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Structure, development and adaptation

Tony Killick

African Economic
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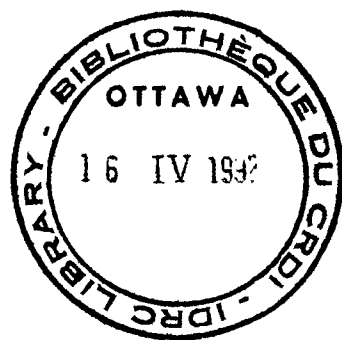
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Abstract

Against the background of the widespread adoption of “structural adjustment” programmes in Africa, and intense continuing controversies about their appropriateness, the chief purpose of this paper is to explore the relationships between adjustment and long-run development. It examines the patterns of structural change and adaptation that occur during development; the forces which necessitate such changes; and the processes of adaptation.

The argument is developed that the present-day preoccupation with “structural adjustment” should be seen in the context of a continuous process of economic adaptation to changing circumstances and opportunities. Flexible economies thus have an advantage in the pursuit of development; rigid structures and policies are an obstacle to it. It is suggested, moreover, that some kinds of structural change are “enabling” in character.

The basic model is one of stimulus-and-response, with structures adapting to trends in the compositions of demand and trade, and to various “shocks”. It is suggested that the prime determinants of the flexibility of an economy are to be found in the efficiency of its informational and incentive systems, and its responsiveness to these. Suggestions are made for research, and the paper concludes by considering its implications for future AERC-assisted research.

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I. Introduction¹

The purposes and arguments of the paper

Discussion of economic policy in Africa in the 1980s has been dominated by the notion of “structural adjustment”. The acute payments and other difficulties experienced by most African economies have required many of them to turn to the IMF and World Bank for financial assistance, and the policy conditionality of the Bretton Woods institutions has been the chief vehicle for the widespread adoption of structural adjustment programmes. Typically, these have involved substantial changes of policy and have given the Fund and Bank an unprecedented degree of influence over economic policies in Africa (although it is easy to exaggerate their power to bring about major changes).

But while structural adjustment has taken on so much importance, it has remained loosely defined as a concept and *is* often poorly understood. There is, in particular, a lack of clarity about how it relates to long-term economic development. A common view would see adjustment as the economics of transition, and at least some of the major shareholders of the Bretton Woods institutions apparently see it as a temporary phase, a prelude to a resumption of more traditional types of lending by both institutions.² Others see the policies associated with adjustment programmes as inimical to long-run development. The purposes of this paper are to explore the relationships between adjustment and long-run development, to provide some guidance on the relevant literature and to consider what implications these might have for future research within the Consortium. In what follows we will explore the patterns of structural change and adaptation that occur during development; the forces which necessitate such changes; and the processes of adaptation. We explore the nature of an adaptive economy and conclude by briefly relating the views developed in the paper to “structural adjustment” as it is commonly understood. The paper is therefore primarily about the ways economies change over time, rather than about the specifics of adjustment policies, which largely fall outside its terms of reference.

Very briefly, the argument developed here is that the present-day stress on adjustment should be seen in the context of a *continuous* process of economic adaptation to changing circumstances and opportunities. Major structural shifts are intrinsic to development and flexible economies are likely to develop more

some kinds of structural change are “enabling” in character, promoting more rapid progress elsewhere in the economy.

The basic model is one of stimulus-and-response. Observed patterns of change are related to long-run and cyclical trends, particularly in the composition of final demand and international trade, and also as responses to short-term “shocks” of a type that has been familiar in the 1980s. What determines the flexibility of an economy is as yet not well understood. Analytically, it is suggested that the answer is to be found in terms of the efficiency of its informational and incentive systems, and its responsiveness to these. This responsiveness is, in turn, broken down into receptivity to change and elasticities, chiefly supply elasticities. Adjustment is defined as *induced adaptation* and adjustment policies as the instruments deployed by governments to bring this about. It is suggested that the structural adjustment policies associated with the Bretton Woods institutions are narrower in their coverage and shorter in their time horizons. They do, however, address crucially important aspects of the tasks of economic adaptation in the late 1980s, particularly as it relates to the foreign-exchange constraint, although there remain points of tension with aspects of long-term adaptation. Suggestions are made for research and the paper concludes by considering the implications for future Consortium-assisted research.

The meaning of “structure”

Given its central importance for this paper, we ought perhaps to clarify the idea of structure. The three alternative ways of computing the national accounts provide an entry point. Thus, we can think of the *structure of production*, represented by industrial origin accounts, which is probably the most common meaning given to the concept of the structure of an economy. In addition to the obvious sectors of agriculture and industry, we might mention the financial system as a sector of large importance in an economy’s structure. When focusing on the balance of payments, it can also be useful to re-classify the productive sectors into those producing *tradeable and non-tradeable* goods and services. Next, we can think of the *factoral composition* of value added, the availability at a given time of labour, enterprise, capital and natural resources. The ways in which value added is distributed among them give rise to the functional distribution of income, which feeds into the size distribution of income, and can also be regarded as an aspect of an economy’s structure. Last, we can think of the *composition of the sources and uses of resources* as a dimension of structure, particularly the breakdown of resource uses as between consumption and investment.

National accounting aggregates give only part of the picture, however. There is a more elusive—but very important—aspect of an economy’s structure which can be loosely called its *institutional base*. Included in this is the political system, the legal framework and the agencies for its enforcement, established patterns of social organization and control (including the existence and freedoms of

special-interest organizations like trade unions), the agencies of public administration, and the physical infrastructure, providing transport and communications. *Demographic* variables can be counted in too, including the age and dependency characteristics of the population, and the degree of urbanization.

In short, when we talk of an economy's structure we are referring to aspects which are in some sense basic and long-lasting and underpin more transitory aspects of economic life. By implication, structural variables are mostly deep-seated and normally change only rather gradually.

II. Patterns of change

It is well established, both historically and through cross-country studies, that there are a number of long-term regularities in the way an economy's structure changes as per capita income rises.³ These provide our starting point, and our first task is to briefly review some of the chief regularities that have been established.

The structure of production and trade

Table 1 illustrates a number of well-established generalizations about structural change. Some of the chief regularities that have been observed are that:

- (a) The share of agriculture in both total output and employment diminishes continuously as per capita incomes rise;
- (b) The share of industry (mainly mining and manufacturing) in output and employment rises and, within that, the share of manufacturing rises relative to mining;
- (c) Manufacturing tends to start with relatively simple consumer goods, such as processed foods and clothing, gradually shifts to the production of heavy capital goods, proceeding finally to microelectronics and other high-tech products;
- (d) There is also a trend for the service industries to grow in importance relative to GDP and total employment;
- (e) Large trade dependence—high ratios of imports and exports to GDP—also tends to diminish with increase in per capita income. This is a result of the enlargement of the national economy as development proceeds, rather than being intrinsic to development per se, for there is a strong negative correlation between economy size and openness. Since a high proportion of LDCs (and almost all African countries) have small economies they therefore tend also to be heavily dependent on trade;⁴

Table 1 Quantitative indicators of structural change in the process of economic development

Structural indicator	Normal value of structural indicator at per capita (\$)						Proportion of change completed by per capita GDP level of:		Timing classification
	50 (1)	100 (2)	200 (3)	400 (4)	800 (5)	2,000 (6)	200 (7)	400 (8)	
1. Gross national saving as percent of GNP	7.8	11.0	14.1	17.1	19.9	23.4	40	78	Early
2. Gross domestic investment as percent of GDP	12.7	14.8	17.1	19.4	21.8	25.2	35	73	Early
3. Capital inflow as percent of GDP	4.9	3.8	3.0	2.4	2.0	1.8	61	93	Early
4. Government revenue as percent of GDP	12.2	14.2	17.0	20.6	25.1	32.4	24	42	Late
5. Primary and secondary enrollment ratio	17.5	36.2	52.6	66.9	78.9	91.4	48	67	Early
6. Adult literacy ratio	15.3	36.5	55.2	71.5	85.4	100.0	47	66	Early
7. Food consumption as percent of total consumption	61.9	56.1	49.9	43.0	35.9	25.6	33	52	Neither ^a
8. Gross product of primary sector as percent of GDP	58.1	46.4	36.0	26.7	18.6	9.8	46	65	Early
9. Gross product of industry sector as percent of GDP	7.3	13.5	19.6	25.5	31.4	38.9	39	58	Early
10. Gross product of service sector as percent of GDP	29.9	34.6	37.9	39.9	40.5	39.3	85	100	Early
11. Exports as percent of GDP	16.5	17.1	18.2	19.7	21.6	24.8	21	39	Late
12. Industry exports as percent of GDP	0.0	0.8	3.7	6.9	10.5	15.7	21	44	Late
13. Birth rate	46.6	41.8	36.6	31.1	25.3	17.1	34	53	Neither ^a
14. Death rate	20.5	15.2	11.4	9.3	8.9	10.9	93	114	Early
15. Urban population as percent of total population	6.9	20.0	33.8	45.5	55.3	65.1	49	68	Early
16. Primary employment as percent of total employment	84.2	74.0	57.4	43.9	29.0	7.1	35	52	Neither ^a
17. Industry employment as percent of total employment	6.5	9.9	15.3	23.4	31.1	40.5	26	50	Neither ^a
18. Service employment as percent of total employment	19.5	21.8	27.3	32.7	40.0	52.4	24	40	Late

Notes: See text for method of estimation.

(a) "Neither" indicates neither "early" nor "late".

Source: Yotopoulos and Nugent, 1976, p. 288, based on Chenery, H.B., H. Elkington, and C. Sims, 1970, "A Uniform Analysis of Development Patterns," Economic Development Report No. 148 (July), Project for Quantative Research in Economic Development. Cambridge: Harvard Center for International Affairs, Table G, pp. 42-43.

- (f) Parallel with the changes in productive structure, the share of primary products in total exports diminishes as development proceeds. This is perhaps implicit in the figures in lines 11 and 12 of the table, but is more directly illustrated by World Bank statistics for 1986 which show that primary commodities make up 68 per cent of the exports of low-income countries, 41 per cent of upper-middle-income countries and only 20 per cent for industrial market economies.⁵ This feature of international trade in turn affects the rate of transformation of the domestic economy, for the decline of primary production in GDP is slower in countries whose commodity exports are large relative to total production;
- (g) Also implicit and closely related is a tendency for “informal sector” activities to decline relative to those in the formal or organized parts of the economy.

As they develop, economies become more complex and the extent of inter-linkages between the various sectors of production increases. This increased extent of inter-industry linkages helps to explain a further feature of the development of the productive structure: a proportionately increased use of *intermediate goods* within the system. Indeed, increased demand by producers for intermediates has been found statistically to be an important reason for the relative growth of the industrial and some service sectors.

