

University of Strathclyde

EXPORT INSTABILITY: A CASE STUDY OF ETHIOPIA  
1962-1970

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SUMMARY

One of the widely-held propositions in the literature on the problems facing developing countries is that these countries experience short-term fluctuations in their export earnings which have adverse effects on their domestic economies. There is a strong prima facie case for this proposition.

Several arguments point to an almost inevitable instability in proceeds from primary products, which account for a high proportion of total exports from the developing countries. Demand for primary products imported into the developed countries is, it is alleged, subject to frequent, sharp, short-term variations and the situation is aggravated by the low price elasticities of demand for such commodities. Moreover, variations in the world supply of individual primary products and the low price elasticities of supply appear to contribute to the instability in proceeds. Exports from the developing countries tend to be concentrated on a few markets or on a narrow range of primary commodities. Thus, fluctuations in earnings from one source need not be offset by compensating changes in proceeds from another source.

Where exports represent a large part of national output, significant fluctuations in export earnings may cause difficulties on several fronts. A developing country's ability to import capital equipment and other "input imports" essential to its growth efforts are determined principally by its export earnings. Export instability may introduce, therefore, uncertainties which hamper investment and domestic growth. Government revenues often depend heavily on the yields of taxes on foreign trade which may be strongly influenced by changes in export earnings. It follows that government

expenditures may be subject to marked variations. Increases in incomes, consequent upon upward changes in export proceeds, may exacerbate inflationary tendencies by raising demand for both domestically produced and imported consumer goods, the supply of which tends to be price inelastic in the short-run. At the level of the individual peasant farmer, lower cash income, resulting from decreases in export earnings, may inflict considerable hardships, even starvation. Failure to prevent these consequences of export instability is usually ascribed to the absence of effective policy measures.

This thesis is concerned with the question of export fluctuations in the context of the Ethiopian economy and its purpose is threefold. Firstly, it sets out to establish, using available data, the impact on the Ethiopian economy of changes in those variables which are conventionally thought to be affected by export fluctuations. Secondly, it attempts to identify those factors responsible for the export instability experienced by Ethiopia. This investigation involves a consideration of the importance of the various factors outlined above and of the emphasis customarily laid upon certain of these factors. The possible effects on fluctuations in Ethiopian export earnings of changes in tariff barriers and changes in international price competitiveness are also examined. Thirdly, those policy measures available to an individual government concerned with the problem of export instability are discussed in the light of the findings on the consequences and causes of changes in Ethiopian export proceeds.

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## CHAPTER ONE.

### 1. Introduction.

In recent years there has appeared a substantial literature concerning the relationship between international trade and the growth of the developing countries. The main attention of this literature has been focussed on two aspects of the trade-growth nexus. The first aspect involves a reconsideration of the hypothesis that international trade acted as an "engine of growth" for the countries of the periphery in the nineteenth century. The second aspect concerns the question of whether or not trade has an important role to play in the growth of the present-day developing countries.

This thesis is concerned with the instability of export earnings in one African economy, that of Ethiopia, during a particular period of time and with the factors responsible for such instability rather than the more general question of the role of foreign trade in the process of economic growth. If, however, foreign trade does have a role to play in the growth of the developing countries then the instability of export earnings may be a problem of some significance for these countries. Indeed, the instability of export earnings will be a problem only if foreign trade is important to the developing countries. One should begin, therefore, by establishing whether or not foreign trade is an important element in the growth of the developing countries and, since much of the current thought on this topic results from a comparison of the situation which obtained in the nineteenth century with present-day conditions, one should examine the basis of this comparison.

