TRADE POLICY AS A DETERMINANT OF INDUSTRIAL STRUCTURE: THE CASE OF THE KENYAN PHARMACEUTICAL INDUSTRY

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ABSTRACT

This paper argues that pharmaceutical manufacturing in Kenya did not establish itself behind a protectionist barrier. At the same time, the industry displays most of the features associated with the kind of manufacturing activity which requires government intervention in order to locate in a country like Kenya. This apparent paradox is explained primarily in terms of market imperfections in the pharmaceuticals sector and the implications of such a situation for government policy are touched on briefly.

Trade Policy as a Determinant of Industrial Structure: The Case of the Kenyan Pharmaceutical Industry.

1. Introduction

In most developing countries the desirability of diversification into manufacturing activities is taken as axiomatic. It is held that the nurture of industry will provide an important source of dynamic growth within the economy and that the process of industrialization will transmit valuable skills, disciplines and technologies to the indigenous economy which would otherwise have to be imported. It is further argued that involvement in the international economy on the basis of importing manufactures and exporting primary products is inimical to development prospects as a result of unfavourable foreign demand elasticities, secularly declining terms of trade and fluctuating foreign exchange receipts from exporting.

Such considerations have led many developing countries to seek a set of policies which discriminate in favour of fledgeling industries and guarantee their profitability. The [illegible] of many developing economies, such as Kenya's has made trade policy a central ingredient in the interventionist mix that has been applied. The industrial sector is linked to trade considerations both on the import and the export sides. On the import side, this arises from the domestic unavailability or inelasticity of certain inputs. Such inputs include physical capital, human capital and raw materials. On the export side, the links arise from the need to acquire purchasing power over imports, from specialization advantages (internal and external economies of scale) and from size limitations of the domestic market, which may take the form of small population size or of low income per head or both.

Where the industrial sectors of poor countries have been very small, or have scarcely existed, the first phase of industrialization has inevitably involved import prevention and the substitution of those imports with domestic production. This process of import substitution and some of its less desirable, and possibly unforeseen, consequences have been well documented (for example, the Little et al. volume (1970) and hardly require elaboration.[1] Briefly, the

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1. For a treatment of these issues in a Kenyan context see Power (1972) and Phelps and Wasow.

criticisms of the import substitution strategy lie in the fact that it has frequently been used excessively and arbitrarily, partly because the notion that all industry is 'desirable' has pervaded the thinking of policy makers. Another part of the problem has been that import prevention has often been employed to serve the exigencies of short-term foreign exchange shortages as much as to enable a planned and specified industrial structure to emerge.

The import substitution policy package usually consists in selective and highly differentiated taxes on imports (or selective quotas and outright bans) combined with over-valued domestic currency.[2] The currency over-valuation allows the relatively cheap importation of capital goods and raw materials and the taxes and/or quantitative restrictions on selected consumer good imports guarantee the profitability of domestic production of these items at output prices above those prevailing in world markets. Amongst the more deleterious effects (in economic terms) of these measures are excessive proliferation of differentiated product lines, a tendency towards greater capital intensity in production, the sustenance of excess capacity in the face of high profit rates, the creation of monopolistic and oligopolistic positions with their attendant inefficiencies, growing import dependency in the manufacturing sector and an inherent bias against exporting. When protection is granted to a particular activity, the infant industry argument is frequently invoked as justification, implicit in which is the assumption that such industries require favoured treatment in their early stages and that this will fall away as the industries' grow up' and become competitive. In many cases it is clear that such activities do not meet these expectations and they can only survive as long as they are protected and grow as fast as domestic demand grows.[3]

The above brief outline of the consequences of excessive reliance on import substitution policies is in some sense a 'stereotype' in the literature. The purpose of this paper is to indicate, with reference to the Kenyan pharmaceutical industry, that there are cases where industries exist which bear

2. The existence of a surplus on current account can be consistent with an 'over-valued' exchange rate, since the exchange rate can be sustained by import restrictions whose removal would make the balance of payments position untenable. This is simply the distinction between the official and the effecti exchange rate.

3. This assumes that export potential is limited. This issue will be dealt with in section.II.

most of the hallmarks of 'inappropriate' industrialization, but which have not relied substantially upon protection to establish themselves. It must be stressed, however, that observations relating to the pharmaceutical industry do not invalidate or diminish the stress laid on trade policy as a determinant of industrial structure in the theoretical and empirical literature, but merely point to other factors which are also relevant in certain cases. That trade policy plays a vary important part, even in pharmaceuticals, is indicated by recent developments in the industry which will be dealt within the final section.