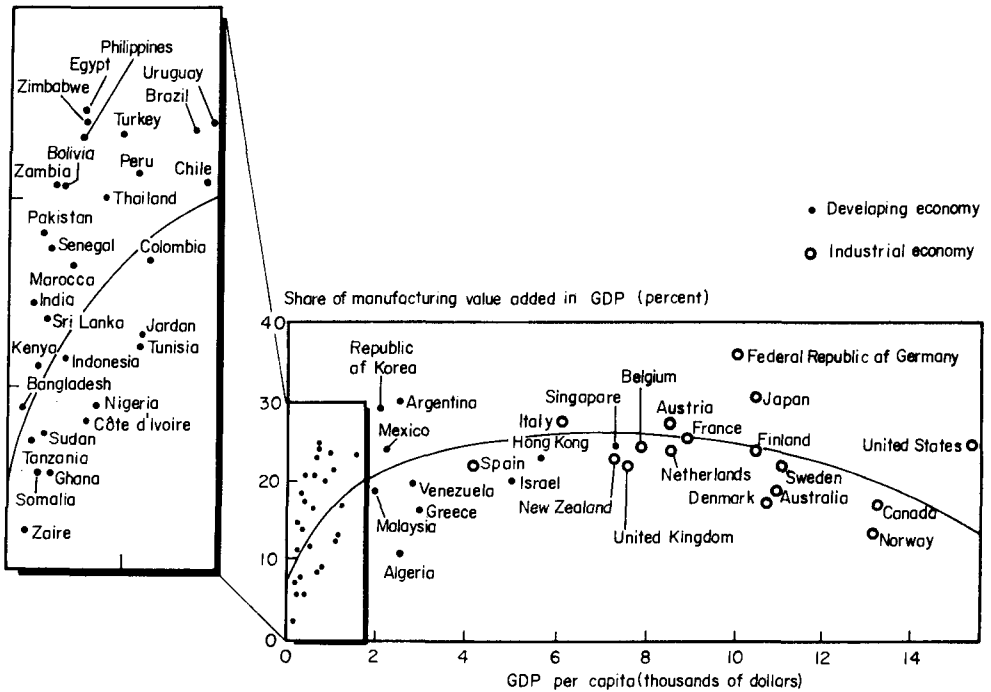
Two qualifications are necessary here. First, although there is some tendency for manufacturing to go through the phases mentioned in (c) above, the tendency is quite weak statistically because of the influence of exports and import-substitution. The pattern of manufacturing within any one country will be strongly affected by the comparative advantage which that country may have established on world markets, and by domestic policies relating to protection and import-substitution.

Second, there is in the late twentieth century some weakening of the tendency for the share of manufacturing to rise as incomes go up. A recent study by the World Bank suggests, in fact, an inverted-U relationship, with the share of manufacturing first rising then, after a per capita income of around \$8,000, falling. This is illustrated in Figure 1. This study goes on to point out, however, that this result may at least in part be due to the classification as “services” of a variety of activities associated with manufacturing which were formerly undertaken within manufacturing companies but are now contracted out to more specialized enterprises. In any case, for the low-income countries of Africa, Figure 1 reinforces the strong presumption that manufacturing will be of increasing importance as the economy develops.

What is implicit in these observed regularities is that growth is associated with a *diversification* of production. An increasingly wide range of manufactured products and services will augment a productive structure previously dominated by agriculture and, in some cases, mining. Specialization will increase, in production and in distribution, as demands within the economy become more diverse. The same trends will also be observed within sectors. In agriculture, for example, output will become less dominated by the production of starchy foods

and other basics, and resources will be shifted into the production of meat, horticultural and other “luxury” foods, particularly to meet the needs of the towns as urbanization proceeds. Also within the rural economy, off-farm activities of various kinds will become increasingly important as sources of income and employment, relative to income derived directly from farming.

Fig. 1 Relationship between GDP per capita and the share of manufacturing value added in GDP in selected economies, 1984



Source: World Bank, *World Development Report*, 1987, p.51.

Another approach to the analysis of changes in the structure of production during development is to classify output into *tradeable and non-tradeable goods and services*. Although there are other ways of defining them, we take tradeables to consist of all goods that do or can enter into trade as exports or imports; the domestic production of such goods therefore covers both exports and import substitutes. Non-tradeables consist of everything else. As a very rough approximation, tradeables can be thought of as largely made up of the total output of agriculture, mining and manufacturing, plus certain service industries such as tourism and shipping. Note that on this view it is not necessary for a tradeable to actually be traded, merely that it is capable of being exported or imported. The most important non-tradeables are various government and other services, such as health, education, defence and domestic service.

This is a distinction of some importance for our purposes. Balance of payments difficulties are the largest single reason for the adoption of adjustment policies in developing countries. Such adjustments require the relative transfer of resources out of non-tradeables into tradeables—to boost exports and reduce import requirements. The ability to do so with reasonable speed is therefore an important attribute. At the same time, there is some evidence that the importance of tradeables in total output tends to diminish as development proceeds, chiefly as a result of the relative rise in services already noted.⁶

Transportability is the key quality that separates tradeables from non-tradeables. The latter are either not transportable by their intrinsic nature, or the cost of transporting them is so prohibitively high as to effectively preclude them from being traded between countries. Like many other distinctions, this one tends to break down on close examination, however. It is actually quite hard to think of a good or service which is not tradeable at all. Thus, defence can be traded, as is illustrated by the use of mercenaries from other countries. Electric power is already traded between a number of adjoining countries. Education is traded, as evidenced by the large number of fee-paying students from developing countries studying in Western universities. And so on. Moreover, there are so many inter-sectoral linkages in a modern economy that the output of agriculture and industry will depend crucially on inputs from “non-traded” sectors, thus further weakening the distinction. It is probably best to think of tradeability as a quality possessed by almost all outputs but in varying degrees. So when we talk of shifting resources from non-tradeables to tradeables this should be interpreted as shifting from outputs which do not enter much into trade to those which make up the bulk of exports and imports.

In addition to those summarized above, generalizations can be made concerning relationships between *financial development* and the “real” sectors of the economy, based on work by Goldsmith (1969, 1983, 1985). His researches have established another inverted-U relationship: that at the earlier stages of development the financial system grows substantially faster than both GDP and wealth before levelling off or declining beyond some level of per capita income. He uses a “financial interrelations ratio” as a measure of this, defined as the ratio of the value of all financial instruments to the total value of wealth in the econ-

omy, and the following ratios illustrate the general pattern that he observes:⁷

India		Japan		USA	
1876–1913	0.15	1886–1913	0.62	1881–1912	0.77
1914–1939	0.24	1914–1940	1.41	1913–1939	1.11
1951–1975	0.39	1956–1975	0.93	1940–1955	1.18
				1956–1975	0.92

All three countries revealed rising ratios in the earlier periods. This trend persisted throughout in the case of India, a country with low per capita incomes, whereas the ratio declined in both Japan and the USA in the later years, when most modernization had already been achieved. During the earlier stages, the value of agricultural land and livestock diminishes relative to the total value of all assets, while bank deposits, holdings of government-issued debt and other financial claims increase their share. This process of “financial deepening” starts with the commercial banks and the monetization of economic activity. After a time, however, more specialized financial institutions—insurance companies, building societies, pension funds, savings banks, stock markets and supporting services—become of increasing importance and the financial sector thus experiences the diversification of output experienced in other parts of the productive structure.

Other changes

In addition to the transformation of the productive structure, other structural changes also occur which are relevant to our purposes. First, and unsurprisingly, *the ratio of domestic saving to GDP* tends to rise with per capita income. This has a depressing effect on investment levels in low-income countries, but they are generally able to augment their own saving by attracting finance from the rest of the world, and are thus able to sustain higher investment levels than would be permitted by their own saving. As incomes grow the savings ratio rises, the gap between saving and investment narrows and—in the general case—is finally reversed, so that the country ultimately becomes a net exporter of capital.⁸ Lines 1 to 3 of Table 1 show this trend at work, although it does not go far enough up the income scale to demonstrate the capital-exporting phase.

A related consequence of the increasing complexity and specialization which marks the modern economy is the separation of the functions of saving and investing. In an economy dominated by small-scale agriculture, petty trade and other “informal” enterprises, a large share of investment is undertaken directly by those who save for this purpose. As the demands of production grow more complex and require more capital, and as the saving capacities of households grow with income, so there is an increasing need for banks and similar institutions to mediate between savers and investors. Hence the financial deepening and the increasing diversity of financial institutions mentioned earlier.

Another related structural feature is the tendency for *the availability of capital to rise relative to labour* during the process of development. This is true both of inanimate capital—buildings, machines, the transport network, etc.—and of “human capital”, or the income-earning skills of the labour force. These capital:labour ratios are difficult to measure directly, but one rough-and-ready proxy that is sometimes used for the employment of inanimate capital is energy use (although there is a large consumption element in that too). This is illustrated by the following statistics (expressed in kilograms of oil equivalent), which show industrial countries using nearly 60 times as much energy per capita as low-income countries:⁹

Low-income economies	86
Lower-middle-income economies	346
Upper-middle-income economies	1,527
Industrial market economies	4,952

So far as human capital is concerned, the statistics in lines 5 and 6 of Table 1 give some proxy indicators of the spread of education and modern skills. Although these are only imperfect indicators, they do convey something of the rapid spread of modern knowledge during the course of development. Another feature that may be observed from the table (line 15) is the progressive *urbanization* of the population, associated with the industrialization noted earlier.

Mention should finally be made of changes in the size *distribution of income*, although the empirical basis for generalization about this is quite weak.¹⁰ The starting point is Kuznets’ suggestion that there is an inverted-U relationship between per capita income and income inequality, as conventionally measured by the Gini coefficient: as poor countries begin to raise average incomes, inequality first tends to rise but, after some critical level of per capita income, begins to go down again. A number of econometric studies have found some support for this hypothesis, although others have not. None finds very strong support, partly, no doubt, because of poor data but also, presumably, because many other factors besides stage of development will influence the size of the Gini, not least the socio-political system and the policies pursued on this matter.

Research issues

The patterns of structural change described above are merely generalizations based on broad historical and cross-country studies. They do not chart any inexorable laws to which all economies must conform, not the least because past history necessarily impinges upon future possibilities. Moreover, Africa has been under-represented in such studies because of data shortages. An approach to African country-specific research in this area, therefore, would be to treat the various generalizations as hypotheses against which to test patterns of structural change in African economies. Do African experiences conform to the general

pattern and if not, why not? One complication is that in recent decades there has been little rise in per capita incomes and in some there has been an actual decline. This feature throws up the further question, is the generalized pattern of change reversible—do structures revert to those associated with earlier stages of development as incomes decline?

