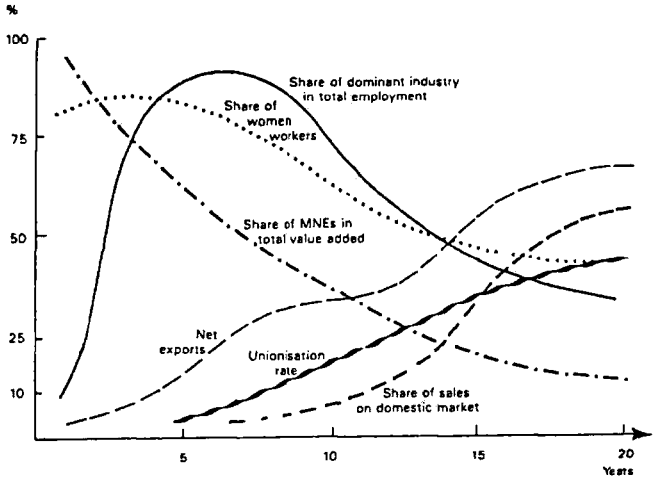
Moreover, the enclave nature of this form of development is likely to be reduced over time, with increasing integration into the domestic economy, reduced domination by just one or two industries and by foreign capital, and reduced dependence on cheap labour. Successful EPZs evolve dynamically, typically in the directions portrayed in Figure B, which is based on a study of the actual evolution of some of the longer-established EPZs. Perhaps the most significant elements in this growth path are the increasing shares of sales on the domestic market, the rising curve of net exports, and the increasing diversification of output represented by the diminishing share of the dominant industry.

EPZs, then, are a valuable addition to the armoury of means available to governments in promoting industrialisation in the context of an open-economy stance, with the potential over time of making a major contribution to the process of structural transformation. There may, additionally, be special opportunities during the 1990s, created by the uncertainties suffered by the entrepreneurs of Hong Kong prior to their integration into the People's Republic of China in 1997. It seems inevitable that many of them will be seeking to move some of their capital to establish factories in other countries, just as they have done in Mauritius, so that well-conceived EPZ schemes could prove more effective in inducing investment than would be true in more normal times.

It should be stressed that the model of evolution described in Figure B describes the development of a <u>successful</u> EPZ - but there is no guarantee of success. Apart from the specific conditions and inducements offered by the government, and whatever

natural geographical or other advantages the country may possess, probably the key to success lies in the general economic environment, particularly the exchange rate. A government that is not willing and able to maintain a highly competitive real exchange rate need not waste its time with EPZs.

Figure B: The typical life cycle of an EPZ



Source: ILO-UNCTC, 1988, Figure 8, p.151.

IV.10 Conclusion

How, now, should we conclude on industrial policy? For the moment we will leave aside political-economy considerations to judge what seem to be the best solutions from a technocratic viewpoint.

First, there is a clear need to break with past patterns, which have led to the failing reported earlier. The protection and other devices that have been employed in SSA and elsewhere to insulate domestic industry from the rest of the world have reduced the capacity of manufacturing to compete effectively and increased the general rigidity of these economies. Combined with the degree of import-substitution that has already occurred, the very small domestic market does not offer a base for sustained industrialisation. Reliance upon it rather promises continuing stagnation. There is,

moreover, a major need to diversify the export base away from reliance on primary products.

These considerations all point clearly towards a more open-economy, export-oriented approach. This, of course, is consistent with the 'price neutral' openness advocated in Working Paper No. 32. It is also consistent with our earlier emphasis on the importance of the forces of competition in increasing the flexibility of an economy. If the desirability of this strategy is accepted, what might be the role of government in pursuing it? We earlier claimed that there would be a consensus for a substantial minimum set of interventions which included the provision of a variety of supporting infrastructural and other services, pursuit of regional trading arrangements and a variety of public interest measures, safeguarding the position of workers, preventing environmental degradation, and protecting the consumer against abuse of monopoly power (including excessive protection). However, there is a case for going beyond this minimum, for the government to take a more active stance in order to influence the future structure of the industrial sector.