The second section of the paper comprises a description of the pharmaceutical industry in Kenya and deals with the nature of the Kenyan market, the extent to which domestic consumption is met by domestic production, the nature of the manufacturing firms and their products, the import intensity of production, capacity utilization rates within the industry and the situation with regard to exporting. The third section shows that domestic pharmaceutical production is not protected from import competition, argues that it is not cost competitive internationally and discusses explanations for the location of such industries in a country like Kenya. The final section considers the relationship between trade policy and industrial structure in the context of the the Kenyan pharmaceuticals industry.

II. The Pharmaceuticals Industry in Kenya

There are approximately [4] fifteen pharmaceutical manufacturing firms in Kenya. Twelve of these firms have been studied, six of which are wholly-owned subsidiaries of foreign companies, one of which is a joint venture between a foreign company, the Kenya Government and local shareholders, and five of which are wholly locally owned.[5] The industry has grown considerably since 1964. This can be seen from Table 1, which indicates the years in which firms were established.[6]

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4. A precise figure is not given because there is some doubt about whether the output of one or two of the small locally owned firms can be considered as pharmaceuticals.

5. There are seven foreign manufacturing firms and one is not included in the sample.

6. The numbers ascribed to firms in Table 1 apply to the same firms in subsequent tables.

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II. The Pharmaceuticals Industry in Kenya

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The expansionary trend in the industry is also indicated by the extent to which exports have increased. In 1964 exports of pharmaceutical products amounted to only £165,000, whereas in 1974 the amount was £2,640,000 (E.A. Trade Report, 1964, 1974). Much of the expansion in exports was in the Tanzanian and Ugandan markets, which raises the question of whether such transactions can legitimately be regarded as exports, as well as providing a good illustration of the consequences to Kenya's industry of losing Community markets. More will be said about this below.

In addition to the local manufactures, there are 24 foreign owned firms which are not manufacturing in Kenya, but which have representatives in the country. Only 3 of these are importing and distributing their own products and the rest have offices in Nairobi from which they promote their products both in the local market and in surrounding countries. The selling in the Kenyan market is left to their agents, of which there are six major ones in Kenya, half of them being locally owned.

In global terms, the Kenyan pharmaceutical market is insignificant. In 1975 the world market was worth approximately $42.7 billion, of which the whole of Africa accounted for $900 million (2.1%) and Africa less South Africa only $620 million (1.45%). Despite the involvement in Kenya of virtually every major international drug company, in all cases their operations here represent less than 3% of their world interests.

Estimates of the size of the Kenyan pharmaceutical market vary widely. The variation is explicable partly in terms of different conceptions of what should be considered as pharmaceuticals. At the 'bottom' end of the market there is a range of mass consumption products which would be more highly rated in some quarters for their placebo than for their medicinal value. Also practice varies as to whether to include veterinary products and surgical equipment (including bandages and dressings).

According to the trade statistics for 1976, and taking SITC 541 as the definition of pharmaceutical products (this includes all veterinary products and sundry medical items, but excludes two small items whose end use is clearly cosmetic), total imports were £2.6 million. Some imported pharmaceutical raw materials and finished goods may have entered the statistics as 'home use' items and subsequently been re-exported, but it will be assumed that all imports were either for immediate domestic consumption or manufacture and therefore that

all exports, totalling £2.9 million (£0.9 million to the rest of the world and £2 million to Uganda and Tanzania) were from domestic manufacture. In order to arrive at a final figure for the Kenyan market it is necessary to include domestically manufactured and consumed pharmaceuticals. Estimates of this element vary and figures of between 15% and 30% have been suggested. Taking this as a percentage on imports, and then substracting exports, if the figures is 15% the total domestic market is £4.4 million; if it is 30%, then the domestic market is worth £6 million.

These estimates are on the low side when compared with popular opinion and it is impossible to reach a definitive conclusion. Among the difficulties involved in such an estimating procedure are the absence of a firm definition of pharmaceuticals, the guess as to the proportion of domestic production in total consumption, double counting of imported raw materials and the assumption that all exports have been domestically manufactured. Furthermore, imports may not be stated at a tariff and sales tax inclusive price and are quoted less the 33% on landed cost which usually makes up wholesale prices.

The pharmaceutical market is characterized by considerable complexity. Part of the complexity is intrinsic to this industry, relating to the large number of similar products which are available, but which are differentiated by brand names and display wide price variations. Another part of the complexity is a function of specific conditions prevailing in Kenya, which ; include such considerations as differences in the types of firms involved in the industry and differences in the routes by which consumers receive the final product.

A convenient distinction can be made between ethical and 'over the counter' (OTC) medicines. An ethical drug is one which should only be obtainable through prescription or a dispensing medical practitioner. Such drugs are available from licensed pharmacies, hospitals and dispensaries. OTC products are not considered dangerous in the same sense as ethicals and can be bought and sold by anyone. A further distinction can be made between generics and specialities, the importance of the distinction being that the latter are known by brand name, which may or may not be subject to patent protection, and the former are known by a general name which sometimes refers to their contents and/or their effects. Generics and specialities can both be either ethical or OTC medicines.