There is a school of thought which maintains that during the nineteenth century international trade served as an "engine of growth" for the countries of the periphery, but that international trade can no longer be relied upon to do likewise for the present-day developing countries. This contrast between historical experience and current expectations has its roots in the work of Ragnar Nurkse.<sup>1</sup> Nurkse's interpretation of the events of the nineteenth century led him to the conclusion that demand conditions in Western Europe were such that they led to increases in the exports of the countries of the periphery. It was, he argued, the tremendous expansion of Western Europe's, and especially Great Britain's, demand for foodstuffs and raw materials which provided the basic inducement that caused the countries of the periphery to develop. "Trade in the Nineteenth Century ... was above all an engine of growth."<sup>2</sup>

The term "engine of growth" to describe the relationship between international trade and economic growth was first used by Sir Dennis Robertson<sup>3</sup>, who observed that this relationship was not just a matter of the optimum allocation of a given stock of resources. According to Nurkse, it was certainly that, but it was something more as well. As Nurkse interpreted the events of the

<sup>1</sup>R. Nurkse, Patterns of Trade and Development, The Wicksell Lectures, Stockholm, 1959. Reprinted in Equilibrium and Growth in the World Economy, edited by G. Haberler and R. M. Stern, Cambridge, Mass., 1961, pp.282-304.

<sup>2</sup>R. Nurkse, Balanced and Unbalanced Growth, in Equilibrium and Growth in the World Economy, edited by G. Haberler and R. M. Stern, Cambridge, Mass., 1961, pp.242-3.

<sup>3</sup>D. H. Robertson, The Future of International Trade, in Essays in Monetary Theory, London, 1940, p.214.

nineteenth century:

A cumulative process of development was produced by the relation between export demand and foreign investment. Areas that had natural resources whose products were in growing demand abroad received capital with which to exploit those resources and to increase the supply of those products.<sup>1</sup>

Even in the nineteenth century, however, the pattern of "growth through trade" did not work for all of the countries of the periphery. This mechanism affected particularly the "regions of recent settlement" in the world's temperate latitudes: Canada, the United States of America, Argentina, Uruguay, South Africa, Australia, and New Zealand. Nurkse did recognise that:

Other areas were relatively neglected by the expansion of foreign demand as well as the flow of capital. And in places where both trade and capital flows were exceptionally active ... the outcome was sometimes a "dual economy" in which a well-developed<sup>2</sup> export sector co-existed with a primitive domestic economy.

Although he had no objections to the principle of trade acting as an "engine of growth" for the present-day developing countries, Nurkse was pessimistic about the extent to which trade might act as the springboard for growth for these countries in the conditions of the twentieth century. His pessimism was based on two observations. Firstly, the world's industrial centres were no longer "exporting" their own growth rates to the primary producing countries owing to such factors as low income elasticities of demand for primary products, the rise of synthetic fibres and the expansion of the production of primary products in the economically advanced countries. Developments of this nature suggested to Hicks, as "a

<sup>1</sup>Nurkse, Patterns of Trade and Development, p.288.

<sup>2</sup>Ibid., p.289.

simple and fundamental explanation of the change in economic atmosphere"<sup>1</sup>, that improvements during the nineteenth century were primarily trade-biased, whereas twentieth century innovations have been of the opposite type. Secondly, the possibilities of manufactured commodities being exported from the developing countries to the advanced countries were limited, because of the unfavourable commercial policies of the latter group of countries and the "formidable" obstacles to achieving a minimum level of efficiency in the former countries. Nurkse argued that import restrictions by rich industrial countries would wipe out potential gains from export by poorer countries, that the simplest types of manufactured goods are not in strong demand and that complicated manufactures are too difficult for the unskilled labour of less developed countries. This latter point has been discussed more recently by S. B. Linder who argues that:

Owing to the lack of foreign demand, the developing countries ... cannot export those manufactures they are most efficient at producing. Generally speaking, they are reduced to trying to export manufactures with which<sup>2</sup> they are unfamiliar to markets of which they have no experience.

This Linder feels may help to explain the phenomenon of "export fatalism".

Nurkse's pessimism with regard to the efficacy of the trade-investment relationship in the twentieth century has been echoed by others including Gustav Ranis. Ranis' contrast between nineteenth and twentieth century trading opportunities lays

<sup>1</sup>J. R. Hicks, The Long-Run Dollar Problem, An Inaugural Lecture, Oxford Economic Papers, June 1953, p.133.