In the context of a generally open-economy stance, the active role would be for the government to take a dynamic view of comparative advantage, to identify the types of industry in which the country is likely to have a comparative advantage in the future and to manipulate price signals and other inducements to bring about the structural changes needed if the future opportunities are to be seized, on the South Korean model. We have suggested that in many cases advantage will lie with industries based upon the processing of local raw materials, and this consideration is reinforced by the diminishing opportunities to base international competitiveness on cheap labour.[41]

Adoption of a comparative advantage yardstick, albeit future comparative advantage, implies the importance of achieving international competitiveness. Competitiveness will not come without competition, but at the same time there is the problem of the small domestic market in the face of major economies of scale. We have suggested that this points to a strategy of 'monopoly at home but competition from abroad'. There is a case for using industrial licensing or other means to encourage one or a few firms to dominate local industry, in products where scale economies are large, but then of safeguarding against the losses of efficiency or welfare that would otherwise arise by ensuring that protection is never too great to remove the spur of competition from foreign exporters. While we have supported the maintenance of a moderate and temporary 'infant sector' protection, we have suggested that for many industries this will imply reduced protection. We have argued the desirability of a gradual transition, to allow firms time to adjust to the changing policy and competitive environment, and

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[41] See Roemer [1979] for a careful sceptical evaluation of the potential of resource-based industrialisation, which brings out the difficulties of generalising in this area. He is rather sceptical about the benefits of any general strategy based on this type of manufacturing, but bear in mind that he is writing only about the processing of minerals and timber and excludes agro-processing. The difficulties of industrialisation on the basis of low-wage labour have been spelled out by Drucker [1988] who points out the falling significance of labour in total manufacturing cost structures and the correspondingly greater importance of managerial and technological determinants of industrial competitiveness.

to minimise employment losses. We have suggested that EPZs can be a useful transition device, reconciling gradual adjustment with aggressive export promotion and job creation.

We have also stressed the desirability of removing some of the biases that commonly result from existing systems of protection and other industrial policy measures: biases against exports and against the local production of capital and intermediate goods. This points to the desirability both of reducing the general level and of producing a more uniform and rational structure of protection. We have also pointed out that protection is not necessarily the most efficient way of encouraging industry, with assistance in meeting industry's credit needs a potentially effective alternative in some cases. We have gone further to point to a range of instruments that governments may use to promote manufactured exports, with EPZs again warranting serious consideration. Finally, our conclusion on EPZs can be writ large for the restructuring of industry as a whole: forget it unless a competitive real exchange rate is maintained.

This 'technocratic' solution involves substantial interventions by the state and thus poses the question, why do we think such involvement in the 1990s will be more effective, less counter-productive, than in the 1960s and 1970s? We must not ignore the political dimension. In some ways the suggested positive approach will be welcome news to governments, who commonly attach considerable weight to industrialisation as a policy goal and many of whom have shown strong resistance to outside pressures for a more passive, hands-off approach. Nonetheless, our thrust is also in the direction of liberalisation and restructuring and can be counted upon to meet strong resistance from vested interests.

The problem of the transition is likely to be particularly sensitive. Will governments be willing and able to allow the chronically inefficient industries to close down? Will they be steadfast in the face of the industrial lobby in implementing a phased reduction and rationalisation of protection? Will they be willing to resist nationalistic complaints about any increased influence of foreign investors and reliance on foreign management and other skills?[42] Maybe not. This, perhaps, is the weakness of appealing to the example of the more interventionist of the Southeast Asian examples discussed in Box III. As is pointed out there, the success of industrial policies in countries like Japan and South Korea was a product of a set of political conditions, and administrative capabilities, which often do not exist elsewhere. To put it another way, past industrial policies in SSA can be seen as an expression of the distribution of political power, which implies that little progress can be expected with policy if the power structures remain in place, not least because existing industrial structures have created vested interests which can be relied upon to defend their privileges.