The most widely consumed drugs on the Kenyan market, in order of importance, are analgesics, antibiotics, cough treatments, antimalarials and anthelmintics. Of these, antibiotics are virtually the only ethical medicine (although there may be a few non-OTC products among the other categories). There is local production of all these drugs, with the heaviest concentration in OTC lines.

Table 2 gives an indication of the size (by number employed) of firms and the range of products that each firm is producing. With the exception of Firm 7, which is a joint venture that commenced production this year, the foreign firms are larger than their local counterparts. The foreign firms have also tended to diversify into non-pharmaceutical lines of production to a greater extent than local firms. Although it is not shown in the table, it is noteworthy that almost all the foreign firms and most of the local ones are involved in importing finished drugs (as well as other finished products, such as toiletries). As a percentage of total sales, finished imports range up to 70%.

Pharmaceutical manufacture in a country like Kenya consists basically in end-stage formulation and packaging. end-stage formulation amounts in most cases to mixing liquids or to granulating and tabletting. Factory machinery usually includes such items as wet mixers, dry mixers, ovens, granulating machines and tabletting machines. Packaging is mostly a manual operation. In some instances the final formulations will be no different from those found in other parts of the world and they will often bear the same brand name. In other cases, products will have brand names specific to East and Central Africa and will be reformulated to suit local tastes. A good example of this is Cofta, a cough syrup with a higher than average menthol content, which has consequently sold well on the local market.

Foreign firms which are manufacturing in Kenya will be producing the branded drugs of their own organisations for the most part. The higher prices of these drugs in relation to alternatives will be vindicated in terms of material differences between them and what others would claim were their generic analogues and also in terms of the research and development costs incurred in producing them in the first place. Most local firms are producing lower priced generics, formulated from 'recipes' found in such manuals as the "British Pharmaceutical Codex" and"Martindale: The Extra Pharmacopoeia". However, one

or two local firms have attempted to enter the specialities market in order to benefit from brand premia. Finished drugs imported by firms and agencies are mostly specialities, but also include some very low priced generics, such as Aspirin BP from East Germany, which is considerably cheaper than any locally manufactured of imported equivalent. Very wide price variations between large numbers of substitute drugs are observable, regardless of whether such drugs are imported or locally produced, and the importance of brand-name differentiation and non-price competition in this market can scarcely be over-stressed, but more will be said about this below.

Two other features of pharmaceuticals manufacture in Kenya are indicated in Table 3. There is considerable variation in the import intensity percentages given in the fourth column. The variability is accounted for principally in terms of differing drug content/packaging value ratios, since these are the two major elements in raw material costs. Raw materials for the drugs are virtually all imported and most packaging inputs are locally purchased and recorded in the table as local inputs. It should be pointed out that treating packaging materials as local inputs understates the import intensity of production, since several packaging materials, including foil, tin and boxes, are very import intensive themselves. Finally, the accuracy of these import content figures is limited by the fact that they are averaged estimates over a wide range of different products.

The capacity utilization rates of the industry show that no firm is operating more than a single eight-hour shift and within that shift, utilization rates are as 30% in one case and no higher than 75%.[7] These percentages are based on machine usage rates. It has also been asserted that Kenya's tabletting facilities are only being used to 30% of their capacity on a 24 hour basis. Part of the explanation given for these rates was that the manual packaging operations tended to create bottlenecks on production lines, but the major constraint to greater utilization was considered to be market demand. This latter point was borne out by the observation by several managers that utilization had dropped substantially since the Tanzania border closure.

The 75% figure for Firm 7 should be treated with circumspection, since it is almost certainly an overstatement.

The market for pharmaceuticals consists of the public sector (government hospitals, dispensaries and local authorities) and the private sector (served by pharmacies, dispensing doctors and private hospitals). The public sector accounts for approximately 75% of pharmaceutical consumption in volume, but probably less in value because of large price differences between generics and specialities, the latter being bought and sold predominently in the private sector. The public sector deals with about 80% of the population, the remainder relying on prescribing and dispensing doctors and on mission hospitals.

Wherever possible, the public sector will buy generic ethicals and OTC medicines at a considerably lower price than their branded substitutes. Clearly for slow moving and more sophisticated drugs, this choice will sometimes not exist. All public sector purchases are made by tender. In the private sector non-dispensing doctors will usually prescribe by brand name. Dispensing doctors, on the other hand, will tend to use low cost drugs, since their consultancy fees will usually include treatment costs. Mission hospitals will usually try to buy generics where possible.

