# Foreign Technology in the Growth of the Modern Manufacturing Sector in Ethiopia 1950–1970


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### Introduction

The integration of Ethiopia into the international economy is of recent origin. One aspect of this integration process has been the growth of a modern manufacturing sector on the basis of foreign controlled investments and technology. There appear to have been very few studies of this subject in Ethiopia[1] and, to the best of our knowledge, no study published hitherto has attempted to examine the nature, extent and consequences of the country's dependence on foreign capital and technology. In this paper we offer a quantitative analysis of these issues. The first section describes the main contours of Ethiopia's economic history; in section II we analyse those institutional characteristics of Ethiopia's underdevelopment which have been the framework for the import of technology in the manufacturing sector; section III looks at various dimensions of foreign control, i.e. in the final goods market, in equity holding and management, and in contractual arrangements governing lease or sale of technology; and section IV synthesises the chief components of the foreign exchange cost of technology to Ethiopia.

### I

Ethiopia is one of the least developed economies in the world. The great majority of its population is rural, surviving through subsistence agriculture and related home processing activities. At the end of the 1960s annual *per capita* income was about US $65 (only 4 countries reported lower figures)[2]. Modern manufacturing accounted for roughly 5 per cent of GDP, the literacy rate was estimated at some 5 per cent of total population, and the average life expectency at birth was only 39 years. These few indicators underline Ethiopia's contemporary state of underdevelopment but that condition derives from historical factors of an economic and strategic nature.

Almost all countries now regarded as developing had been absorbed into the international capitalist system by the last quarter of the nineteenth century through the mechanism of imperialism. Ethiopia remained, to an important extent, an exception to this rule. Though Italy had colonized Eritrea in 1896 and during the next 45 years built up a network of trade and small-scale production in the area, the process had little impact on the country as a whole. Eritrea constituted only a small part of Ethiopia and largely remained physically, politically and economically isolated from the rest of the Ethiopian Empire. Such relations as existed with world markets took the form of a division of labour according to which a few primary products (almost entirely coffee and animal skins) were exported from Ethiopia, and some manufactures were imported. The economic structure of the country till as late as the 1940s extended little beyond the requirements of administration and defence and the financial support of these essential functions.[3]

The scarcity of raw materials, the inaccessability of large parts of the territory, and the insignificance of the country either strategically or in maritime trade seem to have been among the principal factors which explain why colonial powers did not expand their interests. Apart from a brief period of Italian


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occupation (1936–1941), when there were some externally financed infrastructural investments and military expenditures, little attempt was made to absorb Ethiopia into the international capitalist system until the late 1940s.[4] When this integration did take place after the 1939–45 war, the principal reason, at least initially, appears to have been a non-economic one, namely, the growing strategic importance of Ethiopia to the United States. Over time, however, this geopolitical factor has had a direct and continuing economic effect.

Between 1946 and 1972 the total value of the inflow of military and non-military resources from the United States and from international organizations (mainly the World Bank Group) was approximately E$1.8 billion (US$715 million). Of this total, United States military aid, under the United States-Ethiopia military agreement of 1953, accounted for E$468 million (US$187 million). This figure was equal to nearly half of all military aid authorized by the United States to underdeveloped countries in Africa in that period. Obligations and loan authorizations by the United States Government totalled E$754 million (US$298.3 million) and loans by international organizations (mainly the World Bank Group) E$573 million (US$229.2 million).[5]

The foreign public loans (i.e. from governments and international institutions) up to 30 June 1970 were used for the following purposes: infrastructure 59.5 per cent; transportation 13.4 per cent; industry and mining 10.7 per cent; banking and financial institutions 9.9 per cent; agriculture 3.8 per cent; and miscellaneous purposes 2.7 per cent.[6] It seems, therefore, that the great majority of these loans have been used to develop the conditions for eommodity production rather than to stimulate such production directly. The infrastructure for commodity production was not the only sector for investment in Ethiopia, nor were foreign loans the only source of capital—but in both cases these elements were important ones in determining the pace and direction of economic growth.[7]

Over the period 1954 to 1969 the investments wrought significant changes in the Ethiopian economy. First, with regard to domestic output and employment, there was a 1.8 times increase in gross domestic product; more than a doubling of gross fixed capital formation; a six-fold rise in value added in the modern manufacturing sector; a 2.3 times rise in employment in that sector; and an increase of some 2.6 times in labour productivity in modern manufacturing. Second, a pronounced alteration of infrastructure occurred with a ten-fold increase in the use of electricity and petroleum, a 50 per cent rise in the volume of freight carried by the railway system, and a growing demand for semi-skilled and skilled labour reflected in a 3- to 4-fold expansion of enrolment in secondary and higher education. Third, the nature of international economic transactions affecting Ethiopia was transformed. On current account, the growing significance of modern manufacturing and investments in particular generated marked changes in the composition of imports. For instance, although imports as a proportion of GDP hardly changed at all between 1954 and 1969, imports of intermediate and capital goods expressed as a proportion of total imports increased from 45 per cent to 63 per cent. On capital account, whereas in 1954 the inflows of foreign long-term capital (public and private) and outflows for the service of the foreign debt payments were negligible, by 1969 these elements had become significant items in the balance of payments, e.g. public foreign debt payments as a proportion of exports rose from about 5½ per cent in 1954 to roughly 18 per cent in 1969.

Infrastructure investments creating the conditions for commodity production in the modern sector were complemented by the growth of urban demand, mainly for consumer goods. The rise in labour productivity in mechanized agriculture, coupled with the creation of employment opportunities in modern manufacturing, encouraged a migration from the countryside to the towns—the total population living in 165 municipalities grew from about 1.4 million in 1962 to 2.3 million in 1970.[8] The movement from countryside to town was not only from agriculture to industry; it was also from a subsistence sector to a monetized one. These conditions provided the foundation for the growth of an effective money demand directed towards the purchase of consumer goods, both agricultural and manufactured. The urban demand, therefore, acted as a stimulus to the supply of consumer goods and

thereby to the process of import substitution.

TABLE 1

THE PATTERN OF IMPORT SUBSTITUTION IN MANUFACTURING IN ETHIOPIA

| Industry | Total domestic supply[a] | | Imports including taxes on imports | | Share of imports in domestic supply | |
|---|---|---|---|---|---|---|
| | 1954[b] | 1970 | 1954[c] | 1970 | 1954 | 1970 |
| | *Ethiopia $ million* | | | | *Per cent* | |
| I. *Consumer goods* | | | | | | |
| Meat products | ... | 8.5 | ... | 1.5 | ... | 17 |
| Sugar and confectionery | 8.2 | 54.1 | 7.1 | 2.9 | 86 | 5 |
| Soft drinks | 1.1 | 12.8 | 0.2 | 1.2 | 18 | 9 |
| Alcoholic drinks | 4.1 | 60.4 | 1.2 | 11.6 | 29 | 19 |
| Flour milling | 5.4 | 42.7[d] | — | 9.0 | 0 | 20 |
| Manufactured food products n e s – | ... | 11.5 | ... | 2.2 | ... | 75 |
| Tobacco | 2.5 | 22.3 | 0.6 | 4.1 | 24 | 18 |
| Textiles[e] | 64.1 | 203.7 | 54.0 | 66.8 | 84 | 32 |
| Leather footwear | 3.4 | 10.5 | 1.9 | 1.5 | 55 | 14 |
| Printing and publishing | 1.7 | 12.4 | 0.6 | 3.1 | 35 | 25 |
| Dairy products | ... | 12.4 | ... | 6.5 | ... | 52 |
| Paints, varnishes, plastics, soap products, etc. | ... | 29.5 | | 18.8 | | 63 |
| Pharmaceuticals | 2.5 | 24.7 | 2.5 | 21.1 | 100 | 87 |
| Wood and furniture | ... | 5.3 | ... | 2.4 | ... | 44 |
| Others | ... | 2.3[f] | ... | 2.3 | ... | 100 |
| Total above | (93.0) | 513.0 | (68.1) | 155.1 | (73) | 30 |
| II. *Intermediate goods* | | | | | | |
| Leather tanning and finishing | ... | 10.9 | ... | 1.9 | ... | 23 |
| Sawmill and woodwork | 2.4 | 13.0 | 0.9 | 1.5 | 37 | 11 |
| Petroleum products | 14.6 | 38.4 | 14.6 | 17.8 | 100 | 46 |
| Glass products | ... | 7.2 | ... | 3.0 | ... | 42 |
| Basic industrial chemicals, fertilizers, synthetic resins and plastics | ... | 30.4 | ... | 28.7 | ... | 94 |
| Others | 7.7 | 81.5[g] | 2.5 | 37.4 | 32 | 44 |
| Total above | (24.7) | 181.4 | (18.0) | 90.3 | (72) | 50 |
| III. *Capital goods* | | | | | | |
| Cement and lime | 1.3 | 15.0 | 0.3 | 0.2 | 23 | 1 |
| Structural clay products | 0.2 | 3.3 | — | 0.6 | 0 | 18 |
| Other non-metallic minerals | ... | 5.2 | ... | 1.4 | ... | 26 |
| Iron and steel products | ... | 61.0 | ... | 32.6 | ... | 53 |
| Metal products | ... | 31.8[h] | ... | 30.0 | ... | 94 |
| Tyres, tubes and rubber products | ... | 22.9 | ... | 19.5 | ... | 85 |
| Electrical and non-electrical machinery | ... | 110.8 | ... | 110.5 | ... | 99 |
| Transport equipment | ... | 70.9 | ... | 70.9 | ... | 100 |
| Others | ... | 8.7 | ... | 8.7 | ... | 100 |
| Total above | (1.5) | 329.6 | (0.3) | 274.4 | (...) | 83 |
| I–III GRAND TOTAL | (119.2) | 1,024.0 | (86.4) | 519.8 | (72) | 50 |

*Sources:* Figures for 1954 obtained or estimated from Central Statistical Office, *Statistical Abstracts* Addis Ababa; *Economic Progress of Ethiopia* and company records. Figures for 1970 from Stephen Guisinger, 'Tariffs and Trade Policies in Ethiopian Manufacturing', August 1972 (mimeograph), Ministry of Commerce, Industry and Tourism, Table 1, page 48.