A few more specific researchable topics suggest themselves:

- As regards manufacturing, do African countries represent a case of “premature industrialization”, undergoing patterns of industrial change that have in the past been associated with greater advances in other aspects of the economic structure? Has the pattern of change within manufacturing conformed to the patterns elsewhere? If not, why not?
- To what extent do changes in the composition of exports and imports conform to the general case? Has there occurred a diversification of exports and a shift away from dependence on primary products? Svedberg’s 1988 results suggest there has been little progress on this front. If so, does country evidence agree with his explanations of this?
- To what extent has the financial deepening and diversification suggested by Goldsmith’s work been occurring and what have been the chief policy and non-policy influences on this? Does the concept of “financial repression” (McKinnon, 1973; and Shaw, 1973) help to explain the record?
- How is the distinction between tradeables and non-tradeables to be understood and measured in a country-specific context? What has been happening to the mix of production as between these two and how mobile are resources between them?

III. Imperatives for adaptation

While economics does not possess an adequate theory to explain the patterns of structural change described in Part II, a basic premise of this paper is that, in varying degrees, economies are responsive to stimuli—negative or positive—and, therefore, that these patterns are to be understood as adaptations to changes in the economic environment. In short, they are “structural adjustments”. But to what stimuli might the regularities described above be responses?

Explaining long-run change

(a) Consumers' sovereignty

Although the concept of consumers' sovereignty is nowadays old fashioned, the idea that ultimately it is consumers' preferences which determine what shall be produced is a valuable one for present purposes because there are observed regularities in the patterns of demand which broadly match the shifts in the product mix.¹¹ The best-known such regularity is expressed in Engel's law. This states that the proportion of income spent on food diminishes as income increases, and is one of the most robust of empirical generalizations about economic life. It is reflected in line 7 of Table 1 which shows the share of food in total consumption diminishing steadily as per capita income rises, and this helps to explain the long-run tendency for the share of agriculture to diminish in total output.

It is, however, possible to go beyond Engel's law to offer a rather richer set of generalizations about consumption patterns. Various cross-country studies of consumption patterns reveal a remarkable universality, apparently valid across enormously varied economic and cultural differences.¹² Table 2 sets out unweighted means of income elasticities of demand¹³ for various categories of consumption calculated from estimates for 30 countries on 1975 data. The countries varied from the very poor (India) to the very rich (USA), and the use of unweighted means can be justified by the very limited dispersion of the country results around the means.

It will be seen from this that:

- (a) Engel's law is confirmed, with an income elasticity for food of well below one. With a mean elasticity of 0.46, a 10 percent rise in income will induce less than a 5 percent rise in food expenditures.

Table 2 Mean income elasticities of demand for 30 countries, selected commodity groups, in 1975

Commodity group	Poorest five countries ^a	Richest five countries ^b	All 30 countries
Food	0.70	0.20	0.46
Beverages and tobacco	1.02	1.02	1.02
Clothing and footwear	0.95	0.95	0.95
Gross rent and fuel	1.43	1.23	1.29
House furnishings and operations	1.64	1.27	1.38
Medical care	1.70	1.28	1.40
Transport and communications	1.59	1.27	1.36
Recreation	1.80	1.30	1.44

Notes: (a) India, Pakistan, Sri Lanka, Philippines and Thailand.

(b) Germany, France, Denmark, Luxembourg and USA.

Source: Finke, Rosalsky and Theil, 1983, Table 1.

- (b) The income elasticities for beverages and tobacco, clothing and footwear are around unity, i.e. demand grows at about the same pace as income.
- (c) Housing (represented by “gross rent and fuel”), household furnishings, medical care, transport and communications, and recreation all have income elasticities well above unity. Significantly, most of these items relate to the products of various service industries and this can be related to the long-run tendency for the share of the services sector in GDP to grow. Unfortunately, the system of classification used does not bring out the general tendency for income elasticities for manufactured goods, taken together, to also have relatively large income elasticities.
- (d) Although the above generalizations are valid for the complete sample of countries, poor and rich, there are also some important differences between them. The income elasticity for food is much lower in wealthy countries than poor countries. The same tendency is true, in varying degrees, of housing, furniture, transport and communications, recreation and medical care. By implication, the income elasticity of saving is higher in the more wealthy economies, consistent with the figures in Table 1 (line 1).

(b) Trade and other influences

Notwithstanding these regularities in demand patterns and their conformity to the shifts in the pattern of production noted earlier, statistically speaking they provide only a partial explanation of the relative rise of manufacturing and services and the fall of the primary sectors. Patterns of comparative advantage and trade policies also provide powerful stimuli for structural change, for trade frees domestic producers of tradeables from the confines of the domestic market, and the ability to import means that much demand is satisfied by production abroad.

The influence of trade is particularly large because world trade has had a long-term tendency to grow faster than world output, as is shown by the following ratios of the growth of world trade relative to the growth of world GDP:

1960–1970	1.56	1980–1987	1.03
1970–1979	1.51	1960–1987	1.40

But while trade and the opportunities for specialization within it do loosen the ties between demand patterns and domestic production, in the end the demand patterns reassert themselves through their influence on world prices and the profitability of different categories of trade. Note the large differences in the rates of growth of world export volumes by commodity group set out in Table 3. Although these are the joint outcome of technical, price and income changes, they do nonetheless conform to what would be expected on the basis of long-term trends in demand patterns. World trade in agricultural products is shown as expanding much less rapidly, and trade in metals and manufactures much more rapidly, than total trade. Unfortunately, data on trade in services are less good and many services are essentially non-tradeable, but it is certainly the case that trade in services has become an important part of total commerce between nations. According to one estimate, world receipts in respect of service transactions in 1986 amounted to nearly \$1,000 billion, equivalent to about half the value of merchandise trade.¹⁴

Table 3 Growth of world export volumes by commodity group (% p.a.)

Commodity group	1965–1973	1973–1980	1980–1987	1965–1987	
				Growth	Relative to all exports
Food	5.0	6.6	2.4	4.7	0.89
Non-food agriculture	3.1	1.0	2.5	2.2	0.42
Metals and minerals	6.8	8.7	2.1	5.9	1.11
Fuels	8.6	0.0	-2.0	2.4	0.45
Manufactures	10.7	6.1	3.8	7.0	1.32
All exports	8.8	4.4	2.4	5.3	1.00

Source: Calculated from World Bank, *World Development Report*, 1988, Table A8.

Engel's law and a similar tendency for other primary products to display small—and probably declining—income elasticities of world demand is, of course, a grave problem for the countries of Africa, who are heavily dependent on primary product exports, for they are selling on markets with generally small income elasticities of demand.¹⁵ Weak markets are a consequence and in recent years the view that there is a long-run tendency for the relative price of primary

products to decline, originally associated with the names of Prebisch and Singer, has become more widely accepted. Although the position varies greatly from commodity to commodity, a recent study concluded that during the twentieth century real non-oil commodity prices, taken together, have declined at a trend rate of 0.6 percent p.a.¹⁶ It is healthier to specialize in items for which demand grows at least in line with world income.

Technical progress provides another important stimulus to structural change, again chiefly through the mediation of international trade. This is most obviously the case with high-tech industries, but even in agriculture major recent advances in biotechnology appear likely to effect major changes in comparative advantages in the production of various crops and products. In relation to developed and some developing countries, the position of some African primary producers is at risk from these advances because of a widening technology gap.¹⁷

Some complications

Although it has been analytically convenient to set our discussion in terms of a stimulus-response model, in practice the variables interact with each other, making it considerably more difficult to disentangle cause and effect. Thus, we noted earlier that the changes in the productive structure summarized in Table 1, with their industrialization and greater diversification of output, lead to a relative rise in the production of intermediate goods—itsself a significant structural change. Another example is provided by the long-run tendencies for saving and investment to rise relative to GDP and for human and inanimate capital to increase relative to unskilled labour. This obviously has implications for the productive structure, facilitating the development of capital-intensive activities and leading to a movement of resources out of traditional lines. In turn, the growing availability of capital has implications for a country's pattern of international trade. According to the Heckscher-Ohlin thesis, a country will have comparative advantages in goods requiring proportionately large inputs of factors of production which are in abundant supply within the economy.¹⁸ With increasing relative availabilities of human and inanimate capital we expect countries to export progressively more goods and services requiring capital-intensive processes, and this is broadly in line with the relative growth in industrial exports as development proceeds, shown in line 12 of Table 1.

Similarly, while in the longer run much structural transformation is a response to changing demand and opportunities, it is also reasonable to believe that to some extent causality runs in the opposite direction. Some changes can be thought of as *enabling*, as permitting and encouraging a growth of demand that otherwise would be frustrated.

One such is *industrialization*, if the alternative is seen as specialization in agriculture. Balance of payments considerations provide one reason for this. A country which tries to develop using agriculture as the leading sector must earn sufficient from its social rates of return, because of externalities, monopoly

power and other conditions which drive wedges between private and social valuations. Another reason for caution is that the connections between financial deepening and the rest of the economy are complex, with various interactions, so that we need to be wary about imputing any one-way causality. Goldsmith's researches into the behaviour of the "financial interrelations ratio", reported earlier, by no means indicate any rigid or simple relationship and he was very reticent about imputing causality. However, more recent econometric tests do provide some support for the view that causality runs from financial to "real" development and that developing countries whose financial systems have been a leading sector in development have experienced more rapid growth than those with lagging financial systems.¹⁹ Interestingly, and consistent with the ratios cited earlier, evidence was also found that beyond some level of income causality becomes reversed, with financial development becoming demand-led.

Overall, we see that economic structures alter radically in the course of development. In doing so they are responding to, and interacting with, the opportunities—and warning signals—generated by changing patterns of demand by consumers and producers, evolving factor proportions and technologies, and shifting comparative advantages in trade. These long-run patterns of change are, however, only the most visible ways in which an economy responds to stimuli and we should next consider other types of change to which economies need to respond.

Cycles and shocks

These additional factors are often expressed in terms of the need for economies to adjust to "shocks" of various kinds. We need to be careful about this language, however. A dictionary definition of a shock is "a sudden and violent effect tending to impair the stability of something". A number of the variables we discuss below fall well within such a definition, but others do not. Some are more in the nature of *trends* of cyclical or longer duration. This is more than a quibble. If an economy is required to adjust to an adverse trend, this necessity can be expected to persist over a period of years but often will not involve very large changes in any one year. A shock, on the other hand, is likely to be more severe but of shorter duration.

It is useful here to differentiate between influences from the outside world and those more domestic in nature.

Influences from the outside world

The importance of external influences has been increasing as the world becomes more and more integrated in trade and finance. During the last two decades there have been a number of developments in merchandise and capital markets which have worked to the disadvantage of developing countries, not least in Africa. Consortium members will be familiar with these and they will only be very briefly summarized here. Table 4 brings together some of the salient facts.