<sup>2</sup>S. B. Linder, Trade and Trade Policy for Development, Praeger, 1967, p.37.

particular stress on the changes in the markets available to the present-day developing countries as a result of changes in the relationships among countries. According to Ranis, the notion that growth in the under-developed world derives basically from contact with the developed world through trade and/or the international movement of capital fails to describe reality in the twentieth century. Ranis argues that this idea must be regarded "as an intellectual hangover from the experience of the nineteenth century when growth emanating from the industrial centre spilled over to the underdeveloped periphery"<sup>1</sup>, and he points out that this spillover was the result of the simultaneous occurrence of four elements guaranteed by the rules of the colonial system; namely, the generation of export surpluses by the countries in the centre; a resulting and automatic financial accomodation or capital movement; the flow of technological know-how, entrepreneurship, skill and organisational capacity from the centre to the periphery; and the development of assured export markets for the products of the periphery.

Ranis maintains that:

In the present-day context, this nineteenth century picture featuring trade as the main "engine of growth" no longer holds. We are now in an era in which these four vital functions are, at best, substituted for in an imperfect and piecemeal fashion, if at all. The needs of the less developed economy for an import surplus, for example, must now be mainly financed by official "aid" without the benefits of certainty and automaticity. The flow of technical know-how and entrepreneurship likewise is no longer on a profit-making basis but rather on a politically negotiated basis. Finally, less developed economy markets are by no means assured and prospects for satisfactory substitute arrangements of the

<sup>1</sup>G. Ranis, Trade, Aid and What?, Kyklos, Vol. XVII, 1964, p.180.

interventionist variety are by no means bright.<sup>1</sup>

There can be little doubt about the pervasiveness and persistence of views reflecting trade pessimism in the developing countries. The insistence on the importance of trade to the developing countries of the nineteenth century coupled with the allegations concerning less favourable present-day markets has served to minimise the potential role of trade for today's developing countries and has led many developing countries to adopt inward-looking development strategies emphasising import-substitution.

The minimisation of the possibility that trade might act as an "engine of growth" for today's developing countries when compared with the role played by trade in the last century rests upon two assumptions. Firstly, it is assumed that trade did act as an "engine of growth" for the successful countries of the periphery in the nineteenth century. Secondly, it is assumed that the opportunities for trade open to the developing countries of the twentieth century are less favourable than the opportunities which were available to the countries of the periphery in the nineteenth century.

The first assumption may be examined by reference to work by I. B. Kravis<sup>2</sup>. Kravis tested the hypothesis of nineteenth century growth induced by export demand by reviewing the historical records of three groups of countries - those new countries that did experience rapid growth, those periphery countries whose per capita incomes did not rise rapidly and the centre countries. The results of empirical studies by several authors were cited by Kravis and his

<sup>1</sup>Ibid., pp.180-1.

<sup>2</sup>I. B. Kravis, Trade as a Handmaiden of Growth, Economic Journal, Vol. LXXX, December 1970, pp.850-872.



reconnaissance in the comparative study of nineteenth century growth led him to the conclusion that:

This evidence does not support any simple generalisation about the dominant role of trade in the success stories of nineteenth century growth. Export expansion did not serve in the nineteenth century to differentiate successful from unsuccessful countries. Growth where it occurred was mainly the consequence of favourable internal factors, and external demand represented an added stimulus which varied in importance from country to country and from period to period. A more warranted metaphor that would be more generally applicable would be to describe trade expansion as a hand-maiden of successful growth rather than as an autonomous engine of growth.

With regard to the second assumption, the chief concern of the trade pessimists has been with the position of the developing countries in the expansion of world trade. It is true to say that the share of the developing countries in world primary product trade has been declining. However, it is not true to say that demand conditions for the primary products of the developing countries have been less favourable than the demand conditions which obtained in the nineteenth century. United Nations publications<sup>2</sup> point out that there is little evidence of poor rates of growth of primary product trade relative to the past and that it cannot be said that the developed countries have failed to provide growing markets for primary products. Indeed, the exports of the less developed countries as a group have expanded in the last two decades at rates comparable to those of the countries of the periphery in the late nineteenth century when trade was supposed to be an "engine of growth". Kravis examined several possible measures of market opportunities and, after

<sup>1</sup>Ibid., p.850.