Table 4 shows the percentages of total pharmaceutical products exported botH before and after the Tanzania border closure, as well as current destinations of exports. The export percentages for the period before the Tanzania border closure are based on annual figures and the post border closure figures are in some cases based on actual exports for six months and in others are projections for the full year following the closure. It is clear from the table that the only markets available to Kenya are in surrounding African countries. It is also clear that the Tanzania market was an important one and its loss has had a marked impact on the industry.

On the whole, foreign companies are exporting proportionately more than their local counterparts. Firms 8, 9, 11 and 12 have no real interest in exporting and any export sales that they make are a response to direct enquiries and usually depend on personal or family connections.

There are certain considerations which some firms will take into account, irrespective of government policy, in deciding where and how much to export. This is generally more true of international companies than local ones. In particular, an international company which decides to locate manufac-

turing facilities in a country like Kenya wil do so as part of a global strategy and therefore will have already decided which markets are to be served from a particular plant. In the case of these six international firms, it is policy not to export from Kenya to markets other than those in East and Central Africa (except in special circumstances) and therefore there is a built-in limit to the responsiveness of these firms to export incentives.

Another factor which militates against vigorous exporting efforts concerns the desire on the part of firms to consolidate their positions in the domestic market before looking at foreign market opportunities. The manager of one international firm, for example, stated that his company was not interested in exporting until 60% of total capacity had been absorbed in domestic sales. The explanation for this policy was that neither the profitability nor the stability of foreign markets could be guaranteed and commercial prudence required primary (and possibly sole) reliance on the home market. Not only does such a policy, if it is rigidly adhered to, impose an upward limit on the size of an investment that will be undertaken, but it also considerably reduces the willingness of a firm to respond to export incentives.

A further corporate policy consideration which can over-ride export encouraging efforts by government is the desire to locate manufacturing as near as possible to the market. In a typically protected industry such a location decision may be designed to overcome import restrictions in a country ('tariff jumping'). In pharmaceuticals, it is not clear that this policy is so attractive, but the manager of one firm stated that it was company policy to use Kenya as a base for establishing a position in particular African markets and that once this had been done, manufacturing facilities would be set up in these countries. To the extent that such a practice is pursued, any Kenyan export success in pharmaceuticals will be ephemeral.

If there are no prior consideration which dictate export quantities and/or destinations, then relative profitabilities of domestic and foreign sales will be an important determinant of export performance. There is a large number of factors which have to be considered in relative profitability calculations, including domestic price control regulations, the 10% export compensation, and the price elasticity of demand in different markets (an aspect of foreign market conditions which will not be considered here).

Price control regulations were introduced in the early 1970's (on the majority of the currently controlled items) and there is some diversity in the interpretation of their intention and effectiveness among manufacturers. Basically, price control is supposed to apply to all consumer goods and to many of their domestically purchased inputs. The prices of some staple or mass consumer items are gazetted and subject to stringent control. Other items are controlled at the price levels prevailing when the regulations were introduced. Pharmaceuticals fall into the latter category. In order to raise prices an application must be made to the Price Controller, giving details of operations over several years and demonstrating that rising input costs have eroded profit margins. The application procedure is time consuming and the thoroughness with which applications are considered leads to long delays, so much so that in 1975 the regulations were changed. The new regulations state that if there has been no reply from the Price Controller to an application within 30 days, then the price increase can be implemented.

Several manufacturers question the legality of price control regulations which are not announced in the Kenya Gazette and five firm managers interviewed either stated or implied that they put their prices up anyway when rising input costs made it necessary. Almost all the managers felt that profits from domestic sales had been eroded by price control even if they were not strictly adhered to, since the levels and frequency of price rises were inhibited by the existence of the regulations. To the extent that the Price Controller's decisions are variable, and the reactions of manufacturers also vary, the regulations will have a differential effect, on firms within an industry and will be a distorting factor in the sense of rewarding or penalizing activities independently of any systematic criteria.

10% export compensation was introduced in 1974 for manufactured goods. The 10% is calculated on f.o.b. value and is designed to go some way in offsetting the anti-export bias of the trade policy regime. Most of the firms were claiming the compensation, but it is noteworthy that only one manager stated that it resulted in greater export volumes. In this case the greater volume arose as a result of profit inducement rather than through increase demand as a consequence of lower prices. All the other firms regarded the compensation as a windfall gain which did not influence marketing decisions. The reasons given for seeing the compensation in this light were that there were delays of up to four months in receiving it and that there was too much uncertainty regarding whether it would be received and how long the measure would apply.

Four firm managers stated that a unit exported was more profitable than a unit sold domestically, and two of them cited price control regulations as one explanation for this. However, none of the managers gave the impression that this constituted a decisive factor in determining market destination. Other reasons given for greater export profitability were, firstly, that domestic distribution costs incurred in the Kenya market were difficult to pass on to the consumer, whereas in export markets they were not incurred at all. Secondly, it was suggested that in some of the export markets it was much easier to be a price maker. Finally, agreeing to the practice of over-invoicing exports to certain markets and banking the balance in Kenya means higher selling prices than would otherwise be the case.