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[42] Lall [1987] poses this issue with particular force. He identifies a scarcity of 'investment capability' as a key constraint to industrialisation in Africa. He suggests that "If policies are held constant, the main determinant of industrial development in SSA has been the success of each country in mobilising and deploying non-African industrial capabilities" and that it will need some time for indigenous capabilities to be developed to the needed extent.

It is precisely for reasons of this kind that modern trade policy theorists are wary of advocating protectionism. The theoretical case is acknowledged, but the magnitude of the benefits it might bring is questioned and the dangers of political mis-use are emphasised. As Krugman [1987, p.143] has put it, "To abandon the free trade principle in pursuit of the gains from sophisticated intervention could . . . open the door to adverse political consequences that would outweigh the potential gains." In Working Paper No. 32 (pp.49-51) we discussed the nature of the state as an economic agent. While warning against over-generalisation and excessive disillusionment, we suggested that not too much should be expected of the state and that there should be some predisposition towards reducing state interventions.

In the end, then, much of industrial policy comes down to whether we trust governments to 'do the right thing'. The only sensible way of settling that issue is to look at specific cases - and it is on that cautious note that we must conclude.

V. SUMMARY AND CONCLUSION

The purpose of this Working Paper has been to explore the appropriate balance between market incentives and state interventions in the context of agriculture and industry, rather than to attempt systematic treatments of policies towards those sectors. We commenced from the premise that sub-standard performance by agriculture and manufacturing is among the commonest sources of the inability of low-income economies to adapt successfully to changing conditions, and we illustrated this with reference to conditions in Africa.

We saw that agricultural performance had been particularly poor in terms of output, food supplies and exports; and that productivity comparisons were also highly adverse. Although such broad generalisations, often based on suspect data, have to be qualified, we nonetheless concluded that there is a real problem of lagging agricultural performance in Africa. Similar qualifications are necessary to generalisations about manufacturing performance in Africa, but here too we saw that the overall record has been poor. This is so in terms of declining growth and difficulties of sustaining the process of industrialisation, but it is particularly so in terms of international competitiveness - as indicated by an extremely weak export performance. We also suggested that the deficiencies of these two sectors interact upon each other, tending to perpetuate the problems.

We next focused on the role of pricing policies in agriculture. Evidence was presented suggesting that part of the weakness of agricultural performance has been caused by an over-taxation of agriculture, where 'taxation' is used broadly to refer to the various types of state interventions which have driven wedges between the prices received by farmers for their crops and the true economic worth of these products. Such taxation takes direct and indirect forms, and we argued that the indirect effects of currency over-valuations and of industrial protection were particularly potent. One of the consequences of such taxation has been a tendency for the internal terms of trade of agriculture to decline. Inadequate price incentives are, however, more of a problem for export crops; the influence of governments over food prices is less, not least because of their inability to prevent parallel markets.

In order to assess the weight that should be attached to price disincentives as an explanation of poor performance, we then studied the various influences on farm profitability and other influences on farmers' production and investment decisions. We found there to be a large number of influences and that, important though they are, prices are only part of a complex story. Nevertheless prices are important, so we then discussed the principles upon which prices should be determined. This was organised around the principle of border pricing, according to which local producer prices are set at world export or import price levels.

We suggested that there were a number of legitimate reasons for departing from the border-pricing principle but that there were likely to be substantial costs arising from large persistent deviations from it. This left open the question of whether producer prices should be left free to be determined by market forces or whether they should

be set by the government, concluding that the efficiency of rural markets in the country in question would be the key determinant of this.

