Where have all the Linkages Gone? Staples in the Ghanaian Economy

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Staple theory and linkages

In order to throw light on the relevance of staple theory to the explanation of the economic performance of developing countries, Hirschman (1977) has recently extended the linkage concept developed in an earlier work (Hirschman 1958). Staple theory is, in fact, a descriptive model, based on early Canadian economic growth showing how a fast-growing export based on local specialised natural resources (the 'staple') can induce an accelerating rate of investment and an inflow of labour and capital resources into the staple sector, as well as providing opportunities and inducements for industries in other sectors to meet these investment needs, provide infrastructural services, and meet the growth in demand for consumer goods arising from the higher personal incomes generated in the staple sector (Watkins 1963; Caves 1971). Hirschman's original linkage concept was confined to the potential or actual relationship between producing units in terms of their physical sales and purchases, identified by a knowledge of the technical input-output tables. He now 'generalises' the concept to embrace not only these direct relationships but also indirect effects, particularly on the consumer goods industry and through the fiscal system. He considers that a fuller analysis of linkages and their effect would enable us to explain the success or failure of exogenous structural changes as development processes in historical experience. If this approach were to become paradigmatic, the emphasis of economic analysis would shift from its traditional focus on market structure and behaviour to broader technical and institutional relationships of which market forms are only one aspect.

Of course, studies along these and similar lines, on the effect of export growth on economic development, are not new or peculiar to staple theorists (e.g. Baldwin 1963; Myint 1974). Baldwin's well-known 1963 article compared mining with plantation economies with respect to their development effects which, it was argued, stem primarily from introduced production techniques. He concluded that positive effects from either were likely to be small: plantation technology did not implant new skills; as for mining industry, "the impetus for additional development is confined only to a small part of the economy". In neither case were there likely to be significant forward or backward linkages since, it was argued, these activities were subject to scale economies, etc., and could therefore be carried out with less cost in the metropolitan countries. Interestingly, in this article, Baldwin does not consider the question of resource ownership or goverment policy, though in an earlier article he did suggest that export activities generating greater income equality are more likely to have positive developmental effects through what would now be called consumer linkages (Baldwin 1956).

Myint considers peasant exporting as well as mines and plantations and comes to similar conclusions, though perhaps less pessimistically, since he suggests that appropriate policies could bring about more positive results. Both writers emphasise the importance of technology: those activities that impart new skills afford the greater benefit. Myint's peasants create surpluses through the application of spare time and spare land. Although enterprises may later specialise in the export crop by growing less food and diminishing their non-agrarian activities, there is no further division of labour, therefore no technical change, therefore no cost-reducing improvements: eventually the expansion must stop without any spillover of knowledge which can be applied elsewhere even in agriculture. Foreign enterprise has hindered the creation of a permanent skilled labour force in the mines and plantations by pursuing inappropriate wage and employment policies.

Of course, the socio-economic environment of Canadian farming at the turn of the century was quite different from that of developing countries at that time or today. The Canadian experience, upon which staple theory is based, may have had more to do with "the presence or absence of general preconditions for successful development, in the characteristics and education of the indigenous population, institutional structure, rate of domestic saving and the like" (Caves 1971) than the "differing characteristics of production functions" of which Baldwin makes so much. Myint is, of course, well aware of this. Furthermore, the colonial State did not have an active

interest in or the means of directing the spread of localised growth in the interests of an indigenous capitalist or entrepreneurial class, let alone the population as a whole. Nevertheless, abstracting for the moment from these important considerations of economic sociology and political economy, it is possible to carry the analysis rather further in terms of the nature of the exported commodity and to regard the staple as being endowed, in Hirschman's words, with "a certain constellation of linkages". Thus Caves lists a number of relevant characteristics which one could use as a check-list. For example, activities requiring skilled labour will generate a demand for education and raise the propensity to save. Then again, the bulk of the product and its location will create demands for social overhead capital, particularly roads and trucking facilities, thus cheapening marketing activities. More subtly, freight space required for bulky exports cheapens the freight charges for imports on the return passage and so lowers the natural protection to locally manufactured imports. Another negative linkage effect may derive from an industry enjoying economies of scale (particularly if combined with a highly capital intensive technique of production) thus tending to require finance from foreign capital to the detriment of local entrepreneurial opportunity. Thus, sociological and political variables being equal, it should be possible to explain export-led growth in terms of the characteristics of the staples. And one point about export-led growth is that once the whole process is set in motion, the growth of the non-export sector becomes autonomous and is no longer dependent on the fortunes of the staple.

Hirschman's 'generalised approach' defines a linkage as "existing whenever an ongoing activity gives rise to economic or other pressures that lead to the taking up of a new activity". This might seem so 'generalised' that it is operationally quite useless. The narrower concept, defined in terms of the physical input-output model, allowed a measurement of the strength of a linkage effect, but this chance is now lost. However, the wider definition has been in common usage for some time and the game is now to classify linkages qualitatively in terms of the situations in which they might be taken up, and to identify negative linkages—i.e. those that, if taken up, would hamper rather than encourage development.