A final point which should be made in relation to foreign firms and exporting, and which has implications for other industries besides pharmaceuticals, is that these firms can frequently call upon alternative sources of supply to serve a specific market. Following the Tanzania border closure, theparents of foreign firms who were selling in Tanzania called upon other subsidiaries or other parts of the group to supply that market. One analgesic product in particular has increased its share of the Tanzanian market to such an extent (largely because competition from locally owned manufacturing firms was eradicated) that the Kenyan subsidiary producing the product would have to expand its plant if it had to supply that market again without external assistance. The ability of foreign firms to switch supply sources in this manner (and not lose out in the aggregate), when they are not relying on local raw materials, is a further reason why it would be optimistic to expect industries of this ilk (pharmaceuticals) to contribute to foreign exchange earnings substantially in any sustained way.

The general impression that exporting is in most cases regarded as a secondary and relatively unimportant activity was explained by firm managers in terms of the limited nature of the markets, stiff foreign competition, uncertainty regarding political situations and commercial policies in importing countries and adequate profits from domestic sales.

III. Protection and Competitiveness

Without attempting detailed effective protection calculations, which in any case would lose some of their usefulness in the absence of considerable disaggregation within the pharmaceuticals sector, there does not seem to be any doubt that pharmaceuticals manufacture is not protected. In fact, pharmaceutical production is anti-protected as a result of the existence of a tariff anomaly and from protection of some of the domestically purchased inputs.

All imported pharmaceutical products, with the exception of gripe water (which is on quota), were not, until very recently, subject to any quantitative restrictions. Furthermore, many finished pharmaceuticals come in duty free. All generics made to BP, USP or BPC standards, all injectable fluids, all anti-malarials, all anthelmintics and all products ruled duty free by the Director of Medical Services are free of tariff charges. The tariff anomaly referred to above arises from the fact that organic chemicals being imported under BTN 29.01/45D, some of which are used in pharmaceutical manufacture, attract a duty of 20% ad valorem. Also, some imported packaging materials, including amber glass (which is locally unavailable), are subject to tariffs.

One factor which must be mentioned, and which may afford a degree of protection to local manufacture, relates to the fact that approximately 75% of all drugs sold in Kenya are purchase by government tender. It is not clear what the government's tendering policy is, or whether it is consistent, but it has been suggested that local manufacturers' offers are given special consideration, to the extent of 10% to 20% in price, provided the quality is acceptable. There is some doubt that such a policy exists, or that if it does it will always apply. Even if it does, 10% to 20% will be an inadequate margin in some cases, such as in analgesics. Furthermore, such a concession would not protect firms which are engaged in producing specialities or other drugs for the private section of the market.

The first consideration which militates against the possibility that domestic pharmaceuticals manufacture is cost competitive internationally is the existence of the tariff anomaly. It is not clear how the anomaly arose originally, but one explanation may be that some imported pharmaceutical raw materials, such as menthol, edible gelatin and talcum powder have other end uses as well, as do some of the packaging materials.

Two other policy induced factors which make inroads on the competitiveness of domestic manufacture are import licensing, and in certain cases, sales tax procedures. Almost all pharmaceutical raw materials are on Open General Licence, but the processing of import licenses is sometimes a lengthy procedure and affects the attitudes of managers as to how much input stock should be held. Only two out of twelve managers did not think that their stock holding costs were raised by import licensing procedures and their reasons were that they had cash flow problems which meant that they could not hold the amount of stock they wanted to in any case and that they were dealing with slow moving items subject to seasonal demand, so they would hold all they could afford to. The other ten firms asserted that they bore additional stock holding costs, partly because of time fluctuations, and the attendant uncertainties, of import licence procedures. There are also additional costs in terms of the necessity of greater forward planning times and the consequent inability to buy in when prices are most favourable; furthermore, it is sometimes necessary to air freight raw materials, at high cost, to avoid stock shortages and there is occasionally a further cost if a consignment has to be broken down into lots of less than Shs.4,000 in order to avoid import licensing altogether. It might be argued that importers of finished pharmaceutical products face similar problems, but the effects are unlikely to be so far-reaching since theirs is only a warehousing and selling operation and they are mostly buying on an agency basis at pre-arranged prices. Thus it does not seem unrealistic to assume that import licensing procedure costs are higher for local manufacturers than importers, although to the extent that both manufacturers and importers are affected, the competitive disadvantage to the former is smaller.