Table 4 External shocks in the 1980s: indicators for small low-income countries and Sub-Saharan Africa^a

	Average											Mean annual deviation (%) ^f
	1970-1979	1980	1981	1982	1983	1984	1985	1986	1987	1980-1987	(10)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(11)
1. GNP growth in industrial countries (% p.a.)	3.3	1.3	1.5	-0.3	2.7	4.9	3.2	2.7	3.1	2.4	48.4	
2. Growth in world trade volume (% p.a.)	6.2	1.2	1.0	-2.3	2.9	8.8	2.9	4.6	4.9	3.0	77.5	
3. Total capital flows (\$ bn) ^b	—	8.4	8.5	7.9	7.0	5.1	6.1	6.8	7.2	12.7	25.0	
(a) Small low-income countries	—	8.4	9.3	7.9	6.8	3.3	4.0	5.8	6.7	6.5	25.0	
(b) SSA	—	—	—	—	—	—	—	—	—	—	—	—
4. World real interest rates ^c , deflated by:	0.1 ^d	4.3	7.2	6.0	4.4	6.4	4.1	2.7	—	5.0 ^e	26.0 ^e	
(a) Industrial country inflation rate	—	—	—	—	—	—	—	—	—	—	—	—
(b) Developing country export price changes	-1.6 ^d	-23.0	12.0	18.0	17.0	12.0	13.0	-5.0	—	6.0	117.0	
5. Terms of trade changes (% p.a.)	10.1	1.5	-13.9	-11.0	8.9	9.7	-13.7	1.6	-3.9	-2.9	276.7	
(a) Small low-income countries	10.6	-0.1	-17.9	-8.5	8.0	5.1	-8.7	3.4	-2.3	-2.9	237.1	
(b) SSA	—	—	—	—	—	—	—	—	—	—	—	—
6. Import volume changes (% p.a.)	2.0	3.5	-3.2	0.7	-2.7	5.9	1.8	-2.5	2.3	0.7	378.6	
(a) Small low-income countries	3.3	5.5	-0.1	-4.1	-8.0	-1.1	0.1	-2.9	0.7	-1.4	204.5	
(b) SSA	—	—	—	—	—	—	—	—	—	—	—	—

Sources: Item 4: UN *World Economic Survey, 1987*, Table A.9, but with line 4 (b) deflated by IMF index of developing country export unit values. All other items: IMF, *World Economic Outlook*, April 1988, Statistical Appendix.

Notes:

- (a) Sub-Saharan Africa (SSA) excludes Nigeria and South Africa.
- (b) Net external borrowing, as defined by IMF.
- (c) LIBOR.
- (d) 1975-1979.
- (e) 1980-1986.
- (f) Mean annual deviations, 1980-1987, from means in column 10, ignoring signs, expressed as percentage of mean in column 10.

Some of the key features include:

- (a) The growth of industrial countries in the 1980s has been a good deal slower than in the 1970s, and there have also been large fluctuations around the trend (item 1).
- (b) There has been an even sharper deceleration in the growth of world trade, with growth in the 1980s less than half the rate of the preceding decade (item 2). One presumed reason for the decline in the potency of DC expansion to create more trade is the growth in protectionism in this period.²⁰ The increased costs and uncertainties resulting from major-currency exchange rate instability is another probable reason.²¹
- (c) There have also been adverse trends on capital account (item 3), although this has affected most African countries less than, say, Latin America.
- (d) Large increases have occurred in the real level of world interest rates (item 4), although the results differ greatly according to the deflator employed. Here again the impact on most African countries has probably been less than in other parts of the Third World.
- (e) Table 4 also records some of the consequences of the deteriorating trends just noted. Note the contrast between the experiences on the terms of trade as between the 1970s, when there was an improving trend, and the 1980s, when there was a sharp deterioration. The worst of this was attributable to the “second oil shock” at the beginning of the decade, but it is remarkable that subsequent falls in oil prices have not brought any major reversal in the weakness of the terms of trade. This result was, of course, related to the adverse conditions of world commodity markets discussed earlier.
- (f) African countries have had to cut back severely on imports (item 6), with the volume of imports in 1987 well below 1979 levels, especially if measured in per capita terms.

An additional way of approaching this matter is to estimate the combined effects of all the adverse developments described above. This has been done for Sub-Saharan Africa, for which it has been estimated that the size of terms-of-trade losses, higher interest costs, reduced credit and private investment flows in 1980–1986 amounted to \$6.5 billion p.a. even after allowing for enlarged aid grants.²² This was equivalent to nearly a half of export earnings and about a third of total imports.

Troubles at home

It barely needs stating to Consortium members that it is as a response to the external developments just summarized that so much emphasis has come to be placed on the needs for “structural adjustment”. But apart from the influence of the world economy, there are more domestic difficulties with which economies—and economic policies—must cope. *Climatic* difficulties are the chief of these, and these too can be divided into shocks and trends. Perhaps the most spectacular example of a country plagued by unreliable climate is Bangladesh, chronically prone to floods and cyclones. During the period of

1960–1981 Bangladesh experienced no less than 17 major floods and 37 cyclones, leading to a recorded loss of life of nearly 800,000 people (probably far more if the full facts could be known)²³ and culminating in especially devastating floods in 1988. The Sahelian zone of Africa is another region deeply affected by an unreliable climate where average rainfall is not only slight but annual variability is 30–40 percent around the mean. This brings with it vulnerability to droughts, greatly increasing the risk of farming. The famine that ravaged much of Africa in 1983–1984 was a dramatization of the unreliability of its rainfall.

It may have signified more than that, however. There is now a growing consensus among scientists that a gradual warming-up of the earth's atmosphere is under way—what is known as the “hothouse” or “greenhouse” effect.²⁴ The 1983–1984 African drought was actually the culmination of 16 years of gradually diminishing mean rainfall in the Sahel, beginning in the late 1960s. Thus, rainfall statistics for Mali indicate a 25 percent decline in mean rainfall, comparing 1968–1983 with 1934–1968, from 774 millimetres a year to 577. The same trend is apparent in Senegal, Burkina Faso and Niger.

The hothouse effect, resulting principally from accumulations of carbon dioxide in the earth's atmosphere, may have dramatic effects on future rainfall patterns by changing flows of moisture-bearing air, even though it may affect average temperatures by only a few degrees. It seems probable that within the next 50 years the earth's temperature may be caused to rise by an average of 1.5°–4.5° centigrade. Even a global warming of 1.5°C over so brief a period could alter the earth's climate to an extent outside the range of experience during the last 10,000 years! The rainfall implications of such developments are not yet fully understood but, for example, are thought to place the Sahelian zone particularly at risk.

Awareness that the problem is not so much the familiar risk of occasional climatic shocks but rather a far more protracted deterioration is only gradually dawning, however, and the countries at risk remain poorly prepared to cope with a succession of bad years. Not the least of the dangers is that in such situations the affected peoples will, left to fend for themselves, be forced to destroy their own productive resources—cattle, grazing and trees—in their attempts to survive, thus creating a vicious circle. If indeed there is a hothouse effect, it represents an enormous challenge to which policy-makers must respond and it could well be that twenty-first century studies of long-term structural change will find major shifts in response to this climatic factor.

Organized violence is another “domestic” influence to mention, by which is meant civil and international wars, border incursions and the forcible overthrow of governments. The world is full of such events and they feed through to economic performance in many ways. An econometric study of Sub-Saharan Africa found a highly significant negative correlation between the incidence of violence and economic growth, with causality running from violence to slower growth (Wheeler, 1984). Clearly an invasion or a *coup d'état* is a “shock”, but since the government is itself a protagonist it strains the language to talk of the

need to "adjust" to such a shock, so we will not consider it further here.

What should also be mentioned, however, is that both organized violence and the climatic events mentioned earlier can result in major *migrations* of people, often across international boundaries, seeking peace and sustenance. There are large populations of refugees in many countries, and Africa had been described as "the continent of refugees" with at least 2.5 million refugees scattered across many African countries. The need to care for these large, sometimes sudden, influxes amidst indigenous populations often already poor can also impose major economic strains, to say nothing of the political and security complications.

Table 5 Indicators of domestic market size, circa 1985 (country averages; \$ billion except column 1)

	Population (mn)	GDP	Private consumption	Private consumption of manufactures ^a	Gross investment
	(1)	(2)	(3)	(4)	(5)
Small low-income countries ^b	12.1	2.8	2.2	0.6	0.4
Large low-income countries ^b	509.5	148.5	92.1	21.2	47.5
Middle-income countries	21.9	32.2	20.3	6.7	7.4
Industrial market economies	39.0	1373.4	851.4	323.6	288.4

Source: Computed from "World Development Indicator" tables of World Bank, *World Development Report, 1988*, Tables 1, 3, 5 and 6.

Notes: (a) An approximate indicator only, calculated from share of private consumption devoted to clothing and footwear, and "other consumption" as a rough proxy for expenditures on manufactures.

(b) "Small" and "large" are defined as countries with populations of under and over 50 million. The "large low-income country" group consists of Bangladesh, China, India and Pakistan.

Although it fits neither into the category of a shock nor a trend, the *size of an economy* should be mentioned here as exerting a powerful influence on its economic structure and on its degrees of freedom in choosing a preferred pattern of development. This has already been mentioned in connection with the strong inverse correlation between the size and openness of an economy. In small economies, and given the widespread importance of economies of scale, international trade is of special importance in permitting an escape from the narrow confines of the domestic market. For such economies, not merely the pattern of industrialization but also its possibility will hinge crucially on being able to achieve such an escape. This is illustrated in Table 5 which shows the dramatically smaller size of the domestic market, especially for manufactures, in the small low-income countries characteristic of Africa.

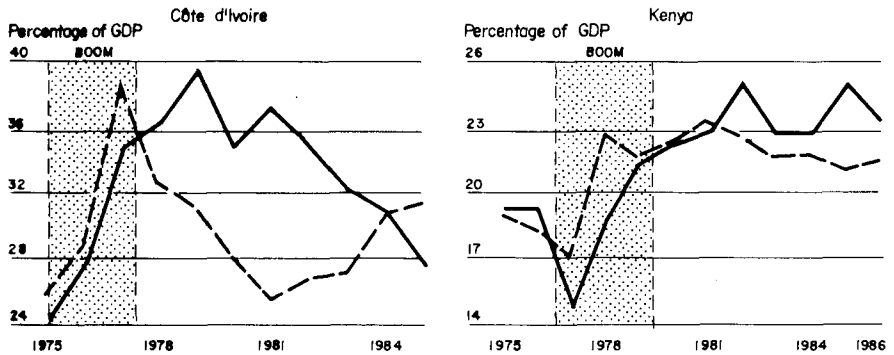
Mention should be made too of *population growth*, not merely because of its influence on economy size but as a long-term force strongly influencing the intensity of exploitation of natural resources, the trend and composition of demand, and factor proportions. The literature on the so-called demographic transition is highly pertinent to consideration of long-run relationships between this variable and indicators of economic development.

Favourable shocks

Not all “shocks” are adverse. Good weather can bring bumper harvests. Commodity prices can boom as well as slump. But economies (and policies) need to react to favourable changes no less than to adverse ones. Take the example of an unexpected but temporary increase in the world price of a country’s chief commodity export, such as the boom in coffee prices in the late 1970s.²⁵ Such a development will commonly raise tax revenues, either directly, as in the case of export taxes, or indirectly, as a result of the higher level of economic activity which the commodity boom will generate. Faced with an unexpected bonus of larger revenues the government will be tempted to step up its own spending, by raising civil-service salaries, expanding various activities, or starting new capital projects. The larger export earnings will increase the liquidity of the banking system and enable them to expand their lending to domestic borrowers. There may also be increased willingness by foreign banks to provide new credits, increasing external indebtedness.