<sup>2</sup>United Nations, Monthly Bulletin of Statistics, New York, November 1965 and November 1967 and United Nations, World Economic Survey, 1963, New York, 1964.

considering data from several sources, concluded that "if anything, external demand, by almost any measure, has been larger relative to the economic size of today's LDCs than in the former period"<sup>1</sup>. The decline in the developing countries' share of world trade in primary products cannot, Kravis contends, "be ascribed completely to unfavourable markets for commodities produced wholly or mainly in the LDCs"<sup>2</sup>. It is more likely, he argues, that:

What the recent experience of the LDCs shows is not a failure of external demand but that internal problems of supply when biased against trade by policy measures, cannot be automatically resolved even by extraordinary favourable external demand conditions.<sup>3</sup>

These observations concerning the role of trade in the nineteenth century and the expansion of markets for the primary products of the developing countries in the twentieth century lead one to two conclusions. Firstly, it seems likely that Nurkse exaggerated the past role of trade since the evidence suggests that international trade cannot provide a satisfactory explanation of the differences in the growth records of different countries in the nineteenth century. Secondly, external demand conditions have not been as unfavourable as Nurkse imagined them to be. These conclusions suggest that one should be wary of accepting the policy prescriptions of those who advocate the idea of current trade pessimism and neither of these conclusions excludes the possibility that favourable external demand conditions can be helpful in promoting growth, although it should be noted that the existence of

<sup>1</sup>I. B. Kravis, Economic Journal, 1970, p.869.

<sup>2</sup>Ibid., p.864.

<sup>3</sup>Ibid., p.865.

these conditions is not necessarily crucial, as trade is only one of many factors affecting growth.

The above conclusions admit of the possibility that international trade has a role to play in the growth of the present-day developing countries and, before turning directly to the question of export instability, it is desirable to examine the ways in which international trade may be important to these countries. Only then will it be possible to place the problem of the short-run instability of export earnings in perspective. Intuitive logic, theoretical arguments and empirical evidence may be called upon to support the view that international trade can be helpful in promoting growth in the developing countries. The following three sections of this chapter will be concerned, therefore, with the importance of exports to the developing countries, the empirical evidence concerning the relationship between exports and economic growth and the importance of imports to the developing countries.

## 2. The Importance of Exports to the Developing Countries.

There are strong logical grounds for the belief that trade phenomena are related to intrinsic growth processes. The theory of international trade is aimed essentially at showing how income increases by means of international trade and is, therefore, a special case of growth theory. Trade theory and growth theory have been cast, however, on very different assumptions. According to J. E. Haring<sup>1</sup>, trade theory assumes unchanged cost and demand conditions, while growth theory assumes that investment, income and

<sup>1</sup>J. E. Haring, *Dynamic Trade Theory and Growth in Poor Countries*, Kyklos, Vol.XVI, Fasc.3, 1963, p.181.

other variables are constantly changing and, thus, to be more useful in a dynamic, changing economy, trade theory must be recast in terms of the assumptions of growth theory. The closest thing one has to a dynamic theory of trade is a collection of statements concerning the role of export expansion in promoting economic growth.

Despite the fact that there has been no systematic development of a dynamic theory of international trade, the literature on international trade bears substantial testament to the view that export expansion may lead to economic growth. Following R. F. Emery<sup>1</sup> one may identify both direct and secondary benefits to the economies of the developing countries of export expansion. These two categories of benefits will be examined briefly in turn.

The direct benefits to an economy of an increase in exports may be examined under four headings. Firstly, an increasing level of exports generally means that an economy has the wherewithal to step up its level of imports. It is in terms of this ability to earn the foreign exchange necessary to pay for imports, which are often indispensable in contributing to economic growth, that the importance of exports to an economy is generally assessed. Given an increased ability to purchase essential goods from abroad, Emery argues that a developing country is enabled to take greater advantage of the international division of labour, procuring desired goods at considerable savings in terms of inputs of productive factors and, thereby, increasing the efficiency of industry, which is a major factor in economic growth.