The sales tax issue is less straightforward, particularly as the regulations have changed recently, but there are certain imported pharmaceutical raw materials, which either fall into a particular BTN category on which sales tax is automatically levied or else are considered as both raw materials and final goods and therefore subject to sales tax. In some cases sales tax may also be levied on domestic raw materials. Since sales tax is not chargeable on industrial raw materials, a firm which has been charged will have to undertake a reclamation procedure, which frequently takes up to three months or more and entails costs both in terms of tied up working capital and administration.

Apart from the policy considerations, low capacity utilization rates

(lower presumably than those prevailing in many competing countries) inevitably mean higher unit production costs. The proliferation of numerous product lines, many of them being produced on the same machinery, means that certain scale economies cannot be taken advantage of and once again this raises unit costs. It is difficult to make accurate international comparisons of input costs, but in the case of pharmaceuticals, the need to do so is partly obviated by the import intensity of Kenyan manufacture. If the somewhat heroic assumption is made that the import element, whether it is landed in Kenya as raw materials or as part of a finished good, is comparable in cost, then it is reasonable to assume that the dominance of this input in final cost will ensure that Kenyan manufacture does not have an input price advantage over competing imports.

The only consideration which could militate against this conclusion relates to relative labour costs. The general feeling in the industry is that while labour is considerably cheaper in Kenya than in Europe and the United States, the advantage is more than offset by other cost factors. The only direct evidence that was obtained related to the production of an analgesic in Kenya and in the UK. The figures given below are inclusive of tariffs, taxes and transport and the UK has a 15% cost advantage.[8]

	Kenya	UK
Raw materials	56	35
Packaging	48	35
Labour	11	22
Extra non-comparable packing cost	--	8
	115	100

UK's 15% cost advantage will be added to by the 8 units going in additional packaging. It will almost certainly be further added to by a consideration of inputed overheads, given relative capacity utilization rates. Whatever the final cost advantage to the UK, it is hardly likely to be offset by the costs of transporting the finished drug from the UK to Kenya. For all of the above reasons, it is suggested that pharmaceutical manufacturing in Kenya is not as low cost or efficient as it is in the major manufacturing centres of the world, the same centres which are supplying the Kenyan market alongside domestic manufacturers. If this is the case, and there is no insulation from import competition, then alternative explanations of the existence and continued

8. This is a 1976 comparison, using the exchange rate prevailing at that time.

survival of pharmaceutical manufacturing in Kenya must be sought.

A explanation of this situation must turn on specific conditions prevailing in the market. The most obvious point here, which has already been alluded to, is that there is a marked absence of price competition in the pharmaceuticals market. This is reflected in considerable product differentiation and heavy advertising expenditure, particularly in OTC lines. According to the Corcorran and Tyrell Advertising Review (1975 and 1976), expenditure on analgesics advertising alone accounted for 3.2% and 2.7% of total spending in 1975 and 1976 respectively. One manufacturer claims that approximately 10% of the retail price of his analgesics is accounted for by advertising expenditure. Bearing in mind that distribution mark-ups are over 33%, this makes advertising a significant cost item for manufacturers.

A cursory look at the anagesics market verifies the lack of price competition. Any pharmacy will have 20 or more OTC analgesics in stock. Broadly speaking, an analgesic will contain some or all of the following active ingredients (among others):- acetylsalicylic acid, caffeine and paracetamol. These ingredients will be found in varying proportions and quantities and the type of packaging used will also vary, so direct retail price comparisons must be treated with caution. Nevertheless, it seems very unlikely that the price differences are adequately explained by these factors. Two examples will suffice: Dawasprin (local manufacture, packed in foil) retails at Shs.3/20 for 20 tablets, whereas Boots Aspirin (local manufacture, packed in a bottle) retails at Shs.3/40 for 100 tablets. The difference of a factor of nearly five can scarcely be accounted for by differences in packaging and ingredient costs; Panadol (local manufacture, packed in a bottle) sells at Shs.33/- for 100 tablets whereas Paracetamol (imported, packed in a bottle) sells at Shs.15/- for 100 tablets. This second example further illustrates the presence of import competition and also the price differences which exist between generics and specialities. (Panadol and Paracetamol are virtually the same thing).

The situation relating to ethical medicines is complicated by the fact that they are not for sale on the open market and medical practitioners will be substantially responsible for determining market shares. Nevertheless, there is considerable product differentiation and price variation in this section of the market as well. Taking antibiotics as an example,there are six or seven 'broad spectrum' antibiotics (including tetracyclines, sulphonamides, penicillins, apicillins, erythromycins and chloramphenicols) and it is generally considered that these formulations will serve over 70% of the antibiotic needs of consumers. However, there are over 35 separate branded antibiotics available on the market, only a small portion of which includes slow moving specially formulated drugs.

Product differentiation combined with price variability between substitutable drugs is easy to maintain, given the way the market for pharmaceuticals is fragmented. The practice of identifying and prescribing drugs by brand name ensures a lack of awareness of, or interest in, price differences, or even of the availability of substitutes in some cases. This is true of the government tender as well, where an invitation to tender sometimes amounts to no more than an offer to buy a particular drug from a particular producer.