Hirschman's rather rambling essay takes in most of the points mentioned above, and more. I will comment only briefly on the nature of the consumption linkage, the treatment of foreign investment and fiscal linkage.

Consumption linkages arise as export revenue grows and retained incomes (i.e. profits, wages and salaries that are not repatriated by foreigners) are spent on consumer goods. The possibility of substituting the growing imports for domestic manufacturing is obvious. But there is also the less obvious negative effect on local 'traditional' industry which may be undermined or destroyed as a result of the combined effect of the withdrawal of labour into the staple sector and the increasing competition from foreign importers seeking the new markets.

Secondly, with regard to foreign investment: certain kinds of linkages from the staple industry —towards processing, for example—may involve so alien a technology that foreign enterprise is more likely to respond than local. This is seen as a handicap since it restricts the involvement of the local producer in agricultural activity.

Fiscal linkages are strongest when attached to 'enclave' activities which are characterised by the absence of other linkages. To the extent that a staple industry is controlled and owned by foreigners it is easier to tax. But the strength of the link depends equally on the ability to invest productively. Hirschman claims that in situations where taxing is easy, revenue tends to be collected before well-thought-out investment plans are formulated so that revenues are either accumulated sterilely or wasted on bureaucratic and unproductive projects.

Hirschman's scheme for understanding development processes embraces most of the earlier discussion on linkages and staple theory and attempts a taxonomy of conjunctures. In this approach, relative prices and incomes do not hold the centre of the stage as explanations of economic behaviour although they are implicit in much of the action. It may also have been noted that in the literature, little attention is paid to the performance of non-staple agriculture. To be sure, in Myint's model, based on vent-for-surplus, there is little opportunity cost in terms of food production, at least in the early stages. But in so far as there must be some reallocation of resources away from food (unless there are countervailing positive linkages stimulating agricultural productivity, and Hirschman does mention the possibility of fiscal linkage of this kind), food shortages will eventually create inflationary or balance of payments pressures

that could impede or arrest an otherwise self-sustained growth process.

The case of Ghana

In this section, some aspects of the economic history of Ghana (previously the Gold Coast) will be presented as a case-study in order to assess the utility of the linkage approach to the study of economic development. Ghana's history is relevant because the country has two industries —peasant-based cocoa production and 'enclave'-type mining—which could be regarded as staples, and were initiated at the turn of the century, at the same time as the Canadian wheat boom.

Szereszewski (1965) has shown that, as a result of the rapid growth of these industries, the economy experienced dramatic structural change during the period 1891-1911, after which a new equilibrium was established which determined Ghana's economic structure until the 1960s. The linkages that were established in those early years did not set in train a process of sustained and cumulative development; rather, they accounted for a movement to a higher plateau of *per capita* income and activity after which the economy continued to grow, but at a lower rate, so that the "Ghana of 1960 could still belong to the same category of structures as the 1911 Gold Coast, albeit at a generally higher (double) level of GDP *per capita*". During these two decades, cocoa exports had risen from a mere 80lb in 1891 to 89,000lb in 1911, and gold from 25,000 to 281,000 ounces.

Myint's description of the early sequence of peasant export production is not wholly borne out by the Gold Coast experience. The sacrifice of leisure for income as a result of the new vent-for-surplus labour has some application to cocoa production in the period, but the crucial dynamic element which explains the rapid spread of cocoa was the group of specialised entrepreneurial farmers whose migration into the forest belt to acquire and cultivate virgin land spread the knowledge of the new crop across the countryside (Hill 1963). This new activity created labour shortages and induced a different kind of migration from neighbouring territories to work the farms. The spread of the new farming had nothing to do with any government encouragement, though the plants had been developed at government and missionary research stations.

Modern mining came to the Gold Coast in the 1870s: traditional activities had been carried out for centuries. Since the literature normally stresses that heavy capital intensity and scale economies in mining required the introduction of foreign capital and skill, it is instructive to note Hopkins' view that in a number of cases, the "prominence of expatriate companies (could be more accurately explained) in terms of the need to confer rights to encourage prospecting . . . and the convenience of collecting royalties and taxes . . . " (Hopkins 1973). In Ghana, traditional diggers have worked under licence in competition with the expatriate firms and as late as 1960 accounted for half the value of diamond output (Killick 1966), although now this activity has been severely curtailed, if not stopped.

Both cocoa production and mining soon developed linkages with roadbuilding, railways and port construction. Government interest in such infrastructure to support cocoa came rather later than mining, and the farmers themselves developed a road network suitable for porterage and similar traditional methods of transportation of cocoa and continued to do so privately (Gordon 1974). By 1911, several hundred miles of roads had been built, converging on Accra.

By the end of the century a railway network linked the mines with the port at Sekondi and opened up the West to commercial activity. These developments set the pattern for transport and industrial location in the years to come. The colonial government's involvement in this infrastructural investment increased and strengthened the local administration, and the appurtenances of modern bureaucracy, including postal, telegraph and telephone services together with a clerical labour force were introduced.