[a] Total domestic supply is equal to gross value of production plus imports including taxes minus exports.
[b] 1954 figures include gross value of production and imports only. Data do not cover Eritrea.
[c] Figures do not include taxes on imports.
[d] Includes flour milling and bakery.
[e] Includes spinning, weaving and finishing of textiles; knitting; wearing apparel and other textile goods.
[f] Includes pottery, china and earthenware.
[g] Includes paper and paper products; animal and vegetable oils and fats; made-up textile bags, cordage, rope and twine; animal food; fibre for spinning; wooden and cane containers; miscellaneous petroleum and coal products; and non-ferrous based metal products.
[h] Includes structural and fabricated metal products and cutlery, tools and hardware.

Table 1 summarizes the changes from 1954 to 1970 in imports as a proportion of total domestic supply in individual industries in the consumer, intermediate and capital goods sectors. Though the figures should be regarded as broad orders of magnitude only, they do indicate that by 1970 substantial import substitution had occurred in the consumer goods sector where imports fell from 73 per cent to 30 per cent of total domestic supply over the period. In the case of intermediate goods the proportion fell from 72 per cent to 50 per cent, while capital goods imports still accounted for 83 per cent of total supply.

Import substitution in modern manufacturing depended on the application of technology new to Ethiopia and that technology was obtained from abroad. The dependence on foreign supplies was most striking in the machinery and transport equipment sector where, in the period 1966–69, imports accounted for 91 per cent of total investment. The imports of technology in the form of know-how mainly came under the rubric of technical assistance. Between 1964/1965 and 1968/1969 total technical assistance to Ethiopia amounted to E$421 million, that is to say to 56 per cent of the value of imported capital goods over the same period. To this should be added payments for foreign personnel made in the agricultural and industrial sectors, both as salaries and management fees. These averaged E$20 million per annum in 1970 and 1971.

Thus it was not merely technology but foreign technology which led to improvements in productivity, both in the modern manufacturing and mechanized agricultural sectors, and to a transformation of the Ethiopian economy. Yet the process of economic transformation could not be ascribed to mere technical factors. Changes in productivity take place within and react upon a system of socio-economic relations. The importance of the system of social relations was that it determined how increases in productivity were distributed between foreign[9] and Ethiopian[10] economic agents; the proportion of those increases which was invested in Ethiopia and the proportion which was directly or indirectly transferred abroad; and the ways in which, through factor prices and the terms and conditions of technology contracts, the factors of production, both Ethiopian and foreign, were combined. In Ethiopia these issues took on a special character as they arose in a 'least developed' economy whose transformation was dominated by foreign technology controlled by foreign capital. The next section of this paper examines the institutional cum policy framework in which this transfer of technology took place, thus providing the setting for the subsequent analysis of the character and dimensions of foreign control.

## II

The preconditions for the establishment and growth of commodity production do not refer to material imports alone. An infrastructure of an institutional kind is an essential element in determining the nature and extent of the modern sector in a poor economy. Ethiopia's condition as a least developed country has influenced strongly both policy formulation and the kind of legislation introduced. However, before discussing specific areas of legislation, three points of general applicability must be mentioned. First, the concept of policy in Ethiopia differed somewhat from the way in which it is generally understood. For instance, there was no consistent formal set of rules with regard to the imposition of tariff duties on imports; the duties actually charged were the result of bargaining on an *ad hoc* basis, case by case. Similarly, in the field of industrial property there was no specific legislation, and individual patents or trade-marks were simply registered. Second, legislation affecting transfer of technology took the form, by and large, of describing the broad contours of policy but did not reach a stage of prescribing detailed provisions for the implementation of such policy. Third, there were a number of areas of economic policy which remained outside the scope of legislation and institutional development. One example was the provision of procedures and institutions which might have encouraged the growth of a national technological capability. Another example was the absence of provisions for increasing the supply of scarce indigenous factors of production (e.g. entrepreneurship and capital). The implicit

emphasis of legislation in Ethiopia was on the creation of conditions for the import of foreign technology, capital and skills.

Four areas of government policy were particularly relevant in determining the possibilities for the transfer of technology and the size and distribution of returns generated by the process. These are described in the following sub-sections.

*A. Foreign Investment*

Investment legislation was the principal policy instrument employed by the government to encourage the import of capital and technology. The first investment law was the Notice of 1950, which came into force about 7 years ahead of the First Five-Year Development Plan (1957–1962). At the time when the 'Notice of 1950 for the Encouragement of Foreign Capital Investment' was issued, Ethiopia had only the rudiments of industrialization.[11] A consistent industrial policy had yet to evolve (it was not until the early 1960s that the policy of import-substituting industrialization was adopted), and there was little indigenous capitalism in industry, and little foreign investment of the type associated with modern transnational firms. In 1950, the main group that owned and operated industry consisted of members of expatriate communities resident in Ethiopia. Given this ownership structure, three sets of choices were open at the time: to encourage the development of domestic manufacturing enterprises, leading to the absorption of foreign technology mainly through licensing arrangements; to promote the transfer of capital and technology through direct foreign investment; or to provide for both the encouragement of domestic enterprises and foreign investment. Of the three options, it was the second which seems to have prevailed.

The central purpose of the Notice was to encourage the absorption of capital and technology through foreign investment. It was designed exclusively for the benefit of foreign investors, to whom it accorded special facilities and incentives in the form of exemptions from profits tax for five years, guarantees regarding the remittance of a fixed proportion of earned profits, and duty-free importation of necessary machinery. Moreover, foreign technology suppliers were given complete freedom with respect to the acquisition of equity holdings in firms, and where local participation was considered necessary it was understood that such participation in equity and management would in most instances take the form of only a minority interest.[12] Though the Notice provided incentives and guarantees for foreign investors, similar incentives were not available either to existing or potential domestic investors, and the situation remained unchanged until the enactment, thirteen years later, of the Investment Decree of 1963.

The Investment Decree of 1963 was issued against the background of the Second Development Plan. That Plan, unlike its predecessor,[13] gave a high priority to the expansion and diversification of the country's industrial base, and its long-term objectives were clearly technological in content. They were: (i) to change the structure of the economy from a predominantly agricultural to an agro-industrial one; (ii) to change the pattern of production by introducing new processes and methods; and (iii) to increase the production capacity of the economy with a view to diversifying production and increasing the rate of growth.

This approach called for a much closer alignment between development planning and legislation. Accordingly, the 1963 law: first, consolidated under one heading all the relevant earlier legislative instruments dealing with investments, importation of machinery and capital equipment and foreign exchange and fiscal regulations; second, created a formal institutional machinery which had hitherto been lacking; and third, for the first time extended the system of incentives to cover both domestic and foreign investment.

In a formal sense the 1963 Investment Decree, which in 1966 was transformed into a Proclamation, represented an improvement over the situation in the 1950s. However, there was little evidence of any shift in the basic premise underlying government policy. It still did not prescribe any explicit measures for encouraging domestic investment or entrepreneurship, nor did it incorporate any obligations to be

fulfilled by foreign technology suppliers. Its object was simply to offer incentives and guarantees.

Foreign exchange guarantees provided under the law covered three main subjects. First, investors were given freedom to remit abroad all of their share of profits, dividends, interest repayments, management fees and royalties. Second, they were entitled to repatriate the net proceeds belonging to them upon the partial or total sale or liquidation of their investment. Third, foreign personnel employed in Ethiopia were allowed to remit 35 per cent of their earnings per annum for the first six years, although in subsequent years this ratio was progressively diminished. The liberal nature of these guarantees was underlined by the fact that no restrictions, apart from an upper limit on remittances of earnings of expatriates, were prescribed in the law.

The only other condition (rather than a limitation) laid down was that the amount of profits or dividends that could be repatriated abroad in any one year could not exceed the foreign share in equity—this limit appears to have been formal rather than effective. The fact that foreign technology suppliers were able to determine the extent of equity participation implied their freedom to influence their share of profits and, hence, the size of their remittances.[14] Moreover, even when constraints were placed on profit remittances, a wide range of possibilities still existed for transferring funds through other means, such as interest repayments, management fees and royalties (none of which were subject to legal limits) and transfer pricing.