Consumer attitudes generally also play their part in supporting product differentiation. Attitudes to drugs are characterized by conservatism and habit. If a consumer is accustomed to a particular brand, he is unlikely to change or experiment with cheaper products, especially if he has been persuaded that each drug has exclusive characteristics. Furthermore, it has been suggested that a certain consumer 'perversity' is common in this market, whereby a predilection for higher rather than lower priced drugs is displayed, in the belief that relative prices reflect quality and effectiveness.

Heavy product differentiation, which sustains price variability between drug substitutes, adequately explains how variable profit rates, input cost structures and efficiency levels can be accommodated within this market. The question remains as to why, in the absence of trade impediments and raw material sources, firms choose to locate in a relatively high cost area rather than to continue to supply from overseas plants. The question is relevant only to the international firms, for whom such a choice exists.

The existence of non-price competition together with wide price

variability suggests high profit margins.[9] One manager stated that his experience in industry had convinced him that profits in the pharmaceutical industry worldwide were much higher than in most sectors and that profits in ethical lines averaged at around 65% of selling price. In a high profit industry it is easier to carry extra costs arising from suboptimal location On the other hand, if it is assumed that foreign firms are profit maximizing, then what appears as a suboptimal decision from the point of view of comparative input costs may not be suboptimal at all.

Where there is product adaptation to suit local conditions, such adaptation could possibly be more easily undertaken in a location near the market rather than in traditional locations. If the adaptation is considerable, or if the adapted product is only a small share of total output in a particular line, then it may in fact prove lower cost to set up manufacturing in what would otherwise be a high cost location.

Three managers explained their firms' decisions to locate in Kenya as a means of acquiring a larger market share. The reasons given for believing that this would be the case included the possibility that government policy would discriminate in their favour, but more will be said of this in the next section. Another reason given was that local manufacture was a good selling point. This is more likely to be so if it is an internationally known brand that is being locally produced. If it is not, local production could be disadvantageous on account of irrational consumer preference for imported goods. Some managers stated that it was simply corporate policy to invest in manufacturing activities around the world. Such a policy is pursued for reasons of corporate 'image' or 'prestige' and may also be connected with risk spreading.

Table 2 shows clearly that most of the foreign manufacturing firms are involved substantially in non-pharmaceutical production lines. All of the items listed in the fourth column of Table 2(with the exception of veterinary products) are subject to quantitative import restrictions (either quotas or bans) as well as to tariff protection. They represent typical import substituted

9. It is not always so clear that high profit margins exist where there is heavy product differentiation and standardized prices. In the Kenyan paint industry, for example, where there is a price agreement between seven manufacturers, prices have been kept below the government price controlled ceiling in the belief that contravention of the agreement will be less tempting as a result.

manufacture and have limited export potential. In these cases there is an obvious policy induced locational advantage, and bearing in mind the market size limitation, it does not seem inconsistent for these firms to be involved also in related production (pharmaceuticals in this instance), which often requires the same machinery for manufacture. It should also be remembered that all of these firms are involved in the importation of finished goods.

Finally, mention should also be made of the transfer pricing issue and foreign firms. It has been shown that transfer pricing practices were rife in the pharmaceuticals (and other) industries in South America (reported in Lall (1973)). It is difficult to obtain evidence of transfer pricing, but there is no prima facie reason to assume that the practice does not exist in other parts of the developing world. However, the point to be made here is that if the Kenyan pharmaceutical industry is pervaded by this kind of profit remission, it does not help to explain the original location decision, since in this particular case, there is no impediment to generating such profits on the sale of finished goods.

IV. Conclusion

It has been argued that pharmaceuticals manufacture in Kenya displays all the features of an import substituted infant industry with a preference for continued juvenility. It is the kind of industry which is not (now or in the foreseeable future) internationally cost competitive. It changes the composition of imports rather than making significant foreign exchange savings and it does not appear to be well placed to earn foreign exchange in any quantity on a sustained basis. Yet on the face of it the industry did not establish itself in response to the usual policy induced incentives. Explanations for this apparent paradox have been sought both in terms of the ability of firms to establish themselves in the absence of protection against imports and in terms of their willingness to do so. The explanations have turned primarily on the scope for product differentiation and the fragmented nature of the market.

Having established that trade policy did not play its customary role in spawning the pharmaceutical industry, the question arises as to the implications of this situation for the assumed nexus between trade policy and industrial structure. In the first place, it should be noted that investments in fledgeling manufacturing activities are sometimes of a pre-emptive nature. In a country where protection from imports is frequently sought and nearly as

frequently given, investors may almost take it for granted that once manufacturing has commenced, government will find the protectionist clamour irresistible. There is some indication of this kind of thinking in the comments of three managers reported in the previous section.