Secondly, it is argued that export development tends to

<sup>1</sup>R. F. Emery, *The Relation of Exports and Economic Growth*, *Kyklos*, Vol. XX, 1967, pp. 470-486.

concentrate investment in the most efficient sectors of an economy, i.e. those sectors in which an economy enjoys a comparative advantage. Specialisation in those products in which the economy has a comparative advantage will increase productivity.

Thirdly, an economy may enjoy economies of scale as a result of obtaining access to international markets. The addition of foreign markets to the domestic market permits larger-scale operations than are permitted by the domestic market alone. Moreover, where economies of scale result in a reduced price for a particular product, new production may be stimulated, either domestically or abroad, using that good as an input.

Fourthly, the necessity of remaining competitive in international markets tends to lead to improvements in the quality of export products and, in general, to inhibit the establishment of inefficient export industries.

In addition to these direct benefits, expansion of the export sector may produce certain secondary benefits which include increased consumption, increased investment and an increased flow of technology.

As consumers in the developing countries become aware of the wide range of consumer products available abroad, but not available domestically, the demand for these products increases and it may be argued that, provided these goods can be imported, the desire to acquire them may act as an incentive to increase productivity in the developing countries. Export expansion may make available the foreign exchange necessary to import these products and, thus, act as an indirect stimulus to increased productivity. In addition to this "international demonstration effect", one must consider that the

increase in factor incomes resulting from export expansion may lead to demand spilling over into other sectors of the domestic economy.

It may be argued that:

Since exports come from enterprises that are "home-based" in respect of the capital and manpower they use, the process of their production itself generates a whole new range of demands for materials and equipment, as well as for food, clothing, housing and other consumption items needed by the income-earning manpower employed. In so far as these new demands are not being met by imports, they have the effect of creating locally new markets for domestic products and materials.

The expansion of domestic incomes as a result of increased exports may lead to an increase in investment to satisfy the newly created demands for services and consumption goods and may stimulate, also, further investment in the export sector itself. If exports of a particular product are profitable and expanding, there is a stimulus to investment in the export industries and in the processing industries associated with the product in its various stages of production. The investment opportunities available may serve as an inducement both to domestic investment and to foreign investment where the investment climate is propitious from the viewpoint of foreigners.

Lastly, a growing export sector often encourages an increased flow of technological and market innovations as well as managerial skills. Under the pressure of international competition and the desire to expand foreign sales, existing production methods may be improved upon, both by importing foreign techniques and by local initiative, to increase productivity and improve quality.

The factors discussed above tend to reinforce each other,

<sup>1</sup> United Africa Company, Statistical and Economic Review, Issue 29, April 1964, p.5.

stimulating further expansion of exports, investment and consumption and the result is a substantial rate of growth in real gross national product. That the expansion of exports will operate to produce these effects is, however, a line of reasoning that has not gone unquestioned at the theoretical level.

R. J. Ball<sup>1</sup> has conducted a theoretical examination of the relationship between exports and economic growth using an extension of the well-known Harrod-Domar model. Ball's statement of his model leads him to derive the following formula for the income rate of growth;

$$g = \frac{[s - (\Delta X/Y)]}{I - \sigma m}$$

where  $g$  = the income rate of growth;  
 $\sigma$  = the marginal output-capital coefficient ( $\sigma > 0$ );  
 $s$  = the marginal savings ratio ( $0 < s < I$ );  
 $X$  = exports;  
 $Y$  = income;  
 and  $m$  = the marginal propensity to import.

This formula indicated to Ball that "increasing the increment of exports may, in fact, reduce the rate of growth".<sup>2</sup> B. F. Massell<sup>3</sup> has, however, made two criticisms of Ball's model and the conclusion derived therefrom. Firstly, Massell has pointed out that Ball's model is algebraically incorrect and that Ball's equation for the income rate of growth cannot be arrived at using his system of equations. Secondly, Massell argues that, even if this algebraic error is disregarded, Ball was misled by his own assumptions. Ball

<sup>1</sup>R. J. Ball, Capital Imports and Economic Development: Paradox or Orthodoxy, Kyklos, Vol. XV, 1962, pp.610-622.