But other direct productive linkages were not developed. Complex and technologically sophisticated mining equipment was imported and there were no forward linkages in cocoa processing. Consumer linkages were also directed mainly towards imports; at the same time the traditional manufacturing of consumer and investment goods was not threatened: although the output of this sector fell as a proportion of GDP, its absolute level was maintained. Only a small number of 'modern' industrial establishments were created—in timber processing, construction materials and repair firms—which again formed a basis for a limited amount of manufacturing activity in the future. But imported items were geared almost entirely to final demand, and imports of intermediate goods as inputs to locally-based manufacturing activities to meet the investment and consumption demands of a growing economy were virtually non-existent. The combination of

passive government and the interests of foreign capital and local entrepreneurs precluded the development of linkages that might induce industrialisation based on local manufacturing.

Between the first decade of the century and Independence in 1957, the only further major infrastructural developments are those associated with Governor Guggisberg in the 1920s. Guggisberg's conception of linkages went thus: "For Progress we must have Education. For Education of the right kind we must have bigger Revenue. To get bigger Revenue we must have bigger Trade, and to get bigger Trade, we must have more Agriculture, and far better systems of Transportation than at present exist." (Gold Coast 1920-21). Most of the Guggisberg expenditure went on transportation. More roads were built, the Accra-Kumasi railway was completed and a deep harbour at Sekondi-Takoradi was built (Hopkins 1973). Although the Governor's statement was forward-looking, these projects filled in gaps created by the neglect of the previous decade. As for agriculture, less than 2 per cent of funds were allocated to this sector, and Ghanaian agriculture is still frozen in the hoe-and-cutlass, short fallow system of the nineteenth century. Both linkage theory and government policy ignore the development of food production, and this chronic neglect is surely the major cause of contemporary Ghanaian crises.

It is clear that, in the longer term, the linkage effects from Ghana's staple export industries were not strong. An examination of the mining industry bears out most of the propositions that have been made about the enclave economy. Apart from infrastructural inducements, its linkage effects have been minimal. It is claimed that the nature of mining equipment precludes local manufacturing though some local indigenous repair and workshop activities have been set up in response to the industry. As far as consumption is concerned, the distribution of income between foreign capital and labour incomes, as well as that between foreign and African income, militate against strong linkage effects. Leakages in the form of profits and remitted savings out of salaries may well have amounted (and still amount) to over one third of the value of gross export earnings. In 1960, European expatriate salaries amounted to about 19 per cent of the total wage and salary bill, most of this being remitted home or spent on luxury imports.

There is more to say about cocoa linkages. The connection between cocoa production and transportation has already been mentioned. Additionally, cocoa farmers have invested intensively in lorries and trucking facilities which have provided inputs to other marketing activities. Gordon (1974) has reviewed the evidence in a recent article. She mentions three publicly owned industries, more recently established, which have direct production linkages with cocoa; they are processing, fibre bags and insecticides. However, between them, these employ little more than 2,000 persons and their net contribution to the economy is small. Gordon also sees a linkage between the cocoa farming community and the growth of mass education but, in common with other commentators, she does not consider that this academic training conforms to the needs of a developing country.

Turning now to public finance: Hirschman's proposition that the friendless enclave is more likely than the peasant sector to have stronger fiscal linkages is not confirmed. In 1960, the value of cocoa and mineral exports were 135 and 56 million New Cedis respectively. The proportion from the mining industry going to taxes of all kinds (including personal income taxes but excluding taxes on personal expenditure) was approximately 7 per cent compared with over 30 per cent paid by the cocoa industry. In terms of tax paid per person employed, the amount was roughly the same in each industry: about 80 New Cedis per head. Thus although, from this point of view, the fiscal linkages may be quite strong, they are, if anything, stronger for cocoa. However, as Hirschman emphasises, the fiscal linkage does not end with the gathering of taxes: it is strengthened by wise public spending. To the extent that colonial governments tended not to spend or that post-colonial governments tended to spend unwisely, the fiscal linkage is weakened. The parsimony of the former and the recklessness of the latter have been well documented (see Kraus 1971; Krassowski 1974).

Hirschman sums up the generalised linkage approach as "how one thing leads to another". If, as in Gold Coast/Ghana, things do not seem to lead on all the way—is some explanation necessary, or would this be treating 'development' as the norm rather than the exception? If, as economic historians, we look back at the activities of successive governments in the territory and understand that these may have hindered development through policies that favoured the interest of the imperial power rather than those of indigenous classes, can we then say that imperialism 'causes' underdevelopment?

Those who do are implicitly entering a counterfactual history of ludicrous proportions. We may know what enlightened policies we would have pursued had we been in charge, but we cannot know the nature of the State that would have been—its composition or the local interests that it would have represented. It is questionable whether a political unit the size of the Gold Coast would have been established and whether, for example, the extensive migration of cocoa farmers would have been permitted. To understand the imperial process is one thing; to pass moral judgement and lay blame on historical forces is quite another.

Through the regulation and control of markets, governments may make or break linkages which are perceived as technical possibilities, and political acts in the economic sphere are as much part of the economic system as the behaviour of other agents. But this is the missing link which is also the key to development science.

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