Furthermore, it has become clear in recent months that pharmaceuticals manufacture is to be protected after all. The most recent, and by far the largest pharmaceuticals factory was set up with the express understanding that protection would be forthcoming. Within its product range, this factory has the capacity to serve a market of 80 million people. It appears that the target market was to include Uganda and Tanzania and that installed capacity would still leave room for exporting. In these circumstances, it is hardly surprising that the firm is anxious to guarantee as large a market as possible. It is also noteworthy that it is in the nature of the industry, because of consumer price insensitivity, that the protection has to be quantitative rather than by tariff. As would be expected, no import duties have been imposed on pharmaceuticals, but a list of some locally produced drugs has been compiled and none of these drugs, or what may be judged as their substitutes, can be imported.

This recent development does not alter the fact that pharmaceutical manufacture in Kenya pre-existed protection by some ten years or more, and here is one case where trade policy initially played a less decisive role in this type of investment decision than it usually does. Finally, the experience of the pharmaceuticals sector raises the question of whether, in an economy already over-burdened with administrative interventions, which are sometimes cumbersome and counter-productive, there is not room for one more; namely, a system of industrial licensing.

TABLE 1 - FIRM OWNERSHIP & YEAR OF COMMENCEMENT

FIRM	OWNERSHIP	YEAR OF INCORPORATION
1	Foreign	1966
2	"	1963
3	"	1973
4	"	1949
5	"	1964
6	"	1971
7	Foreign/Local	1977
8	Local	1967
9	"	1973
10	"	1971
11	"	1970
12	"	1961

TABLE 2 - NUMBER OF EMPLOYEES AND PRODUCT RANGE

FIRM	NUMBER EMPLOYED	MANUFACTURED PHARMACEUTICAL PRODUCTS (with percentage of total output in parenthesis)	OTHER MANUFACTURED PRODUCTS
1	65	Analgesics (57%)	Toiletries (43%)
2	120	Antibiotics, vitamins, cough treatments, sundry (75%)	Baby foods (25%)
3	n/a	Antibiotic capsules, sundry(20%)	Agricultural chemicals, Plastics PVA Emulsion, Pigments (80%)
4	40	Cough treatments, anthelmintics, analgesics sundry.	Veterinary
5	103	Analgesics, sundry (40.5%)	Agricultural chemicals (4.5%) Toiletries (55%)
6	n/a	Linaments, medicated soap (100%)	
7	140	Analgesics, diarrhoea, antibiotics, vitamins, tranquillizers, sundry (100%)	

Table 2 Continued

FIRM	NUMBER EMPLOYED	MANUFACTURED PHARMACEUTICAL PRODUCTS (with percentage of total output in parenthesis)	OTHER MANUFACTURED PRODUCTS
8	27	Antimalarials, cough treatments, balms, analgesics (90%)	Toiletries (10%)
9	15	Cough treatments, ointments, linaments (100%)	
10	23	Diarrhoea, cough treatments, anthelmintics, vitamins, antibiotics, antimalarials (100%)	
11	17	antibiotics, antihistamines, cough treatments, analgesics, antimalarials (100%)	
12	24	Analgesics, antimalarials, cough treatments, sundry (100%)	

TABLE 3 - CAPACITY UTILIZATION & IMPORT INTENSITY

FIRM	NO OF SHIFTS WORKED	MACHINE CAPACITY UTILIZATION RATE	%OF IMPORTS IN VALUE OF RAW MATERIALS
1	1	60%	85%
2	1	55%	40%
3	1	45%	60%
4	1	65%	90%
5	1	60%	40%
6	1	n/a	n/a
7	1	75%	76%
8	1	50%	75%
9	1	60%	35%
10	1	30%	70%
11	1	60%	40%
12	1	50%	85%

TABLE 4 - PHARMACEUTICAL EXPORTS

FIRM	CURRENT EXPORTS AS A % OF OUTPUT	EXPORTS AS A % OF OUTPUT BEFORE TANZANIAN BORDER CLOSURE	CURRENT EXPORT DESTINATIONS
1	15%	80%	Somalia, Ethiopia
2	18%	40%	Uganda, Zambia, Malawi
3	5%	n/a	Uganda, Somalia
4	60%	n/a	Zambia, Uganda, Ethiopia, Somalia
5	31%	64%	Zambia, Malawi
6	5%	30%	Somalia
7	10%	-	Burundi, Ethiopia
8	-	-	-
9	3%	10%	Uganda, Samalia, Zaire
10	65%	80%	Uganda, Somalia, Rwanda, Burundi, Zaire, Zambia.
11	-	-	-
12	7%	20%	Malawi, Zaire, Sudan.

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