<sup>2</sup>Ibid., p.619.

<sup>3</sup>B. F. Massell, Exports, Capital Imports and Economic Growth, Kyklos, Vol. XVII, 1964, pp.627-635.

assumed that capital imports adjust to the deficit in the current balance of trade, but this assumption, Massell contends, is inadmissible since it allows that the growth rate may be raised not only by reducing exports but also by increasing the propensity to import; "and this is true even if imports consist of only caviar or golden beds".<sup>1</sup> Massell rejected, therefore, Ball's criticism of the relationship between exports and economic growth.

The relationship between export expansion and economic growth has been discussed extensively by economists but there have been few statistical studies undertaken in the post-war period to establish the empirical validity of this relationship. The following section will be concerned with examining the available evidence concerning the nature of the relationship between export growth and economic growth.

### 3. Empirical Evidence of the Relationship Between Export Expansion and Economic Growth.

Statistical investigations to establish the validity of the relationship between export expansion and economic growth have used two types of approach. One approach has involved the use of rates of change of Gross Domestic Product (GDP) and its components, while the other has made use of time series data to construct regression equations. Regardless of the method employed, however, one should mention an issue of direct relevance to the measurement of a relationship between export expansion and economic growth. Given that exports are a component of GDP, an expansion of exports, *ceteris paribus*, will necessarily result in an increase in GDP. If

<sup>1</sup>Ibid., p.619.



one assumes, for instance, that exports represent 25% of a particular economy's GDP, an increase in export earnings of 20%, ceteris paribus, will give rise to a 5% increase in GDP. The earlier discussion of the direct and secondary benefits of export expansion indicated, however, that export expansion may be expected to exert a multiplier effect on the domestic economy. The presence of such a process would produce an increase in GDP in excess of 5%. That an expansion of exports of 20% will lead to a 5% expansion in GDP is, therefore, tautologically correct but does not justify the conclusion that export expansion has a generative impact on the domestic economy. Such a conclusion is warranted only where the growth in GDP, consequent upon the growth in exports, is greater than 5%.

Of the two approaches to examining the relationship between export expansion and economic growth the method involving the use of growth rates has been employed by the United Nations. The United Nations, World Economic Survey, 1967<sup>1</sup> divided the developing countries into three groups according to their growth rates of GDP during the period 1955-65, i.e. a high-growth group, a medium-growth group and a slow-growth group, and an examination of sectoral growth rates led to the conclusion that there was a close relationship between export performance and economic growth. The countries with the higher rates of export growth tended to be those countries with the higher rates of growth of GDP, while the countries with the slower rates of export growth tended to be the countries with the slower rates of growth of GDP. The data on growth rates was supplemented by data on the ratios of exports to GDP for the

<sup>1</sup>United Nations, World Economic Survey, 1967, New York, 1968, pp.21-30.

developing countries and the change in GDP associated with a given change in exports was such that it was concluded that export expansion "provides an important flow of income which exerts a multiplier effect on the local economy"<sup>1</sup>. Using the same method the World Economic Survey, 1958<sup>2</sup> examined the experiences of twenty-seven developing countries during the period 1950-57. Arguing that "rising foreign demand for the output of the export sector has generated expansionary impulses which have stimulated growth in the domestic sectors of the economy"<sup>3</sup>, this study concluded that:

The close relationship which is apparent clearly demonstrates the dominant role that the export sector has played in determining the rate of growth in the internal economy. Countries enjoying a high rate of internal growth have generally experienced favourable trends in foreign demand for their exports, while countries which have been faced with comparative stagnation of their external markets have frequently suffered from relatively slow internal economic expansion.<sup>4</sup>

Regression analysis was used by Haring and J. F. Humphrey<sup>5</sup> to examine the relationship between export expansion and economic growth. Using data on GDP and the various components of GDP they constructed a series of regression equations for the period 1950-1960. The models they derived indicated that export expansion did lead to an expansion of the domestic economy and they concluded that their "simple statistical models reveal that exports can and do act

<sup>1</sup>Ibid., p.27.