Increased spending in both the public and private sectors will suck in additional imports, weakening the beneficial effects to the balance of payments of higher export earnings and putting pressure on the general price level. These effects may be magnified by a diversion of resources out of other exports and goods for the home market in response to the higher commodity prices.

When the boom ends and commodity prices go back down again, the government and private sectors alike will find it much harder to cut back than it was to expand. As Figure 2 illustrates for Côte d’Ivoire and Kenya, any cut in government spending will likely lag well behind the declines in revenue, leaving it with an enlarged budget deficit that will threaten both inflation and the balance of payments. Moreover, experience suggests that the new projects which were quickly embarked upon during the boom will often not have been carefully considered and will do little for economic development. It is likely also that the monetary authorities will have difficulty in cutting back adequately on credit to private borrowers, thus further adding to excess demand in the economy. In the worst case—of which there are examples—the economy ends up in a weaker state than it was at the beginning of the boom. Without careful management—to neutralize much of the expansionary fiscal, monetary and income effects and husband the windfall gains for use when world prices slump—“favourable” shocks can be bad news!

Figure 2 Government revenues and expenditures during commodity booms

Note: Both revenue and expenditures exclude transfers, so their difference is not equal to an overall public sector balance. figures for Kenya are for central government only.

Source: World Development Report, 1988, Fig. 3.6.

Research issues

If it is accepted that the above factors represent positive and negative stimuli to which economies must adapt, it becomes important for individual countries to have a clear understanding of the precise nature of the challenges they face, and are likely to face in the future. Most of the external, and some of the domestic, factors discussed above impinge upon the economy through the balance of payments. Indeed, the foreign exchange constraint is of special importance in considering how the economies of Africa should adapt to contemporary realities. Policies for the management of the balance of payments have been at the centre of the Consortium's research from the outset, and much of its past work could be interpreted as an attempt to clarify the nature of the adjustments required and the policies that could most efficiently be employed to achieve them. To this extent, there is no need to suggest additional research topics. However, a few additional ones can be suggested which go beyond the traditional focus of Consortium-supported research:

- (a) Investigations of income elasticities of demand for imports and domestic products, and the income elasticity of household and corporate saving;
- (b) Long-run trends in world demand for the country's principal exports, including the determinants thereof;
- (c) Long-run trends in the country's commodity, income and factoral terms of trade; economic and policy responses to these;

- (d) Studies of the ways in which terms of trade shocks and trends (including favourable ones) affect the domestic economy and how it responds; the sensitivity of these to the commodity composition of trade;
- (e) Impact on the economy of trends in world interest rates and the sensitivity of this to the size and financing of current account deficits, the country's debt portfolio and its external assets;
- (f) Extent and impact of any import compression and import instability; the effects of these on domestic economic performance;²⁶ the sensitivity of the effects to changes in import rationing mechanisms, e.g. shifts from QRs to tariff equivalents;
- (g) Dutch disease in the tropics: the impact on lagging sectors of the economy of booming natural-resource-based export sectors in such countries as Botswana, Nigeria and Zambia and implications for economic management;²⁷
- (h) Following Jung, 1988, is it possible to establish any relationships between developments (positive or negative) in the financial system with the performance of the remainder of the economy, including causality tests;
- (i) There may be fruitful possibilities for collaborative research with country meteorologists, agriculturalists and others into long-run climatic trends and prospects, and their possible implications for policy. This is particularly with the hothouse effect in mind. One of the analytical issues thrown up will be about policy formation in conditions of large uncertainty.

IV. The adaptive economy

Recapitulation

The view presented so far is that economic structures alter radically over time, responding to the stimuli—positive and negative—generated by changing patterns of demand by consumers and producers, evolving factor proportions and technologies, shifting comparative advantages in trade, and shorter-term external and domestic shocks and trends. Our analysis suggests that an economy with a flexible structure, which can more readily adjust to the changing needs of the time, is liable to achieve faster development. Conversely, an economy with a rigid structure, incapable of readily meeting new needs, can expect retarded development, with disjunctures between demand and supply creating bottlenecks and balance of payments strains, inflationary pressures and other economic dislocations.

These observations are consistent with econometric tests of correlation between the growth of an economy and its “balance”, i.e. its ability to grow in conformity to income elasticities of demand. These show a consistent and uniform negative correlation between unbalance and growth, and also that the more advanced economies have tended in the past to grow in a roughly balanced manner.²⁸ The frequent severity of adverse shocks and cyclical developments constitute further reasons for placing a premium on the flexibility of an economy and on the policies which influence that. Taken together, the various arguments create a powerful *prima facie* expectation that countries blessed with such adaptability will be much better able to satisfy the material aspirations of their citizens than those which are not.

The structuralist-neoclassical divide and the role of policy

A key question that remains is whether the economy’s responses are best regarded as more-or-less incidental and automatic outcomes or whether they need to be induced by changes in policy. Lurking beneath this question is another: how do we perceive economies as working? In the neoclassical tradition economists stress the efficiency of market mechanisms. Structural change is thought of as a largely autonomous response brought about fairly smoothly

through price signals, the mobility of factors between alternative uses, and the ability of entrepreneurs to exert foresight and anticipate future needs in the search for maximum rates of return on their capital. Economists in the structuralist tradition take a more sceptical view of the efficacy of markets in developing-country environments and of the prospects for low-friction adaptation: “The structuralist approach attempts to identify specific rigidities, lags and other characteristics of the structure of developing economies that affect economic adjustments and the choice of development policy”.²⁹

However, one of the effects of the 1980s’ interest in issues of structural adjustment has been to erode the previously rather sharp distinction between the neoclassical and structuralist schools. As Hirschman (1981, pp. 181–82) has wryly noted, there is a real sense in which we are all structuralists now:

Whereas the Latin American economists who had first advanced the structuralist thesis were in general identified with the Left, it now appears that structuralist theorising is a game at which all kinds of believers in the need for “fundamental” reform can and do play.

A more positive way of putting this is to suggest that there is general agreement in the literature that adjustment is likely to be particularly costly in output, employment and welfare foregone unless appropriate policy responses are put in place. There remain large disagreements about what “appropriate policies” should consist of, but even here there is agreement that a blend of market and non-market oriented policies is required, with the disagreements being about where the balance should be struck. Disagreements remain on the *extent* to which developing economies are different from those of the industrial countries in the degree of market failure that exists, and also about the efficacy of the state as an economic agent. But to say that markets are a prime mechanism of adjustment and structural change is not very controversial, any more than it is to urge the importance of an active policy response.

It might at this point be helpful to offer some definitions, building on the notion that some changes will be more or less autonomous and others policy-induced:

Adjustment can be thought of as induced or planned adaptation. Adjustment policies are then the instruments deployed in order to achieve the desired adaptation and to enhance the flexibility of the economy. “Structural” adjustment should logically be regarded as measures to adapt specifically structural variables, as discussed earlier, particularly the productive system and the physical and institutional infrastructure.

It may also be useful to categorize adjustment measures as either defensive—seeking to minimize the costs of adjustment or slow it down—or positive, emphasizing the opportunities created by changing conditions, seeking to anticipate them and to increase the flexibility of the economy.³⁰ Many adjustment measures introduced in the industrial countries, for example, have been defensive, seeking to shore up declining industries or to ameliorate the social and political effects of such declines. Imposition by developing countries of ex-

change controls to cope with balance of payments difficulties may be viewed in a similarly negative light. The policies of the South Korean government might be cited as an instance of a positive approach, taking an active view of how the country's comparative advantage should develop and meeting protectionism and a burgeoning debt-servicing burden with aggressive export-promotion policies. In the sense that they have generally introduced policy changes with varying degrees of reluctance and only in the face of crisis conditions, the adjustment policies of most African governments in the 1980s could be said to have been essentially defensive. Apart from the rather special case of Botswana, it is hard to think of an African example of positive, anticipatory adjustment policies.

Positive adjustment policies, we have suggested, seek to increase the adaptability of the economy. But if they are to do that we need to know what it is that determines economic flexibility, and it is to this topic that we turn next. Unfortunately, this has not been one of the traditional questions of economics so the following sketch is necessarily rather tentative.

Determinants of adaptability—overview

Expressed in its broadest terms, the view presented below is that an adaptive economy is one in which ends and means are readily adjusted to changing constraints and opportunities. This includes flexibility in the institutional base of the socio-economic system, and responsiveness by the government in adapting policies to changing conditions. It implies an economy in which only limited frictions and costs are involved in the movement of resources among alternative employments, leading to changing factor proportions, technologies and composition of output. On the side of demand, it implies responsiveness to changing relative scarcities, and comparative ease of substitution in the disposition of income as between consumption and saving.

The extent to which an economy possesses adaptability of this type is seen as depending, in turn, on two sets of conditions. First, there must be efficient *informational incentive systems*. There have to be adequate data on changes in economic conditions to which the economy must adapt, and there also has to be a way of giving people incentives to bring about those changes which the data indicate to be desirable. Given the information and incentives, the second set of conditions relates to the reactions of people to these stimuli, their *responsiveness* to economic signals. We will discuss these two sets of conditions in that order.

Information and incentives

Every economy requires some means of making the huge number of decisions that have to be taken about what should be produced and in what quantities, about investment, employment and so on, and of co-ordinating these so that the preferences of producers and consumers can be made consistent. The literature on comparative economic systems concentrates on the dichotomy between the

ways these desiderata are achieved in market and planned economies, although in practice it is always through some combination of the two.

The distinguishing characteristic of the market economy is the high degree of decentralization of decision-making through the impersonal workings of a myriad of markets, in which enterprises and individuals pursue their own interests by responding to the incentive signals of market prices and in which the interactions between markets can be thought of as a mechanism of co-ordination. A centrally planned economy stands at the opposite end of the spectrum, for it is characterized by a high degree of centralization, with decision-making powers concentrated in the planning authorities of the state. Planners receive and process information about the economy and take the most important decisions. It is they who play the co-ordination role, but this is achieved through the conscious exercise of forethought rather than through the "invisible hand" of the market.

We cannot here go into the huge debate about the relative merits of the market and planning solutions to the co-ordination problem, but two points may be noted. First, there has been a clear shift of professional opinion about this during the last two decades. Economists are now more inclined to acknowledge the sometimes high costs of planning and other state interventions and to hold that the market system offers a generally more efficient co-ordination mechanism.³¹ The second point is that in the face of both market and state failures most countries have opted for "mixed" economies, in which most production is undertaken in the private sector and the basic allocative mechanism is a market system, modified in greater or lesser degree by government "interventions". In what follows we will take the mixed-economy case. But however the balance is struck between the market and the state, we should note the importance of adequate information flows. The adaptive economy needs good intelligence: about changing conditions in world trade and finance; about developments within the domestic economy; about scientific matters, e.g. as they bear upon technological progress and climatic changes; and about how these and other variables interact with each other.