In addition, a variety of fiscal incentives were introduced to encourage the inflow of foreign technology. For instance, corporate tax rates in Ethiopia were kept lower than in other African countries, capital gains were exempt from tax and imports of technology (machinery and spare parts) were admitted duty free. Furthermore, new investments were offered extra incentives in the form of tax relief provided that the amount invested was not less than E$200 000. While this provision was meant to apply to both domestic and foreign investment, it in fact seems to have by-passed many of the domestic investors most of whom were small or very small in size. In contrast, most of the foreign sector investments by virtue of their size appear to have been the principal beneficiaries of these incentives. The granting of tax relief took little account of the 'infant' nature of local firms using Ethiopian capital, management and labour.[15]

*B. Tariff Protection*

Tariff protection was another form of fiscal incentive. Since the early nineteenth century, a tariff policy has been regarded as providing, at one and the same time, protection to domestic producers through raising the domestic price of protected products in relation to the foreign price, and an incentive to encourage foreign exporters of these products to locate their productive facilities inside the country. In the Ethiopian case this view of tariffs was hardly applicable. First, tariffs did little to encourage or protect domestically-owned enterprises since, as explained in a later section, even as late as 1970 very few of them had been set up in modern manufacturing. Second, the notion of tariffs acting as an incentive to foreign investment assumes that the foreign investor faces a predetermined tariff structure. Such a notion was alien to the Ethiopian situation where foreign enterprises were, in fact, instrumental in determining the structure itself through bargaining over the terms and conditions on which they could establish production facilities.

Available evidence suggests that the initial demand for tariff protection usually came from the technology suppliers (or investors) before any investment had been undertaken. In fact, tariff guarantees constituted an integral part of the majority of agreements involving direct foreign investment; in some cases the investment and the technology transfer were made conditional upon such guarantees. Moreover, in the determination of tariff rates the government tended to rely heavily on data provided by the foreign firm itself, which was thus in an advantageous position to influence the outcome.

An analysis[16] of the tariff structure in Ethiopia indicated that, while there were wide variations from one specific case to another, nominal tariff rates—on average 70 per cent—were the highest on consumer

non-durables; and semi-finished goods paid a moderate rate of 21 per cent, while capital goods were taxed at only 7 per cent. Nominal tariffs, however, do not accurately measure the protection afforded by the tariff structure to the value added of individual firms; to analyse the latter, estimates of effective rates of protection are needed. Calculations have been made for 17 products, of which 11 were found to be receiving effective protection ranging from 100 per cent to a little over 500 per cent. Furthermore, there appeared to be a strong correlation between high effective protection and the distribution of foreign investment according to product group. These results, as well as the procedure for granting protection described earlier, suggest that individual foreign firms wishing to invest in Ethiopia successfully negotiated special tariff privileges for their particular investments.

### *C. Employment of Foreign Personnel*

In the 1950s, nearly all key positions in industry were held by expatriates.[17] The situation does not appear to have changed much over the years. A recent ILO study[18] indicated that the number of foreign personnel employed in both the public and private sectors around 1970/71 totalled 10 000. Of these, nearly half were in the private sector. Although the number of work permits issued to foreign employees in the latter sector fell from about 7000 in 1968/69 to about 5000 in 1970/71, i.e. a decline of approximately 25 per cent, this decrease was almost entirely concentrated in the unskilled categories.

Nearly half of those holding key positions in firms had only secondary or vocational education; their skills were essentially acquired through 'on the job' training and were easily transmissible to local personnel. Of the total of foreign employees 2 per cent were 'illiterate' and 15 per cent had only primary education. Additional evidence obtained on the basis of replies to a questionnaire and survey data further suggested that in most of the foreign-owned firms over 50 per cent of skilled occupations were monopolized by headquarters personnel. In the largest single firm in Ethiopian manufacturing—a subsidiary of a foreign firm—75 per cent of the professional staff in 1965 were foreign and only after considerable pressure from the government was this ratio reduced to about 60 per cent. In fact, these ratios over-estimate Ethiopian participation, since evidence suggested that Ethiopians were usually given a lesser role in decision making than was indicated by their formal positions in the firms' hierarchy. In contrast, wholly Ethiopian-owned firms were found to employ only a very small number of foreign personnel in skilled occupations.

Both the law and the institution concerned with the regulation of foreign employment were highly inadequate and largely ineffective. The main legislative instrument for the encouragement of private investment and transfer of technology, i.e. the Investment Proclamation of 1966, did not concern itself with the employment of foreign nationals.[19] The principal regulatory instrument was the Foreign Nationals Employment Regulation issued in 1964 which merely prescribed general criteria for the employment of foreign personnel. The provisions in the law relating to the employment of Ethiopian counterpart staff were conditional rather than compulsory. Employers were required to train Ethiopian counterpart staff if this was considered necessary, and even then it was difficult to determine whether such 'on the job' training was in fact being provided; the rate of turnover of dissatisfied Ethiopian staff is known to have been high.[20]

### *D. Industrial Property*

The returns derived from the transfer of technology and the distribution of those returns among the various parties affected were also influenced by the extent and nature of the protection which technology owners could obtain in Ethiopia for the industrial property they possessed. When, in 1960, the Commercial Code of Ethiopia was enacted, it was stipulated that 'patents shall be subject to the protection of special laws'. Although Ethiopia had not enacted a formal patent law, it operated a system of registration. Under this system monopoly protection was granted to patents and trademarks once they had

been registered; this protection had the same legal validity as that which is normally accorded to industrial property rights under formal industrial property legislation. Most of the beneficiaries of the system were foreign. Available evidence on 29 patents registered in Ethiopia indicates that no fewer than 26 of these were foreign owned. Similarly, 97 per cent of a sample of 760 trademarks were foreign owned.[21]

## III

This section focuses on the three critical dimensions of foreign control in the modern manufacturing sector, namely direct foreign investment (not merely in total but also with reference to the sectors where it operates and the extent of 'leverage' within individual firms), contractual arrangements for the lease of technology, and the oft neglected yet basic dimension of concentration and power in the final goods market. An adequate perspective can be obtained only by considering the total impact of these three factors; their overall effect will be discussed in section IV of the paper.

### *A. Foreign Direct Investment*

Inflows were fairly small during the 1950s, but with the rapid establishment of import substituting industries from about 1960 to 1966 gross inflows reached 69 per cent of gross fixed capital formation in mining and manufacturing. These figures for gross direct foreign investment in Ethiopia did not reflect, of course, the actual net transfer of foreign resources, including capital and technology. There are three reasons why this was so. First, a proportion of the reported figure for gross direct foreign investment consisted of reinvested earnings, and these simply represented foreign claims on investible surplus generated within Ethiopia rather than any transfer of real resources from abroad. Second, a proportion of the reported figure was accounted for by the capitalized value of equipment and know-how supplied from abroad. The reported value of these productive factors often bears but a tenuous relationship with their true value because of the possibility of over-invoicing. Third, the figures show gross inflows, i.e. they do not allow for the outflow of resources from Ethiopia through remittances, both direct and indirect.

The annual flows of reported foreign investment during the period 1950–1969 in part gave rise, in each year, to foreign claims on the ownership of equity in manufacturing industries in Ethiopia. By the year 1969/70 the stock of paid-up capital in the manufacturing sector amounted to E$323 million. Of this the most important single element was the foreign holding, which accounted for 43 per cent of the total, followed by an Ethiopian Government holding of 38 per cent. Moreover, the figures for foreign equity holding underestimated the effective foreign share in equity since in certain cases equity holding classified as 'Ethiopian private' in fact represented holding by foreign-controlled firms registered in Ethiopia and treated for statistical purposes as 'Ethiopian private.'

The aggregate figures for foreign equity ownership in the manufacturing sector are only a partial indicator of the true extent of foreign control. A proper assessment requires, as a minimum, consideration of the number of sectors where foreign equity was dominant, the character of the industries in which foreign equity holding predominated (i.e. whether these sectors tend to be 'traditional' or 'modern'), the extent of foreign equity holding at the individual firm level ('majority' or 'minority'), and the degree of diversity in the origin, both by foreign country and foreign firms, of capital and technology. The relevant information on the first two of these points is given in Table 2—the third and fourth points are examined later.

Table 2 shows that foreign equity holding had a dominant position (i.e. more than 50 per cent equity holding) in as many as 23 of the 34 branches. In fact, in ten manufacturing branches the foreign participation accounted for as much as 80–100 per cent; in nine it was between 60 and 79 per cent; and