We next turned to consider supply elasticities in agriculture: what will determine the extent to which farmers will respond with extra output to improved real prices? The crucial distinction was made between the elasticity with respect to individual crops - for which there is abundant evidence of substantial elasticities - and with respect to agriculture as a whole. The latter is more problematical because supply responses are affected more by the basic constraints on agricultural productivity and by the extent of inter-sectoral factor mobilities. We nevertheless found evidence of significant sector-wide elasticities. Larger elasticities were, however, reported in response to structural reforms, such as improved access to education and health, rural roads and irrigation.

This carried the strong implication that a mix of price and structural measures is needed to maximise agricultural output response: improvements in incentives, availability of inputs, innovations, infrastructure and institutions. Ideally a mutually-reinforcing package of price and non-price measures should be introduced simultaneously in order to maximise their impact, but that may not always be feasible and, in any case, must depend upon precise conditions in the case in question, including the efficiency of rural markets. Political considerations lent some support to those who argue a 'structures first' strategy.

We then turned to consider what governments can do for manufacturing. Since diagnosis must come before prescription, we commenced by enquiring into the sources of the weakness of manufacturing performance in Africa. This was attributed to a combination of factors exogenous to the sector - including the general stagnation of African economies, the failings of other sectors and the effects of the balance of payments constraint - and to sources of weakness within industry itself, particularly the insufficient concern with international norms of efficiency during earlier periods of industrial policy.

Turning to the part that the state might play in improving the situation, we noted a consensus on at least a minimum role, including the provision of a variety of infrastructural and supporting services, pursuit of regional trading arrangements and a variety of measures to protect consumers and workers against monopoly power and environmental degradation. Beyond that the consensus tends to break down. The 'swing issues' include what to do about existing inefficient industries; the extent to which the state should have a hand in industrial investment decisions, through various forms of planning; and how much protection industry should be given.

We argued that the protection issue was the crucial one, with manufactures being tradeable goods *par excellence*. The arguments for and against protection were surveyed and, because of the importance of scale economies in modern manufacturing and the small size of the domestic economy, a profile of 'monopoly at home but competition from abroad' was suggested. The advantages of a more open-economy, export-oriented approach were urged, with industrial policy being based upon principles of comparative advantage, but with a period of gradual transition to allow existing enterprises to raise their efficiency and competitiveness. We suggested that Export Processing Zones could be a useful transitional device, reconciling gradual adjustment

with aggressive export promotion, although African countries have so far had little success in establishing EPZs.

The advantage was also urged of removing existing biases against exports and the local production of intermediate and capital goods. This points both to the desirability of reducing the general level of protection and of adopting a more uniform and considered structure of protection than often exists.

The above 'technocratic' solutions, involving substantial interventions by the state, were then confronted with political-economy considerations, pointing out the powerful forces that will exist to pervert the intentions of policy reforms, particularly during the period of transition to a more open-economy policy strategy. We concluded that ultimately what is the most appropriate design of industrial (and no doubt much other) policy comes down to whether we trust the government to 'do the right thing' - a question that it is sensible to try to answer only in concrete country situations.

A final point: it is evident from this summary that we have taken a rather more positive view of the role of the state in agriculture than we have for manufacturing. Why should that be? The answer lies in the different balance that should typically be struck between the extent of market failures and of state failures in the two sectors. In both there are good reasons for expecting markets to be far from perfect, there are plenty of examples of past policy mistakes, and there are political forces tending to pull policy away from the technocratic intentions of economic advisers. But, for reasons given, we would expect markets to be particularly weak in the rural economies of low income countries and smaller potential for private enterprise to provide services that would otherwise be supplied from the public sector (of which research and extension is an example). We similarly see greater risk of political lobbying and other factors distorting the intentions of industrial policy than in the case of agriculture, if only because the government ultimately has a lively interest in ensuring adequate food production. Nevertheless, the difference is one of degree only. The main point is that this is how such questions should be resolved: compare the likely costs and benefits of using market forces or state interventions.

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