However obvious this may sound, in many countries economic data are still sparse, unreliable and out of date. In such circumstances, neither private nor government decision-makers can operate efficiently. Thus, governments have lurched into a debt problem simply because they did not know the rate at which debts were being accumulated; businessmen have over-invested because they did not know about investments elsewhere; governments and their citizens have experienced famines because "early warning" information systems were not in place. Because of the incomplete appropriability of information, and for other reasons, it cannot be assumed that market incentives will throw up necessary information, or make it available to all who need it. Governments everywhere thus include information-gathering as being among their tasks.

There is little controversy about the desirability of this, but in developing countries data flows often remain woefully inadequate. Flexibility is bound to be limited in the face of severely limited knowledge of the changes in circumstance to which the economy must adapt.

Information is not enough, however. It must then be fed into decision systems and translated into rewards and penalties that will induce appropriate responses. It is here that markets generally excel. Their decentralized nature, their ability to translate information into price incentives and to co-ordinate a huge number of individual decisions through an interacting network of markets are usually well in advance of what central planners can hope to achieve. Quite apart from the huge volume of information that planners need to be able to receive and absorb, one problem is that controls often create incentives for *misinformation*. State enterprises exaggerate their output or efficiency in order to secure larger allocations of supplies. Private firms exaggerate their costs in order to persuade the government to raise controlled prices. Exporters understate the value of their sales in order to retain some of the foreign exchange they earn. Borrowers misstate the uses for which they require a loan to get access to funds earmarked by government policy for other uses. And so on.

In short, we see a well-functioning market system as conducive to flexibility when compared with an economy dominated by planning and controls. The key expression, however, is “well-functioning”, for there are many factors which prevent markets from achieving maximum efficiency, particularly when looked at from a social viewpoint. It is the existence of such market failures which constitutes the case for state intervention in a mixed economy, always provided that the costs of the interventions are smaller than the benefits produced. We return to this topic of market failure shortly.

Responsiveness

Turning now to consider the responsiveness of economic agents to information and incentives, it is useful to consider two related aspects: receptivity to change; and price elasticities.

Receptivity to change

The influence of tradition provides a natural starting point. However, economists are not well equipped for the study of such subjects and judgements about this are inevitably highly controversial. These are subjects we need to study further. In the meantime, we hypothesize that the adaptive economy requires a population which is receptive to change and is marked by willingness to take action to maximize whatever material benefits may be derived from changing conditions (or to minimize the costs). This implies an individualistic welfare-maximizing approach, and mobility in pursuit of this objective. These attributes may clash with traditional values, which often place more stress on the value of collective well-being and erect a number of obstacles to mobility.

The pursuit of economic self-improvement, for example, requires some faith that advancement will be on the basis of personal ability and effort. Traditional values may undermine such faith. Promotion may be more on the basis of seniority, or family, or tribe. An attribute of a wide range of traditional societies is

that they deny equality of opportunity to women, discouraging the education and weakening the economic incentives of over half the population. Equality of opportunity is often also denied on ethnic grounds, where a dominant tribe or race holds down the progress of others and gives preferment to its own members.

Traditional values may also be opposed to the self-regarding pursuit of material well-being. Extended-family obligations, for instance, may weaken incentives when a person may believe that there is little use in trying to improve his lot because the benefits will have to be shared among numerous, more-or-less distant, relatives. There may be similar traditional influences standing in the way of, or weakening the incentives for, public servants adopting the role-orientation necessary for the efficient conduct of their duties. In short, traditional values may be at odds with the "modernization" of outlook which is necessary for the adaptive economy. On the other hand, Japan's is only one of a number of highly successful socio-economic systems which does not conform to the Western individualistic model and where tradition still exerts a potent influence, illustrating how hard it is to offer firm generalizations in this area.

Education is of key importance in this context, both in its extent and its quality. The educated person will understand more of his or her environment and how he or she can influence and take advantage of it. He or she will be more knowledgeable about changing opportunities and more self-confident of being able to take advantage of them. It is from the well educated that any upwardly-mobile middle class with capitalistic values is most likely to be created, and it is from this group that most modernization is likely to originate. It is they who may then come to serve as exemplars to the rest of the population, an implicit invitation for them also to shed the influence of tradition.

Religion is another potent force. Perhaps the key question here is what a religion teaches concerning man's relationship to her or his environment. Some faiths see man's fate as predetermined by God's will and acceptance of poverty in this world as a mere prelude to a better life to come in the next. Such is not a faith that is likely to encourage enterprising self-help in response to a changing environment. Passive fatalism is a more likely result, dulling responsiveness to economic challenges. The Buddhist and Hindu religions are perhaps most often associated with such teachings. Conversely, the Christian and Jewish faiths are frequently viewed as emphasizing the individual's responsibility for his actions and well-being, with the "Protestant ethic" sometimes being particularly associated with capitalistic values—although the dynamic and flexible economies of Southeast Asia demonstrate that no one value system has an exclusive claim to produce economic success. More generally, religion is often seen as a conservative force, a protector of traditional values, resistant to modernization and materialism. Some religions have placed limited value on secular education; many have registered scientific explanations of the world's workings as conflicting with religious teachings. The validity and influence of such considerations remains highly controversial, however, not the least because of large differences within all the main religions. The sensitivity of this topic becomes immediately obvious as soon as one begins to mention particular faiths.

None of the above is, in any case, intended to denigrate the influences of tradition and religion. Some traditional modes are also dynamic and the individualistic pursuit of self-welfare that lies at the heart of the capitalist ethic scarcely represents man's most elevated social or moral state. Moreover, some reject the validity of the "modernization" model of development that is implicit in the above. Our task here is not to argue the pros and cons of these viewpoints but the narrower one of clarifying the nature of an adaptive economy. Similarly, our remarks on the influence of tradition should not be interpreted as suggesting that there are major societies which are unresponsive to material incentives. The evidence provides few such examples, indicating rather that "economic man" populates all countries. The negative influences we have been referring to are best viewed as dulling responses, reducing elasticities, not usually as giving rise to "perverse" responses.

The supply of entrepreneurship is another important influence on responsiveness to change. The most important characteristics of an entrepreneur for present purposes is that he or she thinks ahead, takes an active interest in information about economic trends, looks for opportunities, moves quickly in order to be a step ahead of competitors, tries to anticipate future opportunities, is willing to take risks, to innovate, to embrace the unfamiliar. An economy with an ample supply of such dynamic characters should be a flexible one. Unfortunately, enterprise of this kind is unevenly distributed within and across peoples.³² There is no assurance that there will be an adequate supply of this quality in an economy, and there can result what has been called a "creative" market failure, a failure to invest and innovate on an adequate scale.³³

Even more unfortunately, we understand little about the determinants of the supply of entrepreneurship, still less about how it may be encouraged by economic policy. The issue has strong links with the above discussion of the determinants of public attitudes towards change. Societies which value individuality and award status to the prosperous provide an environment which is presumably more conducive to the flowering of enterprise. Societies which are culturally rich are perhaps more likely to engender the self-confidence that the entrepreneur must possess. But it may be that entrepreneurship is rather a response of disadvantaged groups, those denied status by society at large, who cannot expect normal preferment to push them up the ladder (Hagen, 1962). On this view, we would expect entrepreneurial groups to emerge particularly from minorities of various kinds, including immigrants. The important role of the Indian and Lebanese communities in commerce and manufacturing in Africa is an example.

Plunging yet further into the quicksands of amateur sociology, we come next to a variety of factors that influence receptivity to change and which relate to the *nature and actions of governments*. The influence of political systems was among the issues explored by Kuznets (1966, pp. 445–53) in the 1960s. Comparing the political structures of developing and developed countries, he saw the latter as unstable, ineffectual and ambiguous about the merits of modernization; less representative, less tolerant of interest groups, with power more concentrated and more personalized. Kuznets noted that modern economic

growth was achieved in the nineteenth and twentieth centuries by countries which by the 1960s had political structures quite different from those then prevailing in developing countries. But he went beyond that to suggest that the characteristics just noted constitute formidable obstacles to economic growth in many developing countries: "Political instability and nonrepresentativeness of the regimes, combined with an authoritarian structure dominated by personalist leaders and backed by familial and ethnic ties and the police, are hardly favourable conditions for economic growth" (p. 453). The influence of traditional values on governments and their resulting ambiguity about the desirability of modernization observed by Kuznets is a situation which has been illustrated in the 1980s by the spread of an Islamic fundamentalism which appears to reject much of the modernization model.

Of course, far from all developing countries have political systems with the characteristics mentioned above. Much has happened since the 1960s, particularly in Latin America. Moreover, there is no suggestion that there is some simple, mechanistic connection running from political modernization to economic development. Indeed, economic development is itself likely to generate increasing pressures for political democratization. Nevertheless, there are enough resonances between Kuznets' observations and the contemporary scene in Africa and elsewhere for us to take his comments seriously, and enough developing countries have experienced adjustment difficulties that emanate from the political system for his warning to be underlined.³⁴

Even if there is in power a modernizing government which values flexibility, that is far from being the end of the matter. Another factor bearing upon its ability to encourage adaptability will be the government's strength relative to other centres of power. Many developing societies are fragmented, with power widely dispersed and limited social cohesion. Various groups will be forces to be reckoned with, even by apparently authoritarian governments. In the general case, special interest groups are conservative and defensive of existing privileges of their constituents, whether they represent employers, organized labour, landowners or whatever. To bring about economic adaptation, governments are likely to have to persuade such groups to accept change or to enforce it against their wishes, but they may not have the power to achieve the latter. A result of a fragmented society is that the state will tend to be "soft", by which is meant a situation in which policies decided upon are often not enforced and the authorities are reluctant to place obligations upon their citizens, including the obligation to pay due taxes.

This issue of the power of government *vis à vis* traditional centres of influence and special interest groups is of particular importance because adjustment to the type of economic shocks described in the previous section involves tough decisions and substantial costs.³⁵ Given the inevitably painful and costly nature of adjustment, at least in the short term, the politics of adjustment are liable to confront the government with the interests of important groups, not the least of which will be its own bureaucracy. Adjustment policies are then only likely to prevail if the government can successfully evade such confrontation or assert its

authorities.