TABLE 2

**DISTRIBUTION OF FOREIGN AND ETHIOPIAN CAPITAL BY MANUFACTURING BRANCH, 1969/1970**

| | Manufacturing branch | No. of establish-ments | Value of paid-up capital | | | | | Foreign share in paid-up capital |
|---|---|---|---|---|---|---|---|---|
| | | | Ethiopian | | | Foreign | Total | |
| | | | Private (1) | Public (2) | Sub-Total (3) | (4) | (5) | (4) ÷ (5) (6) |
| | | | E $ thousand | | | | | *Per cent* |
| | *Fabricated metal products* | | | | | | | |
| 1 | Electrical machinery | 2 | — | — | — | 700 | 700 | 100 |
| 2 | Structural metal products | 4 | 35 | — | 35 | 720 | 755 | 96 |
| 3 | Fabricated metal products | 3 | 211 | — | 211 | 2,930 | 3,141 | 93 |
| 4 | Cutlery, hand tools, etc | 4 | 660 | — | 660 | 1,430 | 2,090 | 68 |
| 5 | *Basic metal industries* | 3 | 1,173 | 419 | 2,150 | 4,450 | 6,600 | 67 |
| | *Leather and shoe* | | | | | | | |
| 6 | Tanneries and leather | 7 | 160 | — | 160 | 2,240 | 2,400 | 93 |
| 7 | Footwear | 6 | 595 | — | 595 | 2,352 | 2,947 | 80 |
| | *Wood products* | | | | | | | |
| 8 | Sawmills, etc. | 18 | 1,897 | — | 1,897 | 1,968 | 3,864 | 51 |
| 9 | Furniture and fixtures | 7 | 89 | — | 89 | 1,388 | 1,477 | 94 |
| | *Textiles* | | | | | | | |
| 10 | Knitting mills | 11 | 1,112 | — | 1,112 | 3,737 | 4,848 | 77 |
| 11 | Finished textile goods | 3 | 1,319 | — | 1,319 | 3,231 | 4,550 | 71 |
| 12 | Wearing apparel | 4 | 520 | — | 520 | 1,021 | 1,541 | 66 |
| 13 | Spinning and weaving textiles | 15 | 10,807 | 18,134 | 28,941 | 37,658 | 66,600 | 57 |
| | *Food products* | | | | | | | |
| 14 | Dairy products | 2 | 162 | — | 162 | 2,105 | 2,266 | 93 |
| 15 | Miscellaneous food products | 4 | 806 | — | 806 | 7,958 | 8,764 | 91 |
| 16 | Sugar processing | 4 | 11,905 | 7,269 | 19,174 | 30,368 | 49,542 | 61 |
| 17 | Meat canning | 13 | 1,450 | 1,000 | 2,450 | 3,377 | 5,827 | 58 |
| 18 | Vegetable and animal oils | 19 | 2,144 | — | 2,144 | 2,014 | 4,158 | 48 |
| 19 | Grain milling and bakery | 30 | 5,506 | 200 | 5,706 | 3,136 | 8,842 | 35 |
| | *Chemicals* | | | | | | | |
| 20 | Plastic products | 6 | 362 | — | 362 | 2,628 | 2,990 | 88 |
| 21 | Paints and varnishes | 3 | 382 | — | 382 | 568 | 950 | 60 |
| 22 | Soaps, cosmetics, perfumes | 4 | 749 | — | 749 | 1,301 | 2,050 | 63 |
| 23 | Other chemical products | 2 | — | 450 | 450 | 650 | 1,100 | 59 |
| 24 | Pharmaceuticals | 1 | — | ... | ... | ... | ... | 49 |
| 25 | Basic industrial chemicals | 4 | 570 | — | 570 | 505 | 1,075 | 47 |
| 26 | Rubber products | 5 | 343 | 3,957 | 4,300 | 615 | 4,915 | 13 |
| 27 | Petroleum refining | 1 | — | 54,642 | 54,642 | — | 54,642 | — |
| | *Non-metallic products* | | | | | | | |
| 28 | Glass and glass products | 4 | 300 | — | 300 | 2,700 | 3,001 | 90 |
| 29 | Structure, clay products | 6 | 382 | — | 382 | 738 | 1,120 | 66 |
| 30 | Cement lime and plastic | 7 | 2,560 | 14,100 | 16,600 | 5,142 | 21,802 | 24 |
| 31 | Other non-metallic products | 11 | 589 | 4,943 | 5,532 | 1,976 | 7,507 | 26 |
| 32 | *Beverage* | 28 | 9,546 | 5,445 | 14,991 | 4,505 | 19,497 | 23 |
| 33 | *Printing and paper products* | 20 | 2,980 | 9,603 | 12,582 | 4,183 | 16,776 | 25 |
| 34 | *Tobacco* | 2 | — | 4,311 | 4,311 | — | 4,311 | — |
| | Total manufacturing | 263 | 59,872 | 124,473 | 184,345 | 138,293 | 322,639 | 43 |

*Source: Annual Survey of Manufacturing Industry for 1969/70*, Ministry of Commerce, Industry and Tourism.

in four it ranged between 50 and 59 per cent. With regard to the second of the characteristics of foreign control mentioned above the table indicates that foreign capital and technology seemed to have concentrated mainly in modern manufacturing, particularly in those branches which were among the more dynamic and technology-intensive in the sector, e.g. fabricated metal products; basic metal industries; textiles (the largest single branch in manufacturing in Ethiopia); food products; and several branches of the chemicals industry. By contrast the majority of branches where Ethiopian capital was dominant were among the more 'traditional' ones in the sector. At least six of the eleven branches were of this kind—tobacco, beverages, paper products, printing, cement, and grain milling. Of the remaining five

which corresponded to 'modern' manufacturing, Ethiopians had a marginal majority in three and a significant majority in only two branches.

Since negotiations and bargaining about foreign technology were conducted at the level of individual firms, it is essential to examine the structure of ownership of these firms, determined through bargaining with the Ethiopian government or with Ethiopian entrepreneurs. The significance of analysis at the firm level is especially pronounced in the Ethiopian context because the manufacturing sector was dominated by rather a small number of firms. In fact, there were only 37 firms in the sector which, in 1969/70, recorded value added of E$1 million or more. About 14 other firms either were subsidiaries of foreign firms or had contractual arrangements with such firms. These 51 firms constituted the 'hard core' of manufacturing in Ethiopia and, as shown in Table 3, they alone, although constituting only 11 per cent of the total number of firms in the sector, accounted for 80 per cent of paid-up capital, over 76 per cent of value added and 69 per cent of employment in the sector as a whole. Consequently, it was the ownership structure of these few firms that was of critical importance for the evaluation of foreign control.[22]

TABLE 3

**OWNERSHIP PATTERN OF A SAMPLE OF 51 MAJOR FIRMS IN THE MANUFACTURING SECTOR 1969/1970**

| Forms of Ownership | No. of firms | Paid-up[a] capital | Value added | Employment | Per cent share: Paid-up capital | Per cent share: Value added | Per cent share: Employment |
|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| | | *E $ million* | | No. '000 | | *Per cent* | |
| A. 51 per cent and over foreign: | *29* | *122.7*[b] | *97.3*[c] | *18.1* | *38* | *41* | *37* |
| B. 50 per cent foreign | *4* | *36.3* | *32.7* | *7.4* | *11* | *14* | *14* |
| C. Minority foreign | *5* | *3.9*[d] | *2.7*[e] | *1.1* | *1* | *2* | *2* |
| D. Wholly Ethiopian | *10* | *97.0* | *33.8* | *5.9* | *30* | *15* | *12* |
| Private | 2 | 2.3 | 3.0 | 0.5 | 1 | 2 | 2 |
| Public | 8 | 94.7 | 30.8 | 5.4 | 29 | 13 | 10 |
| E. Unspecified | *3* | ... | *11.2* | *1.0* | ... | *5* | *2* |
| Sample total | 51 | 259.9 | 177.7 | 33.6 | 80 | 76 | 69 |
| Total manufacturing sector | 479[f] | 322.6[g] | 254.9 | 49.4 | 100 | 100 | 100 |

*Source:* *Annual Survey of Manufacturing Industry 1969/70*, Ministry of Commerce, Industry and Tourism.

[a] This refers to the total of both foreign and Ethiopian capital.
[b] Data on three firms not available.
[c] Data on eight firms not available.
[d] Data on one firm not available.
[e] Data on two firms not available.
[f] Refers to number of establishments.
[g] Refers to paid-up capital in 263 establishments.

The characteristics of ownership of the 51 major firms may be summarized as follows. First, in 29 firms foreigners had an outright majority of the equity (i.e. 51 per cent or more), in another four they had 50 per cent, and in five firms foreign participation was below 50 per cent. Even in those cases where foreign equity holding was less than 50 per cent, there may still have been effective control by foreigners because foreign equity represented a single block vote and such shareholding was always combined with management contracts. In brief, 38 of the 51 major firms in manufacturing in Ethiopia were either foreign-owned or foreign-managed, or both; these firms, moreover, accounted for 75 per cent of the value added by the sample firms and for 57 per cent of the value added in the whole of manufacturing in Ethiopia. Second, only ten of the 51 firms were wholly Ethiopian and of these eight were in the public sector. In view of the particular manufacturing branches in which they operated these

firms had substantially lower ratios of value added to paid-up capital than firms with foreign participation. When these Ethiopian firms were weighted in terms of their share in paid-up capital they accounted for 30 per cent, although their share in value added was only 15 per cent. Thus, measures of foreign control based on paid-up capital alone tended to exaggerate the importance of wholly Ethiopian enterprises in modern manufacturing.

The analysis suggests that the manufacturing sector in Ethiopia displayed some of the characteristics of an enclave within the Ethiopian economy as a whole.[23] To begin with, foreign ownership of technology and management led to foreign-controlled firms securing a dominant position in the sector. Domestic enterprises were thus confined to a relatively minor role and their growth, both in terms of numbers of firms and share of output, was accordingly inhibited. Not only was the relationship between the foreign enclave and the remainder of the sector marked by the characteristics described, but the enclave itself had some significant features which are discussed in the following paragraphs.

In Ethiopia both the structure of demand, which was biased towards relatively simpler goods, and the size of demand, which was not sufficient to support large-scale production, together determined the types of technology that were transferred. Such technology was already widely dispersed in the world economy before its introduction into Ethiopia and, being of an older vintage, tended to be non-proprietary and easily transmissible. Due to these characteristics, the technology and managerial skills could be obtained from a wide variety of sources.