<sup>2</sup>United Nations, World Economic Survey, 1958, New York, 1959, pp.53-55.

<sup>3</sup>Ibid., p.55.

<sup>4</sup>Ibid., p.56.

<sup>5</sup>J. E. Haring and J. F. Humphrey, Simple Models of Trade Expansion, Western Economic Journal, 1964, pp.163-174.

as a leading sector"<sup>1</sup>. More specifically, "the simple models developed in the study show that export economies react immediately (using annual data) to changes in exports, adding some empirical verification to existing literary theories"<sup>2</sup>.

The available evidence does suggest, therefore, that there is a relationship between export expansion and the growth of the domestic economy.

Whereas exports provide some indication of the extent to which a country's domestic production is dependent on foreign markets, imports represent an increase in the supply of goods currently available. Goods imported into a developing country augment domestic output and, thus, increase the volume of goods available to satisfy domestic demand. Export earnings are vital to pay for imported supplies essential to the growth efforts of the developing countries and the following section will examine the dependence of the developing countries on imported goods.

#### 4. The Importance of Imports to the Developing Countries.

The importance of imports to the developing countries has been discussed at length in the literature on economic development. H. B. Chenery and I. Adelman have described imports as being "virtually a separate factor of production"<sup>3</sup>, and Linder begins his discussion of the importance of imports to the developing countries by pointing out that:

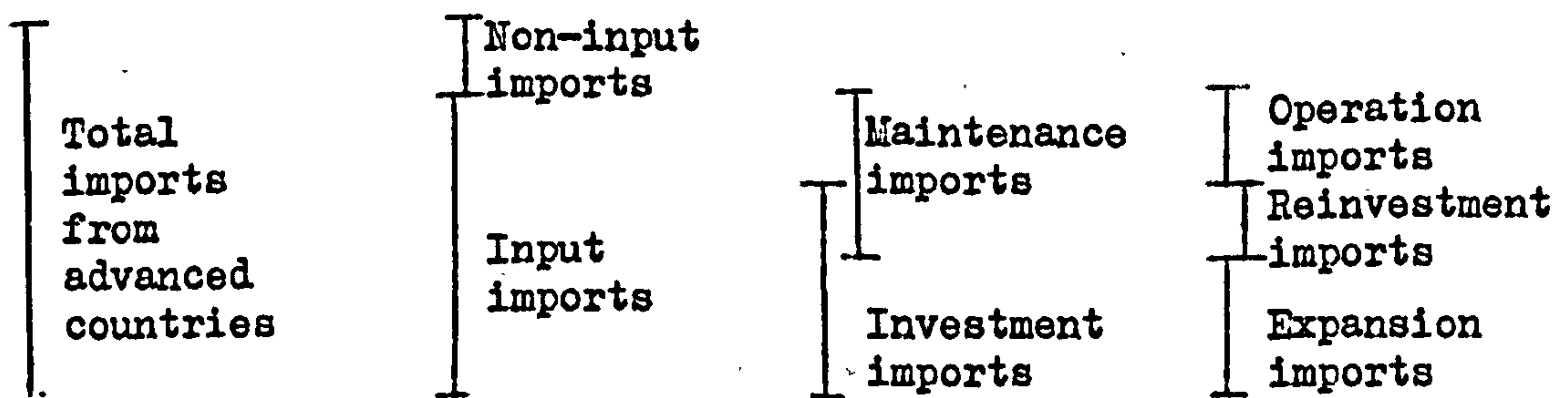
<sup>1</sup> Ibid., p.174.

<sup>2</sup> Ibid., p.174.

<sup>3</sup> H. B. Chenery and I. Adelman, Foreign Aid and Economic Development: The Case of Greece, The Review of Economics and Statistics, Vol. XLVIII, 1966.