This consideration has led some observers to suggest that successful adjustment requires strong, authoritarian governments, but this should be tempered by the consideration that the power of a government to implement and gain acceptance of its policies will be strongly influenced by what political scientists call its “legitimacy”—a belief by the general public that it has a proper claim to exercise authority, derived from some constitutional or other principle. Authoritarian governments, often military, tend to be short on legitimacy. In fact, the evidence on the relationship between regime type and ability to implement major programmes of policy reform is indecisive. Indeed, it is not even clear that regime type is a key determinant.³⁶

Finally, under this heading, we should mention a delicate balance to be struck between flexibility and continuity in government policies. Modern macroeconomic theory has taught us the importance of the ways in which people react to—and seek to anticipate—government actions, and of the techniques that people develop for frustrating government intentions.³⁷ Corruption and parallel markets are examples of the latter. To have maximum effect policies must be *credible*; people must believe they will be implemented and will stick.³⁸ Thus, if the government embarks on a currency devaluation, economic agents must take the new exchange rate as reliable basis for decisions about the future. Signals have to be believed. This is a reason why “soft” states have difficulty in improving the performance of the economy: citizens do not believe that the government means what it says, or can enforce its decisions. This is also a reason for valuing political stability, for who can plan on the reliability of some new policy signal if the government has only a brief life expectancy?

Although we should again stress the tentative nature of much of this discussion, it seems likely that economic responsiveness will be much enhanced when these various conditions for receptivity to change are satisfied. In the language of economics, price elasticities will be larger.

Supply elasticities

To the extent that information is available and translated into price incentives, responsiveness is enhanced by relatively large price elasticities of demand and of particular importance of supply. A logical next step, therefore, would be to survey the factors bearing upon the size of supply elasticities. This, however, is the subject of a separate AERC paper by Ademola Oyejide, (1990), therefore we will not go over the same ground here. Very briefly, we see long-run supply elasticities as being crucially influenced by the extent of competition and absence of dualism; and the availability of raw materials and other intermediate inputs (with the import strangulation mentioned earlier tending to reduce supply elasticities), including complementary infrastructure.

The only other point that needs to be mentioned here is that elasticities are larger in the long run than in the short. This points to a dilemma. Often countries faced with severe payments or other disequilibria need quick results. Certainly, many of the adjustment programmes with which the IMF and, to a lesser extent,

the World Bank are associated are predicted on quick results. Elasticities and the responses they measure are generally small in the short term, however, which points to a danger in relying too greatly on market forces for rapid structural change.³⁹

Matters arising

Before concluding our exploration of the characteristics of an adaptive economy, there are two additional questions that deserve an airing.

The first takes us back to *the relationship between adaptability and development*. Even though we were cautious about attributing causality from structural transformation to development, the thrust of the earlier parts of this paper was, nonetheless, to stress the beneficial effects of economic flexibility for long-term development. However, reconsidering what is written above about the nature of an adaptive economy, it is equally clear that development aids flexibility. Consider the reasons for this.

First, the data base and flows of new information will be superior in a more developed economy because it will be feasible to devote larger resources to this task and also because a larger part of economic activity will take place within "organized" sectors of the economy that are more amenable to measurement. Second, the hold of traditional values and modes is likely to be weaker, and modernizing attitudes more the norm. Third, the economy will be more industrialized. For reasons already mentioned, this will give greater potential for rapid response of output to changing price relativities, and factors of production will be less specific than in the primary sectors. Partly because the domestic market will be larger, there will be more competition among domestic producers, increasing their incentives to be responsive. Markets will be better integrated and dualism reduced, for dualism is particularly a feature of less developed economies. Markets can be expected to be more complete and in other respects we would expect the market mechanism to work better.

The larger size of developed economies is an advantage in other ways. They will be less vulnerable to shocks transmitted from the rest of the world (see below). They will have more diversified patterns of demand and production, facilitating the movement of resources between activities.⁴⁰ It will also be easier to shift between production for the home and export markets. Finally, we would expect there to be at least some tendency for governments to be less "soft", more effective, in developed countries. The only major special disadvantage of more developed economies that may be mentioned is the greater difficulty they may have in modernizing their capital stock, with net investment being small relative to the size of the existing capital.

An implication of this is that small poor countries are liable to have inflexible economies. There is, thus, something of a vicious circle at work: inflexibility retards development but under-development retards flexibility. However, it would not be justified to go so far as to describe this as a low-level trap. The relationship between flexibility and development is unlikely to be so strong as to deter-

mine outcomes, and there are things that governments of even the poorest countries can do to increase the adaptability of their economies. What is clear, however, is that they will face an uphill task and will require more time for it than more advanced economies. It is for such reasons that there have been calls for the Bank and Fund to recognize these special needs in their policies towards African and other low-income countries.

What is true of the disadvantages of low-income developing countries can be written even larger for such economies that have also experienced sustained and major economic disintegration, such as Ghana and Uganda. For they are likely to be faced with a decaying physical and institutional infrastructure, a major brain drain, an extreme but complex pattern of price distortions, a history of declining living standards that makes it all the harder to extract yet further sacrifices in pursuit of economic revival, a history of economic and political instability which makes people deeply sceptical about using present prices and policies as bases for decisions about the future, and a lack of the optimism about the future necessary for a revival of investment. It is in this light that the problems and efforts of such countries should be viewed.

Since all African economies are heavily dependent on international trade, the further question arises, *is openness good for economic flexibility?* The answer is yes. We have already remarked that one of the advantages of trade is that it allows local manufacturers to escape the extremely tight confines of domestic demand illustrated in Table 5 above, to specialize more and achieve more economies of scale.⁴¹ Openness also exposes local producers to more competition than could be sustained domestically, and this is likely to make them more responsive to changing conditions and opportunities.

The high levels of imports which mark the open economy also have the advantage of giving lower-cost access to intermediate and capital goods that could be produced at home only very inefficiently, and to the technological advances incorporated in them. More generally, a society which is thoroughly exposed to commerce with, and investment from, the rest of the world is more likely to be aware of actual and prospective trends, more receptive to new ideas. Finally, the economic policies that governments must adopt if they actively promote an outward-oriented development strategy will themselves probably lead to greater economic efficiency and better ability to adjust to external shocks.⁴²

Against these considerations, we must, however, set the fact that open economies are more vulnerable to shocks from the outside world, relative to the scale of domestic economic activity. The greater instability of world economic conditions over most of the last 20 years has increased the risks and costs associated with integration into it. Openness both facilitates flexibility and necessitates it. What seems to be indicated, then, is a judicious blend of policies intended both to protect the economy from the worst of these risks (for example, by opting for a measure of self-sufficiency in food production and by placing more weight on other forms of import-substitution) and to open it up to the opportunities of trade and investment.

Research issues

The general lines of enquiry suggested by the foregoing are (a) to treat our various suggestions of the determinants of economic flexibility as hypotheses for testing, and (b) to study the influence of various characteristics of national economies on their ability to adjust. The more specific possibilities that suggest themselves are:

- (a) The adequacy of data flows to the government and other economic agents to monitor or anticipate the emergence of difficulties and opportunities. A project could, for example, evaluate the adequacy of data relating to the balance of payments and/or external debts for their effective management; or the feasibility of setting up a system of “leading indicators” such as exist in industrial countries.
- (b) Studies of the supply and characteristics of indigenous entrepreneurial groups, and the ways in which government actions impinge upon them, for good or ill.
- (c) Political economy studies of policy formation processes, with a view to forming an assessment of the constraints upon adequate policy responses to emerging problems.⁴³
- (d) Studies of the past behaviour of state-determined producer prices as a basis for longer-term investment decisions. To the extent that they have done so, have producers been rational, in terms of profitability and risk, in using such prices for saving and investment decisions? Is it possible to compare this situation with other products whose prices are market determined?

It would be possible to extend this list, particularly in sociological directions, but that may not be very helpful to the Consortium; Oyejide’s paper on supply responses (Oyejide 1990) includes research suggestions that are highly pertinent to the study of the flexibility of the economies of Africa.

V. Concluding comments

Fund and Bank approaches

The first question we take up in this concluding section is how the foregoing might be related to the approaches adopted by the Bretton Woods institutions, and by the governments with whom they have agreed programmes of “structural adjustment”. In fact, the term first entered into international parlance when, in 1980, the World Bank introduced Structural Adjustment Loans (SALs) as a new type of credit.⁴⁴ SALs were intended to provide quick-disbursing loans to finance general imports over a period of a year in support of an agreed set of measures intended to strengthen the balance of payments whilst maintaining a development momentum. During the course of the 1980s, however, the original emphasis in the Bank on the balance of payments gradually faded, with a corresponding increase in the stress it placed upon “economy-wide programmes of reforms” intended to increase the efficiency of resource use through “changes in pricing and trade policies, in the size and structure of government expenditures, and in the extent of government controls on productive activity”. However, there was no attempt at a formal definition of structural adjustment *per se*, and even within the Bank the term is subject to a range of interpretations. In operational terms, the Bank in the most recent years has switched emphasis from SALs to Sectoral Adjustment Loans. The latter have narrower policy objectives, although the general policy thrust is similar.

The subject was further complicated when in 1986 a new Structural Adjustment Facility was set up within the IMF. This too was to provide medium-term balance of payments assistance to low-income countries facing protracted balance of payments difficulties for a programme of policy measures to be worked out with the staffs of the IMF and the Bank. This was replaced at the end of 1987 by an Enhanced Structural Adjustment Facility, with considerably greater resources than the original SAF. In some respects, the Extended Facility of the Fund (EFF), set up in 1974, was a precursor of the SAF, not the least because, for the first time, it engaged the IMF in medium-term policy programmes addressed to the strengthening of the productive structure.⁴⁵ Consistent with the Fund’s objectives, the chief aim in each of these facilities

was stated to be to help countries achieve balance of payments viability. In most cases, the supply-side measures written into their programmes were in addition to the Fund's traditional emphasis on short-term demand management, involving credit restrictions and reduced budget deficits, although accompanied by exchange-rate depreciations (which can be interpreted as being chiefly structural in their intended effects). Like the Bank, the Fund does not appear to have offered a formal definition of structural adjustment.

It is apparent that there are large areas of overlap between the ways in which the Bretton Woods institutions interpret structural adjustment and our own account of the matter. Common to them all are the ideas that structural adjustment is a response to shocks and other changes in the economic environment; that it involves policy changes, i.e. is a planned adaptation; that it is not a short-term process; and that it involves attention to an economy's basic structure. Important differences may be noted, however, concerning breadth and length.

As regards breadth, our own approach has stressed a wider range of influences to which economies must adapt than those to which, understandably, the Fund and Bank confine themselves. We agree with them about the special importance of the foreign exchange constraint, but also bring in factors such as changing climatic conditions, technological progress and long-term shifts in the pattern of demand.

The point about length is more important. It has to do with the *speed* with which economies are able to respond to changing circumstances and to the period over which such responsiveness is necessary. It is a long-standing complaint about the IMF's policies towards developing countries that its programmes are too short-term to be able to cope with the often deep-seated nature of their payments' weaknesses. The EFF, SAF and ESAF are responses to this complaint. Even the Bank's more medium-term programmes have been criticized along similar lines, and its own evaluations of SALs have drawn the conclusion that structural change takes longer than it had earlier envisaged. No less significantly, the desire has been expressed within both institutions, at least in their governing bodies, for the phase of structural adjustment lending to be concluded as quickly as possible, so that each can return to its more traditional roles, whereas our own treatment has shown adaptation to change as a *continuous* necessity, inseparable from development, not at all as a discrete phase. Our treatment rejects the view of adjustment as the economics of transition from disequilibrium to equilibrium.