TABLE 4

**OWNERSHIP OF EQUITY, BY ORIGIN OF EQUITY HOLDER, IN A SAMPLE OF FIRMS, 1969/1970**

| Origin of equity holder | Per cent of equity holding | | Total | Value Added | Per cent share in value added |
|---|---|---|---|---|---|
| | 51% or over (1) | 50% or less (2) | (3) | (4) | (5) |
| | *Number of firms* | | | *E $ '000* | *Per cent* |
| United States | 2 | — | 2 | | |
| United Kingdom | 2 | — | 2 | 2 054 | 2 |
| Netherlands | 2 | — | 2 | 37 406[a] | 28 |
| French | 2 | — | 2 | 4 625 | 3 |
| Scandinavian | 2 | — | 2 | 564 | |
| Israeli | 1 | 1 | 2 | 755[a] | 1 |
| Japanese | 1 | 3 | 4 | 25 515[a] | 19 |
| Indian (Asian-African) | 2 | 2 | 4 | 11 996[b] | 9 |
| Italian | 8[c] | 3[d] | 11 | 36 823 | 28 |
| Greek | 2[d] | — | 2 | 4 408 | 3 |
| Lebanese | 2[e] | — | 2 | 1 040 | 1 |
| Mixed | 3 | — | 3 | 8 226 | 6 |
| Sample total | 29 | 9 | 38 | 133 412 | 100 |

*Source:* Replies to questionnaire and data obtained from the *Annual Survey of Manufacturing Industry 1969/70*, Ministry of Commerce, Industry and Tourism.

*Notes:* (a) data for one firm not available.
(b) data for two firms not available.
(c) at least five firms include equity-holding by indigenous expatriates.
(d) all owned by indigenous expatriates.
(e) one firm owned by indigenous expatriate.

Table 4 shows the diversity of the countries of origin of those firms which supplied capital, technology and management, or through which these elements were transmitted. In all, 11 sources of technology and management can be identified. However, of these only 4 (Netherlands, Japanese, Indian and Italian) together accounted for 84 per cent of the sample value added. Thus those industrial countries

which are usually found to be major suppliers of capital and technology in other developing countries, i.e. United States, United Kingdom, France, the Federal Republic of Germany and Switzerland, played at most only a minor role in the transfer of technology to Ethiopia through foreign investment. The 38 foreign-controlled firms mentioned in the table were not all subsidiaries or affiliates of foreign corporations with headquarters abroad. At least 11 of the 38 were owned and managed by expatriates resident in Ethiopia, i.e. Italians, Greeks, and Lebanese. Such firms differed from foreign subsidiaries in that management decisions were taken in Ethiopia, only a small proportion of their operation was outside Ethiopia, and the surplus generated by their operations tended to be reinvested in Ethiopia.

There appear to be some clear patterns in the kinds of production in which the firms from various countries concentrated their activities and in the importance of majority ownership of equity for each of these firms. First, the firms from the industrialized countries (excluding Italy and Japan) tended to concentrate in primary processing rather than import-substituting activities, and in all cases these firms had majority foreign control. Second, the firms from India, Israel, Italy (excluding expatriate-owned firms) and Japan tended to concentrate on import-substituting activities, especially textiles. In contrast to the firms in the preceding group, these firms were not all predominantly foreign owned, e.g. in 6 of the 10 firms in the sample which were of Israeli, Japanese and Indian origin the foreign equity holding was 50 per cent or less. Third, so far as expatriate-owned firms were concerned, their principal activities were in textiles, primary processing and chemicals, and in most cases indigenous expatriates retained the majority interest.

### *B. Contractual Arrangements for the Transfer of Technology*

There were two reasons why a considerable proportion of technology imports in Ethiopia was associated with foreign investment: first, there were few domestic firms in a position to negotiate suitable terms and conditions for utilizing foreign technology under licence; and second, technology suppliers acquired equity holdings as a complement to (and sometimes a substitute for) other forms of control excercised directly or indirectly through contractual arrangements. At the same time, and contrary to observations concerning other developing countries,[24] licensing contracts for the lease of patented know-how have been of relatively little significance.

(i) *Management Contracts* The dominant type of arrangement was the management contract. Thus, of the 51 major firms in Ethiopian manufacturing, 28 had contractual links of one sort or another with their parent company or other enterprises located abroad and of these 18 had management contracts. Moreover, the Ethiopian case differed from that of countries hitherto studied in regard to the transfer of technology in that only a few firms from the 'well-known' countries of origin, i.e. USA, UK, Federal Germany, France and Switzerland, entered into management agreements—in Ethiopia the principal sources were India and Japan.

The considerations influencing the decisions of a management contractor tend to differ significantly from those influencing a licensor in two respects. First, by its very nature, the work of the management contractor involves him in the day-to-day decisions of the firm in which his services are being used. Secondly, in general, the management contractor exercises control over a wider spectrum of decisions taken at the firm level.

The terms and conditions found in 20 management contracts were examined, and showed two main features. First, the large number of clauses connected with the human skill factor in production, i.e. clauses concerned with the degree of control exercised by management, clauses giving the management contractor the right to appoint the managing director, clauses affecting the employment of technical and professional staff, and clauses regarding training. Within the clauses concerning control areas in management, conditions affecting control of overall management were the most prevalent, occurring in 17 of the 20 contracts. Second, the tie-in clauses in these contracts referred mainly to tied

purchases of intermediate inputs, particularly of machinery. Explicit tie-in clauses regarding the purchase of intermediate inputs seem to have occurred mainly in contracts involving Japanese firms.

Many of the management contractors in Ethiopia appear to have maintained their initial bargaining advantages through contracts of long duration. Of the 12 contracts on which information was available, only one contract was for three years; in contrast, nine were for ten years or more. In fact, in two cases contractors who had entered into long contracts in the first place negotiated their contracts before the terminal date for further long periods to perpetuate their control over management decisions in exchange for some concessions on training, sales and imports. None of the contractors seemed to show any interest in training Ethiopians to take over such key managerial and technical functions.

(ii) *Licence Contracts* Only 6 of the sample of 51 Ethiopian firms had acquired technology under licence up to 1970/1971 and the contracts themselves were few in number and of past 1958 origin. All of them related to import-substituting industries, i.e. soft drinks, paints and varnishes, textiles and pharmaceuticals. There were two franchise agreements involving the lease of brand names of internationally known products (Pepsi-Cola and Coca-Cola). The brand name owners did not, in either case, take any share of the equity nor did they stipulate any other specific form of payment—their main interest was to set up outlets for their branded inputs whose prices were fixed in relation to the sales price of the final product in the Ethiopian market rather than on a cost price basis.

There were two cases of licence agreements in which the technology transferred, though simple was packaged in nature[25] and in which the comparative advantage of the licensor seemed to rest on the differentiated nature of their products (paints). Their main concern appeared to be the retention of control over the Ethiopian market which they had previously served through experts and which had been threatened with competition from domestic and foreign firms as a result of the imposition of import tariffs or similar products by the Ethiopian Government. Consequently, this control was acquired directly through the acquisition of a majority equity shareholding in licensee firms and indirectly through licence agreements which formalized the managerial and marketing control of the licensors over the affiliates as well as ensured the tying of intermediate inputs. Licence agreements were employed also to justify the charging of royalties (royalty rate of $2\frac{1}{2}$ per cent of net sales after tax) for financing R & D expenditure by the parent company.[26]

(iii) *Role of Foreign Machine Suppliers* Research was undertaken on 12 firms which were established at the initiative of, or in collaboration with, foreign machine suppliers. The 12 firms included four from the sample of 51 major firms: the remaining ones were selected on a random basis. The key to an understanding of the performance of these firms is that the main interest of the foreign supplier was in the sale of machinery and equipment. It was a once-and-for-all interest rather than a desire to establish a longer term contractual relationship with enterprises in Ethiopia. The machinery seller therefore had an interest in encouraging the setting up of operations and in influencing the purchasing decision. He had no interest in any subsequent control of the firm, save for the period it took to repay suppliers' credits (if any). In these firms, therefore, foreign equity played a much smaller role than foreign aid. Returns were realized more in the form of the sale of the equipment than in the form of a regular flow of dividends, technical fees or profitable transfer prices.

In 6 of the 12 firms the Ethiopian Government held 100 per cent of the equity. In 3 others equity was held by Ethiopian private or public interests. In the remaining 3 there was also some Ethiopian participation, but in conjunction with a participation by the foreign machinery supplier. With the exception of the last 3, it was the Ethiopian equity which was at stake. The fact that the capital was Ethiopian does not imply that Ethiopians—or particularly the Ethiopian Government—had provided the capital. In at least 10 of the cases all or part of the government's contribution was funded by foreign public funds. What in effect this meant, however, was that the government had to fund its equity stake

out of future profits which would be transferred to the aid donors as interest and repayment of principal. The risk that there might be no profits was thus borne by the Ethiopian Government.

There are several features of the performance and operations of these 12 companies which deserve some comment. First, 10 of the companies made continuous losses, and an eleventh recorded losses for most years. Second, these losses occurred at a time when the firms were being managed or technically assisted by foreigners. Eight of the 10 companies received technical direction or advice from the machinery suppliers or, in the case of one enterprise, from the firm responsible for the original feasibility study and for setting up of the plant. Many of them either would not or could not perform these services. One company whose plant began to be established in 1968 was still not operating four years later. Another, which started production in 1970, made such large losses in the first two years that it was unable to cover even its depreciation provisions. In the case of one company, the machinery supplier and turn-key operator went bankrupt in the United States, leaving the Ethiopian company without any technical support. In the case of another company the machine suppliers' management was found, by the Agricultural and Industrial Development Bank of Ethiopia, to be technically inadequate, and proper cost accounting procedures or overall co-ordination had not been established. In these cases, the machine suppliers' main interest seems to have been in selling the machinery with little regard to the subsequent efficiency of its operation. Third, the performance of firms using machinery purchased from foreign machinery suppliers was adversely affected by both the technical and economic suitability of that equipment and by its price. Six of the 12 sample firms bought machinery which either individually or as a set was unsatisfactory and to two of them machinery was sold which they did not really need.

The characteristics of these firms were interrelated. The machinery suppliers secured their outlets by controlling the feasibility study and purchasing contract, starting up the firm which was to buy the machines, or by offering credit to finance the purchase. Their own financial and technical commitments were usually kept to a minimum. Ethiopian capital bore the main financial risk. The technical advisory input often went by default.

### *C. Market Concentration*

Many studies on the transfer of technology to developing countries have tended to focus on two sources of monopoly power, namely equity control and control exercised through clauses occurring in transfer of technology contracts between the supplier enterprise and the user enterprise. This emphasis, however, takes little account of the control that foreign technology suppliers could exercise through arrangements the purpose of which is to secure monopoly power in the market for the final goods. Such arrangements may include government-granted protection in the form of tax and duty reliefs, tariff protection and occasionally, franchises.

Since most technology used in manufacturing in Ethiopia was relatively simple and widely known, the monopoly power which foreign technology suppliers were able to enjoy sprung from government protection, institutional tying, and possibly a certain ignorance on the part of competitors. To put the point differently, foreign firms obtained their monopoly position through bargaining over the totality of items affecting their operations and not merely over the narrower range of issues specific to contracts between technology suppliers and technology users—such bargaining seems to have been quite successful from the point of view of foreign technology suppliers. Among possible reasons for the latter's success it would seem that Ethiopia's position as a least developed country, having a small domestic market and few significant domestically-controlled firms, may have been an important factor.

The analysis of foreign investment given in subsection A above revealed a high concentration of equity ownership in 23 of 34 branches of Ethiopian manufacturing industry (see Table 2). Corresponding to this concentration there was a high degree of production concentration in Ethiopian manufacturing. Table 5 shows the results for 1970 of calculations of industrial concentration for 36 branches of Ethiopian manufacturing at the four-digit level. A quarter of the branches had one firm each accounting for more

than 50 per cent of sectoral output. A number of other sectors were dominated by duopolies. In 33 of the branches the top 3 firms accounted for more than 50 per cent of sectoral output, in 26 of them the proportion rose to over two-thirds, and in 15 cases (more than two-fifths of the branches) the top 3 firms accounted for more than 90 per cent of output in the particular sector. Only in three branches—'grain-milling and baking', 'sawmills', and 'other non-metallic minerals'—did the top 3 firms account for less than half the sector's production.

TABLE 5

CONCENTRATION IN MANUFACTURING INDUSTRY IN ETHIOPIA, 1970

| Sector | No. of firms | % of output by top firms | | | |
|---|---|---|---|---|---|
| | | 1st firm | 2nd firm | 3rd firm | top 3 firms |
| Slaughtering | 15 | 29 | 20 | 15 | 63 |
| Dairy products | 6 | 26 | 23 | 22 | 71 |
| Oil and fat | 29 | 27 | 23 | 9 | 59 |
| Grain mill and baking | 56 | 10 | 9 | 9 | 28 |
| Sugar and confectionery | 9 | 71 | 28 | — | 99 |
| Other food | 8 | 42 | 37 | 9 | 87 |
| Distilling | 9 | 24 | 22 | 18 | 65 |
| Wine | 10 | 49 | 21 | 19 | 88 |
| Malt liquors | 3 | 62 | 21 | 17 | 100 |
| Soft drinks | 16 | 42 | 17 | 9 | 68 |
| Tobacco | 2 | 79 | 21 | — | 100 |
| Spinning, weaving and finishing | 18 | 26 | 17 | 9 | 52 |
| Non-wearing textile | 5 | 43 | 39 | 17 | 99 |
| Knitting | 20 | 68 | 13 | 13 | 94 |
| Wearing textiles | 5 | 51 | 19 | 16 | 87 |
| Tanneries | 9 | 39 | 20 | 12 | 72 |
| Footwear (leather) | 15 | 28 | 23 | 13 | 64 |
| Sawmills | 54 | 23 | 8 | 6 | 37 |
| Furniture | 19 | 35 | 25 | 21 | 81 |
| Printing, publishing | 29 | 27 | 15 | 9 | 51 |
| Pulp and paper | 9 | 66 | 16 | 5 | 87 |
| Basic industrial chemicals | 5 | 60 | 22 | 9 | 91 |
| Paints, varnishes | 5 | 43 | 24 | 23 | 91 |
| Soap, perfumes | 5 | 58 | 20 | 12 | 90 |
| Other chemicals | 3 | 71 | 25 | 4 | 100 |
| Petroleum refining | 1 | 100 | — | — | 100 |
| Other rubber | 5 | 76 | 16 | 4 | 96 |
| Other plastics | 9 | 41 | 17 | 13 | 71 |
| Glass | 4 | 97 | 3 | 1 | 100 |
| Structural clay | 20 | 29 | 16 | 9 | 54 |
| Cement, lime | 6 | 65 | 31 | 2 | 97 |
| Other non-metallic | 18 | 17 | 13 | 11 | 41 |
| Iron and steel | 3 | 44 | 35 | 22 | 100 |
| Cutlery, hardware | 5 | 45 | 22 | 16 | 84 |
| Structural metal | 12 | 42 | 17 | 9 | 67 |
| Other metal goods | 7 | — | — | — | — |
| Electrical goods | 3 | 58 | 33 | 9 | 100 |

*Source: Annual Survey of Manufacturing Industry 1969/70*, op. cit.

These figures suffer from the difficulties common to any calculations of degree of concentration. In some cases the sectoral breakdown fails to take account of cross-elasticities of demand between sectors. In some cases the four-digit breakdown is too aggregated. Each of the top two firms in 'other

chemicals', for example, had a strong position in its own sector of the market. Despite these difficulties of quantification, it may be concluded that Ethiopian industry was characterized by a high degree of concentration in most branches and in a country with so narrow an industrial base as Ethiopia the high degree of concentration in domestic production was not surprising.

*A priori* reasoning would suggest that the strongest competition would be likely to have come not so much from domestic firms as from foreign firms wishing either to set up production facilities in the country or to supply the market through exports. To ensure against this, most of the leading importers of foreign technology in Ethiopia benefitted not only from substantial nominal rates of protection but also from high effective rates of protection (that is, protection of the process of production rather than the product, protection of the Ethiopian value added rather than the final product price). Calculations made of the effective rate of protection for 17 products show that just under half of these products were sheltered by effective rates of protection of more than 100 per cent and 5 of them by rates of over 500 per cent.

There was a strong correlation between those industrial branches where effective rates of protection were very high and the branches dominated by subsidiaries of foreign firms. This was true of synthetic textiles, cotton yarn, galvanized iron sheets, cotton cloth, and soaps.

It has often been pointed out that both nominal and effective rates of protection in Ethiopia were non-uniform. Industries with diverse rates of protection were found in the same sector. There was no general tendency for final goods to benefit from higher rates of protection than intermediate or capital goods. For these reasons, the tariff structure has been referred to as arbitrary. The data suggest that in one respect it was not arbitrary; most of the large firms producing import substitutes, particularly the foreign owned ones, succeeded in securing for their products high rates of protection. As one official report put it: 'It may be conjectured that the degree of protection obtained by the companies was more a result of the individual company bargaining strength and abilities than of any rational policy.'[27]

Some individual cases lend support to this view of tariff protection. Leading companies in the sugar industry, cotton textiles, synthetic textiles, drugs, and iron and steel all secured 'necessary protection'. In the iron and steel industry, for example, a prospective foreign investor made it clear that its home government would require a letter of intent from the Ethiopian Government promising to give protection and encouragement to the industry as soon as production started. The Ethiopian Government agreed, and evidently interpreted this promise as an undertaking to grant a substantial increase in the nominal tariff. The firm, arguing some time before the concept of 'effective rate' of protection became common, insisted that the protection should yield a net difference of 40 per cent between the duty on the imported intermediate and that on the imported final product. Similarly, in one case arising in the chemical industry, the government was persuaded to raise and maintain import duties on competitive products or on the raw materials used in the manufacture of such competitive products at a rate of 15 per cent above the existing level as well as maintaining the current rates of transaction and municipal taxes on such products. The government also agreed to purchase the firm's local products as long as their price did not exceed by more than 15 per cent the landed price of competing products.

In some cases where the domestic market was large (like that for cotton textiles), where scale economies were slight and/or where the marginal cost of developing a plan in Ethiopia was small, there was a genuine possibility that new firms would enter production. In these cases, some firms sought guarantees from the government, in the form of franchise agreements, against the entry of new firms. HVA (Ethiopia) was granted an exclusive franchise for sugar in 1951, though the government attempted to break this agreement only a year after its conclusion. In the chemical industry, the firm which successfully applied for a concession was promised that in the unlikely event of the government's deciding to establish further facilities in the same field the concessionnaire would have priority.