In other words, we can think of the structural adjustment programmes of the Fund and Bank as an important sub-set of our own understanding of the term: more confined in time and coverage, more concerned with adaptation to "shocks" than to longer-term trends, but nevertheless addressed to some of the most pressing of the problems of economic adaptation.

Difficulties are, however, created in reconciling these various approaches by the differing time spans in which "adjustment" can be set. There is difficulty, too, in reconciling policies for the control of aggregate demand with those for the restructuring of the productive system. Adequate treatment of these tensions

would, however, require a separate paper!

Implications for Consortium research

This paper was prepared at the request of the Consortium's Advisory Committee in response to a belief that the very large influence of the Bretton Woods institutions on policy changes in Africa was in danger of biasing policy-related research away from more fundamental questions of long-term development, and that a clearer view was needed of the relationships between adjustment and development. Hopefully it has gone some way in those directions, if only by provoking other Consortium members to address themselves further to these issues. The question remains, however, whether the subject matter covered above defines an appropriate new area for Consortium-assisted research, particularly given its commitment to work that has direct relevance to contemporary policy problems.

I am a little doubtful about this. On the one hand, much of the ground covered above is interesting, important and under-researched. And it is surely right that we should guard against the distortions in understanding and policy that might result from neglect of longer-term issues.⁴⁶ On the other hand, there would be a real danger that the Consortium's work would, as a result, become too diffuse and lose some of its immediate policy relevance. While all or most of the specific research suggestions made throughout the paper could be defended as relevant to important questions of policy design, it is nonetheless clear that several of them are on topics far from the top of policy makers' agendas.

These are matters that will be pondered further by the Advisory Committee, but it will be valuable to have the views of Consortium members generally on this issue, as well as on the substantive content of the paper.

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Notes

1. The author is Senior Research Fellow of ODI and Visiting Professor, University of Surrey. This paper is based on work currently under way for the Economic Development Institute of the World Bank, although the author is, of course, solely responsible for the views expressed here. He is grateful to Moazzam Malik for valuable assistance in the work on which this paper is based.
2. A commonly held view would classify the more macro aspects of policy into (a) stabilization, concerned mainly with the short-run management of aggregate demand; (b) structural adjustment, dealing more with medium-term measures addressed principally to the supply side of the economy; and (c) development, concerned with change over periods of decades in a wide range of socio-economic variables.
3. Much of what we know about the relationships between economic growth and structure is derived from the work of Simon Kuznets (1965, 1966). His work on the patterns of “modern economic growth” in the now industrial countries—meaning growth from about the middle of the eighteenth century—generated a series of historical generalizations about changes that occur during the process of modernization that remain generally valid today. Kuznets’ historical observations are strongly consistent with cross-country observations of the differences between countries at various levels of per capita income, with which the name of Hollis Chenery (1979, Chenery, Robinson and Syrquin 1986, and 1988) is also particularly associated.
4. When measurements are adjusted for economy size, cross-country comparisons actually suggest that a country tends to increase its trade relative to GDP as incomes *rise*. This explains the statistics in line 11 of Table 1 showing larger exports relative to GDP at higher per capita income levels.
5. From World Bank, *World Development Report, 1988*, Table 12. China and India excluded from low-income countries.
6. See Chenery, Robinson and Syrquin, 1986, especially Table 3–7. This shows an 8 percent increase in the share of non-tradeables in total value added between early and late stages of development, with a corresponding reduction in the share of tradeables.
7. From Goldsmith, 1983.
8. It is with this in mind that economists have referred to the heavy importations of capital by the USA in the 1980s as “perverse”.
9. Figures are for 1986. India and China excluded from low-income countries. Source: World Bank, *World Development Report, 1988*, Table 10.
10. Ram, 1988, provides a brief recent review of the literature on this.

11. The notion of consumers' sovereignty is open to the objections that it ignores the role of advertising in manipulating demand, and also the influences of technical progress and product innovation.
12. For references on this see Clements, Suhm and Theil, 1979; Finke, Rosalsky and Theil, 1983; and Theil and Seale, 1987.
13. The income elasticity of demand measures the proportionate increase in demand for an item resulting from a given proportionate increase in income, holding all other variables constant. It is thus a measure of the sensitivity of the demand for an item to changes in income.
14. See UNCTAD, 1988, chapter 11, box 12.
15. See Bond, 1987, for estimates of income elasticities of demand for primary commodities.
16. Grilli and Yang, 1988. For other recent contributions to this debate see Spraos, 1983, and Sapsford, 1985.
17. On the biotech revolution and its possible trade implications see two 1988 ODI *Briefing Papers*: "Commodity prices: investing in decline?" and "Agricultural biotechnology and the Third World". See also Hobbelink, 1987.
18. The Heckscher-Ohlin theory has, of course, been subjected to a good deal of criticism as not explaining well the observed pattern of trade, but a sophisticated recent study of this concludes that it is possible to explain much trade by reference to the relative abundance of productive resources and that the theory "comes out looking rather well". See Leamer, 1984.
19. See Jung, 1986. The references given in his article make up a useful recent bibliography on the literature on this topic.
20. That there has been such a spread is widely acknowledged, although it is difficult to be precise because most of it has taken the form of a proliferation of "non-tariff barriers" (NTBs) which are not readily amenable to quantification. It also seems highly likely that these NTBs have been applied in ways that discriminate against exports from developing countries. These chiefly affected manufacturers, but the high levels of agricultural protection also had an impact on commodity markets. According to UNCTAD (1988, annex table 3), in 1987 NTBs affected nearly 25 percent of all imports by Western industrial countries of goods from developing countries, against 21 percent of imports from each other. Both proportions were higher than in 1981, although only marginally so in the case of NTBs against imports from developing countries.
21. See de Grauwe, 1988, who found that close to 20 percent of the observed slowdown in trade among industrial countries since the early 1970s could be attributed to increased exchange rate variability.
22. UN, 1988, Table 4 and *passim*. In some respects the impact was even more severe on the heavily indebted countries—see Selowsky and van der Tak, 1986, who emphasize the long-term nature of any possible economic recovery by the heavily-indebted countries.
23. World Resources Institute etc., 1986, Table 9.4. The following paragraphs are largely based on chapter 8 of this publication and on ODI, 1987. Everest, 1988, provides a more up-to-date survey of the state of knowledge on the Greenhouse effect and its possible policy implications.
24. See, for example, Mintzer, 1987.
25. For fuller discussions of this topic see World Bank *World Development Report*, 1988, pp. 71–74; Garcia and Llamas, 1988 and Killick, 1984, pp. 260–61.

26. On this see Khan and Knight, 1988, who find import compression to have strong adverse effects on export performance—a more refined hypothesis that might be tested at the country level. See also Mirakhor and Montiel, 1987, on the general relationship between import availability and economic performance, and Helleiner, 1986. He does not find GDP growth to be significantly related to the import/GDP ratio but does find it to be adversely affected by import *instability*.
27. See Roemer, 1985, for a valuable discussion of uses and limitations of the mainstream literature on Dutch disease in developing-country contexts.
28. See Yotopoulos and Nugent, 1976, chapter 16.
29. Chenery, 1975, p. 310. See also Chenery, 1988, and Kahler, 1988 for recent surveys of the structuralist literature. See also Taylor, 1983, for a structuralist theory of macroeconomic behaviour and policy. See also his forthcoming report of a WIDER study of alternative approaches to adjustment policies.
30. On the idea of positive adjustment policies see OECD, 1983.
31. See Killick, 1989, for a survey of contemporary mainstream thinking concerning the economic role of the state and its implications for developing countries.
32. See Elkan, 1988, for a discussion of the supply of entrepreneurship in Africa. He argues that governments can best contribute to this by providing a stable macroeconomic environment.
33. Kaldor, 1972, as discussed in Arndt, 1988
34. See Sandbrook, 1986, for an exploration along these lines applied to sub-Saharan Africa, examining the implications of “patrimonial” government for economic management.
35. Thus, Wheeler’s 1984 study of the sources of stagnation in Africa found that the most influential policy variable in his tests was an ability to engage in retrenchment in the face of economic deterioration: “Rationing systems which adhere tightly to previous levels of importation of capital or consumption goods during periods of foreign exchange reduction appear to have done substantially worse, *ceteris paribus*, than those which have retained more flexibility” (p. 18).
36. For a survey of the relevant literature see Nelson et al., forthcoming, chapter 1. See also Sheahan, 1980; Remmer, 1986; and Findlay, 1988. Unfortunately, much of this literature is confined to Latin American cases.
37. It is “rational expectations” theory which is particularly in mind here. Although the direct relevance of this theory in all its rigour and on all its necessary assumptions is limited, there is now wide acceptance of the importance of taking public reactions into account when devising macroeconomic policies. See Shaw, 1984, for a straightforward exposition of rational expectations theory and Corden, 1987, for discussion of its relevance to developing countries.
38. See Lachler, 1988, for an empirical test of the importance of credibility.
39. “Markets . . . work incrementally. All required changes—in price signals, in people’s responses to incentives, in shifts in resources—take time. These lags account for the fact that elasticities of supply and demand are larger in the long than in the short run. Even in Western market economies, it has been recognised that very large changes that have had to be accomplished quickly . . . cannot be left to market forces. The likelihood of market failure therefore is a function of the degree of urgency—or impatience—attached to a particular change” (Arndt, 1988, p. 227).
40. Thus the United Nations *World Economic Survey*, 1985 (p. 15) commented that



the larger and more diversified economies with large production capacities were better able to adjust to external shocks, taking advantage of under-utilized manufacturing capacity and an ability to switch from home to foreign markets in order to expand their exports.

41. Kubo *et al.*, 1986, p. 224, note this and that, in consequence, trade led to more rapid structural transformation than otherwise would have occurred in the countries they studied.
42. “. . . an export-promotion strategy appears to place certain kinds of constraints upon economic policy and its implementation; those constraints, in turn, limit the magnitude and duration of policy mistakes and also tend to force policies to work through pricing, rather than quantitative, interventions . . . a growth strategy oriented towards exports entails the development of policies that make markets and incentives function better . . .” (Krueger, 1978, p. 284).
43. The forthcoming Nelson *et al.* study (see bibliography) provides an example of this type of study upon which future researchers could fruitfully build.
44. For an account of the early history of SALs and an espousal of this type of lending by the Bank, see Please, 1984, chapters 3 and 4.
45. See de Vries, 1987, for the Fund’s official account of the EFF and SAF; and Killick, 1984, pp. 247–50, for an evaluation of the EFF.
46. Significantly, the next in the World Bank’s series of reports on Sub-Saharan Africa, initiated by the Berg Report, is intended to deal with some of the more fundamental problems facing African countries.

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