## IV

In this section we attempt an estimate of the foreign exchange costs to the Ethiopian economy of the supply of foreign technology, bearing in mind that much of this technology was closely associated with foreign direct investment.

Data concerning the profitability of foreign-controlled firms in Ethiopia were not generally available. However, figures have been published which made it possible to calculate estimated average earnings on fixed assets for all firms in the sector.[28] It appeared that average pre-tax returns were approximately 16 per cent in 1969. There could be two objections to using this figure as an approximation to the reported returns actually received by foreign-controlled firms in the manufacturing sector in Ethiopia. On the one hand, taxation would reduce the net rate of reported returns and, for this reason, the 16 per cent might be regarded as an overestimate. On the other hand, the 16 per cent estimate was an average for the manufacturing sector as a whole and therefore included Ethiopian as well as foreign-controlled firms. The evidence presented earlier would suggest that foreign firms, in view of their concentration in the more dynamic branches of industry and the high protection and generous benefits they obtained, probably earned higher returns than the average for the sector. For the purpose of calculations in the remainder of this chapter it is assumed that these two factors—the one tending to result in overestimates of reported post-tax returns and the other tending to result in underestimates of such returns—approximately cancel each other out, with the consequence that the reported figure may be taken as a starting point for calculations of effective returns to foreign technology suppliers.

There are some reasons, however, why the reported returns cannot be used as an indication of the effective returns obtained by the foreign technology suppliers. The reasons for this are discussed in the following paragraphs.

### *A. Valuation of Capital*

There were two main ways in which capital committed by foreign enterprises was overvalued. First, in some cases foreign suppliers overstated the value of capital committed as equity and intermediate inputs (e.g. spare parts) by overpricing technology initially supplied to the new operation. The values assigned to various items of technology could have served as a contribution to equity (investment in kind) or could have been exchanged against equity capital contributed in cash form by the technology supplier. In either case the effect would have been the same.

Although several problems are involved in the estimation of initial overpricing, the evidence that has been collected provides a tentative basis for assessing the extent to which such pricing practices occurred in Ethiopia. The discussion showed that there were 28 major firms in Ethiopia which had contractual arrangements of one kind or another with foreign technology suppliers (including parent firms), and one or two firms which were wholly-owned subsidiaries of foreign firms but did not have formal contracts. In the majority of these cases, trade in machinery was either an 'intra-firm' flow or was tied to specific sources and could, in principle, have been subject to overpricing.

The Ethiopian Government did not have an elaborate system for monitoring input prices of this sort, nor was there a general study of the subject. However, different government departments have had occasion to check initial input values in the course of investigating individual firms. In one of the cases examined by the auditors, it was found that the invoices in respect of the plant and equipment were not received from the manufacturer but from the foreign parent firm. Given these circumstances the auditors stated that they were not satisfied as to the accuracy of the values attached to the plant and machinery. In another case, the auditors found that intermediates supplied by the parent were on several occasions more expensive than identical items received from other suppliers. They also found that unit prices appearing in the parent company's invoices were comparatively higher than those shown on invoices sent to the company direct from the manufacturers. In one case, which the auditors

followed up by way of a test, the discrepancy between prices charged by the parent and those charged by other firms was 57 per cent.

Second, in some instances the value of capital equipment of foreign branches or subsidiaries was inflated in order to provide a source of nominal funds for increases in share capital. In one case, an independent valuation of the subsidiary's capital expenditure estimated that, at the time when the foreign owned branch was transferred into a subsidiary, such capital expenditure had been inflated by about 43 per cent as compared to a similar plant located elsewhere. Another company in the sample appeared to have revalued some of its fixed assets upwards by more than 30 times without any evident justification.

*B. Transfer Pricing in Trade in Commodities*

Transfer pricing as a means of hidden profit repatriation was of two kinds. In some cases exports to parent or sister companies overseas were under-invoiced and/or intra-firm imports over-invoiced.

As far as the first was concerned there was evidence of under-invoicing for a few companies. One of these had aroused the government's interest because, after a decade of losses amounting to nearly 14 times the original equity contribution, the company wanted to expand its operations. The losses appeared improbable for the additional reason that the price of the commodity in question had shown a steady upward trend in the world market. Accordingly, a study was undertaken which found that, on conservative assumptions, the company was undervaluing its exports by 150 per cent. If the profit/loss figures had been adjusted accordingly, an accumulated loss of 14 times the share capital would have been transformed into a profit of 50 times the share capital in five years. Similar calculations for another exporter of processed primary products suggested an underpricing of 56 per cent. Goods were shipped to the parent at prices which had been set by the leading buyers of the commodity, all of whom were located in one European capital. The effect of the overcharging was to raise stated profits for two years in question by a factor of 39.[29] A third company produced a commodity sold in the domestic and export markets. The domestic export price ratio was 12.5:1, a difference which one official felt could only partly be explained by transport costs within Ethiopia. A similar discrepancy between domestic and export prices was noted in the case of the other exporter of the same commodity. A fifth company, wholly foreign owned, began by exporting its commodity to independent producers, and then switched to supplying its mother company. It appeared that the price of the export fell after the export became the intra-firm flow. The company argued that the lower price was the result of the export being of lower quality than had originally been thought.

The second form of transfer pricing was that involving over-invoicing of intra-firm intermediate imports. From a sample of 17 firms with significant intermediate imports, it was found that 13 received most, if not all, of their imports from or through an overseas corporate network. A further firm received its imports from a network of United States firms under a long-term contract that appears to have been arranged in conjunction with the entry of the foreign shareholder. In at least one other case there was indirect evidence that imports were intra-corporate. Thus, for most foreign equity holders in firms active in import substituting industries, there was the possibility of adjusting invoices relating to intra-firm transfers.

This information suggests that there were indeed ample opportunities for transferring funds through overpricing of intra-firm imports in Ethiopia. One firm was found by the Ethiopian Government to be over-invoicing inputs identical to those being imported by another foreign competitor by an amount which yielded a 40 per cent return on equity in each of the three years investigated. (The National Bank in fact ordered the foreign company to repatriate this accumulated sum plus 9 per cent interest *per annum* to Ethiopia).[30] Another company's imports were the object of a detailed study by an inter-departmental team. The team found significant overpricing whose effect was to raise the overall 'expatriated return' from E$405 063 (23.6 per cent on equity) to E$963 771 (56.1 per cent), for the year 1970.

TABLE 6

ELEMENTS RELEVANT TO ESTIMATING COSTS OF THE TRANSFER PROCESS

| | Estimated foreign exchange cost | |
|---|---|---|
| | Assumption I | Assumption II |
| | E $ million | |
| (a) Management fees and salaries of expatriate personnel | 20 | 20 |
| (b) Value of declared returns on fixed assets | 22 | 22 |
| (c) Overpricing of intermediate imports | — | 32 |
| (d) Overpricing of imported machinery | — | 34 |
| Total | 42 | 108 |

In the light of the preceding discussion Table 6 summarizes estimates regarding four of the elements relevant for an assessment of the cost of foreign technology. Two alternative assumptions regarding overpricing are offered. Assumption I is the extremely conservative one that there was no overpricing of imports of either machinery or intermediate goods. The available evidence, limited though it may be, nevertheless suggests that overpricing did occur and may have been substantial. To take account of this factor alternative cost calculations were carried out according to assumption II, which supposes that there was overpricing of 50 per cent on the inputs, by the manufacturing sector, of machinery and intermediate goods. In the light of the evidence given earlier, assumption II would also appear to be a moderate one.

According to assumption I the estimated foreign exchange cost to Ethiopia in 1969/70 was approximately E$42 million. Since this assumption ignores the possibility of overpricing, the cost has two components only, i.e. the management fees and salaries of expatriate personnel (E$20 million) and the estimated value of declared returns going to foreigners on their equity holding in the manufacturing sector (E$22 million). The latter figure was derived by applying the 16 per cent rate of return to the value of paid-up capital held by foreigners in the manufacturing sector in 1969/70 (see Table 2 above).

If it is now assumed (assumption II) that imports by the manufacturing sector of both capital and intermediate goods were overpriced by 50 per cent, then the figure of E$ 42 million given in the preceding paragraph would represent only a part of total costs. As regards, first, the overpricing of imports and intermediate goods, the *Annual Survey of Manufacturing Industry, 1969/70* indicated that the value of such imports by the manufacturing sector in that year was E$ 96 million. On the assumption that these imports were overpriced by 50 per cent, the estimated foreign exchange cost, calculated by this procedure, comes to E$ 32 million. The calculation of overpricing of capital goods imports by the manufacturing sector was made in a similar manner and yielded an estimated cost through overpricing of E$ 34 million.[31] Consequently, according to assumption II foreign exchange costs were equal to E$ 108 million. This figure was approximately five times the value of declared returns (item (b) in Table 6) and more than two and one half times declared returns plus management fees (item (a) of the table).

The figure of E$ 108 million gives a broad order of magnitude of the foreign exchange cost of technology imported by the manufacturing sector in Ethiopia. However, this figure is likely to err on the side of understimating total costs for the following reasons. First, no account whatsoever has been taken of the under-invoicing of exports by the foreign-controlled firms in the manufacturing sector although some firms in Ethiopia engaged in such under-invoicing. Second, no allowance has been made for either royalty payments of lump-sum payments under turn-key agreements. And lastly, part of the payments for technology is sometimes included in interest repayments to parent companies, and this form of payment has likewise not been taken into account.

The significance of the cost estimates must be assessed in relation to the main features of the Ethiopian

economy. Three features seem particularly relevant here: for 1970, they were (i) GDP amounting to E$ 3861 million; (ii) net value added in modern manufacturing equal to E$ 212 million; and (iii) annual export proceeds of E$ 305 million. Thus, the costs involved in the transfer process amounted to some 2.8 per cent of GDP, to over one-third of export proceeds and to a little more than half the net value added in the modern manufacturing sector. Comparable figures for developing countries as a group have been estimated to be—again with many qualifications—under 1 per cent of their combined GDP and around 4 to 5 per cent of their export proceeds.[32] The sharp contrast between Ethiopia—the largest of the least developed countries—and the developing countries as a group serves to underline the severity of the burden of costs of the transfer process on least developed countries.

## Footnotes

1 The only ones with which we are familiar are Stephen Guisinger, 'Tariffs and Trade Policies in Ethiopian Manufacturing', mimeographed, Ministry of Commerce, Industry and Tourism, August 1972; and Lars Bondestam, 'Notes on Foreign Investments in Ethiopia', published in Carl Windstrand (ed.), *Multinational Firms in Africa*, Uppsala 1975, pp. 125–142.

2 The four countries in question were Burundi (US $ 54), Malawi (US $ 64), Somalia (US $ 62) and Upper Volta (US $ 47). See UNCTAD, *Handbook of International Trade and Development Statistics*, 1972 (United Nations publication, Sales Number: E/F. 72.II,D.3, Table 6.1).

3 ibid., Table 6.8.

4 In the three decades since the end of occupation Italian expatriates have been an important entrepreneurial class in Ethiopia.

5 United States Agency for International Development (USAID), *US Overseas Loans and Grants and Assistance from International Organizations 1964–1972*, May 1973, page 93.

6 ibid. Table J. 7, page 137.

7 There were six sources of capital which influenced the process of growth in Ethiopia: (i) the Central Government; (ii) public financial institutions, notably the Development Bank of Ethiopia and the Ethiopia Investment Corporation; (iii) public corporations; (iv) commercial bank credit; (v) foreign direct investment, i.e. reported long-term private capital inflows plus the reported value of reinvested earnings by major foreign enterprises (the latter as so defined by the National Bank of Ethiopia); and (vi) reported reinvested earnings and reported allowances for depreciation by firms in the private sector not included in (v) above. The share of foreign funds in net monetary investment, in the Second plan period (1963–1967) was expected to be 45 per cent (see Imperial Ethiopian Government, *Second Five Year Development Plan, 1963–1967*, Addis Ababa, 1962, p. 99). This figure underestimated the effective foreign contribution because part of the foreign public funds was used to finance current expenditure by the Ethiopian Government, thereby releasing monetary resources for the Government capital account.

8 See *Statistical Abstracts*, Central Statistical Office, Addis Ababa, issues from 1963 to 1970.

9 Foreign economic agents may be regarded as including transnational firms and other types of foreign technology suppliers operating in Ethiopia, expatriate groups resident in Ethiopia, and foreign governments and international financial agencies to the extent that they give loans to Ethiopia.

10 Ethiopian economic agents may be regarded as including the Ethiopian Government, Ethiopian capitalists and Ethiopian labour.

11 In 1950 industrial enterprises did not number more than 107; most of these were small in size and almost all were owned by expatriates settled in Ethiopia. The total amount of investment in manufacturing was not more than Eth. £5 million, or probably less than one-fifth of the value of assets in the Ethiopian economy; almost all the technical and administrative staff was foreign, and private foreign investment, though negligible, was mainly concentrated in trading activities. See *Ethiopia Observer*, vol. X, no. 5, 1966.

12 This treatment was reflected in an important contract that was signed between a Netherlands sugar processing firm and the Ministry of Finance at about the time when the Notice was issued by that same Ministry. Furthermore, an earlier draft of the Notice had contained the following clause: 'The Government will not, as a general rule, impose participation of Ethiopian capital investment on new enterprises established with foreign capital investment according to the nature of the enterprise and the extent of foreign capital. Nevertheless, it will be the policy of the Government to require participation of Ethiopian capital in suitable industries, usefully employing the capital of the country. However, such local investment shall, in most instances, represent a minority interest.' Quoted in Krishna Ahooja, *Ethiopia Observer*, vol. X, no. 5, 1966, page 254. The author implies that the subsequent deletion of this clause from the final text of the Notice was the result of a difference of approach between the Ministry of Finance, which was responsible for issuing the Foreign Investment Notice, and the Ministry of Commerce and Industry, which was responsible for industrial policy as a whole.

13 In the First Plan, the pattern of investment was clearly concentrated upon infrastructural development and little emphasis was placed on modern manufacturing and agriculture.

14 This freedom was reinforced by the absence of any effective measures preventing foreign technology suppliers from increasing their shareholding through the purchase of local equity holding.

15 Given the industrial structure of Ethiopia the relevant aggregate for policy analysis is often the firm rather than an industry.

16 See Guisinger, op. cit.

17 See Krishna Ahooja, *Ethiopia Observer*, vol. X, no. 5, 1966.

18 See ILO, 'Report of the Exploratory Employment Policy Mission to Ethiopia—by Mark Blaug' (mimeograph), pages 78–80.

19 In contrast, by 1965 about half the countries in Africa (14 out of 31) had developed a relatively more integrated approach by enacting, in their investment laws, specific provisions which regulated foreign employment in managerial and technical positions. Some of them obliged nationals to be employed and trained for such positions, others set upper limits for foreign employment in specific skills, and certain others were voluntaristic in nature. For details, see Krishna Ahooja, 'Investment Legislation in Africa', *Journal of World Trade Law*, vol. 2, no. 5, Sept:Oct 1968.

20 Based on interview evidence. This fact is also mentioned in IBRD: *Economic Growth and Prospects in Ethiopia*, volume II, 22 September 1970.

21 For further details see Peter O'Brien and Rumman Faruqi, 'Industrial Property in a Poor Country: The Case of Ethiopia', mimeographed.

22 In Ethiopia the corporate manufacturing sector and small-scale industries accounted for 5 per cent of GDP each in 1969/70. However, little was known of the state and composition of small-scale industries. The latter were usually located in households and small workshops employing fewer than five persons and depending mostly on own or family labour. Manual skills rather than machines seemed to have played the predominant role in these establishments. Almost in their totality they have remained isolated from foreign technology or capital. With respect to the corporate manufacturing sector, the *Annual Survey of Manufacturing Industry, 1969/70*, covered 479 establishments. Like the small-scale industries, most of these enterprises were also small or very small in size, and employed simple technology which in most cases did not necessitate any formal contractual arrangements with technology suppliers. Furthermore, most of them were known to have been owned and operated by the foreign residents in Ethiopia.

23 An enclave economy, as generally understood, is one in which an important sector of the economy has only a tenuous link with the rest. The reasons for the lack of integration are: (i) foreign control of the sector in question; (ii) expatriation of the surplus generated within the domestic economy; (iii) export of most of the output of the sectors; (iv) use of low-wage domestic labour and land obtained at very low cost. It is this concept which has been extensively employed in the analysis of plantation economies and of economies where extractive industries were important. (See H. Myint, 'The gains from trade and the backward countries', *Review of Economic Studies*, vol. 22, June 1955, pages 129–142.) The sense in which the term is used here differs from the above in that it refers to the manufacturing sector and in Ethiopia little of the manufacturing output is exported.

24 For details see the UNCTAD Study *Major Issues Arising from the Transfer of Technology to Developing Countries*, United Nations, New York, 1975.

25 The package consisted of patented products and processes, manufacturing instructions, technical advice, new inventions, raw materials and the use of their brand names.

26 'Royalty proceeds make it possible to build up R & D laboratories of a size enabling us to compete with the large foreign paint groups.' Extract from report of the chairman of the board to the shareholders at the Annual General Meeting of Sadolia Paints Ltd., March 1970.

27 IBRD, *Economic Growth and Prospects in Ethiopia*, vol. II, 22 September 1970, Section on Manufacturing Industry, page 16.

28 See *Statistical Abstract*, 1970, page 55.

29 The methods involved in the two calculations were not the same. In the first, FAO figures for export prices for that part of Africa were taken as a criterion, and an adjustment made for quality differences. In the second, there was no satisfactory world price for comparison. The price of the final commodity as sold in developed countries was used and the excess profit was distributed among different operations according to their share in total costs. The parent company had argued that all excess profit should go to its sales department, but this seemed unsatisfactory since the Ethiopian subsidiary had already been charged a fee for the use of a product's brand name.

30 The firm whose imports were assumed 'normal' for this calculation was itself under suspicion for overpricing.

31 Since imports of machinery by the manufacturing sector were not shown separately, it was assumed that the ratio of such imports to total imports of capital equipment in the Ethiopian economy was the same as the ratio for intermediate goods imports, i.e. 72 per cent.

32 See *Proceedings of the United Nations Conference on Trade and Development, Third Session*, vol. III, *Financing and Invisibles*, United Nations publication, Sales No. E.73.II.D.6, page 110; document TD/106, 'Transfer of technology: report by the UNCTAD secretariat'; and document TD/B/AC.11/10/Rev.1.