When a backward country becomes a developing country, the possibility for the rational use of significant quantities of capital goods emerges. The need for capital goods can be filled to only a minor extent by domestic production. And the obstacles to the transformation of domestic factors of production into capital goods are characteristic features of countries not yet economically advanced.

Linder lays particular emphasis on the needs of the developing countries for imports of capital goods from the developed countries and he suggests that the developing countries require a minimum volume of imported capital goods to avoid underutilisation of existing resources and frustration of growth potential. These required capital goods are denoted by Linder as input imports and the following schema indicates the nature of the composition of these input imports.



The composition of the input imports is determined by the development requirements of a particular economy. According to Linder:

The development process ... requires certain expansion imports, in the absence of which the growth potential ... could not be fully exploited, and, in order to keep existing capacity unchanged and to avoid the frustration of savings for reinvestment, reinvestment imports, in the form of capital goods to replace former expansion imports; together, these constitute investment imports. In order fully to utilise existing

<sup>1</sup>Linder, Trade and Trade Policy for Development, p.11.

capacity, there must also be certain operation imports - spare parts to imported capital goods and non-domestic primary products. Reinvestment and operation imports together constitute maintenance imports.

In practice, it may be difficult to determine which imports are input imports. Consumer goods, for instance, which cannot be produced in sufficient quantities domestically and are basic necessities, required to maintain the labour force in the developing country, qualify as input imports, or, more precisely, as operation imports. Similarly, it may be difficult to classify input imports into various subcategories. It is not self-evident, for instance, whether imports to a domestic capital-goods industry should be classified as operation imports or investment imports. But these distinctions, Linder argued, "are at least as clear, conceptually as well as practically, as many other distinctions in current use - between savings and consumption, for example."<sup>2</sup>

Despite the assumption that these input-imports are essential to the growth efforts of the developing countries, the use of imported capital goods may give rise to a factor-proportions problem which, if not resolved, may lead to the unemployment of both domestic capital and labour in the developing countries. The factor-proportions problem referred to here differs from the factor-proportions problem raised by R. S. Eckaus<sup>3</sup>. Eckaus was concerned with the unemployment of labour resulting from the use of capital-labour ratios such that all labour could not be employed. The concern here is not with the

<sup>1</sup>Ibid., p.12.

<sup>2</sup>Ibid., p.13.

<sup>3</sup>R. S. Eckaus, Factor Proportions in Underdeveloped Areas, American Economic Review, Vol. XLV, 1955, pp.539-565.

limited substitutability between capital and labour but between domestic factors, both capital and labour, and input imports.

Given this factor-proportions problem, one must ask why the developing countries wish to use the most advanced capital equipment rather than simple techniques that could be introduced with domestically produced capital equipment. The answer to this question is twofold. Firstly, the choice of technology is frequently determined by considerations of prestige. Linder asserts that "there is a "demonstration effect" influencing the demand for capital goods even more strongly than the demand for consumer goods"<sup>1</sup>. Secondly, it must be recognised that simple techniques cannot be transferred from the developed countries.

The technology from the initial periods of these countries' industrialisation is now not only economically antiquated but effectively forgotten. Simple techniques would, thus, in a great majority of cases, require a substantial amount of inventive and engineering work in the developing countries themselves. Even if this could be done, using available domestic factors, it would be so time-consuming that it would probably not impress policy-makers as politically feasible, even if methods of using capital goods that do not require advanced technology and could be produced at home were, in the end, to prove more effective.

Thus, both because the low levels of development make it impossible for the developing countries to produce advanced capital equipment and because it is felt necessary to use such equipment to achieve rapid growth, the developing countries are heavily dependent on imports of machinery, capital equipment and other essential goods that are strategic to raising the levels of investment.

The process of economic growth does not necessarily reduce the

<sup>1</sup>Linder, Trade and Trade Policy for Development, p.14.

<sup>2</sup>Ibid., p.15.

dependence of the developing countries on imported capital goods. It has been pointed out that:

In some countries industrialisation has led to significant increases in the domestic supply of investment goods; but at the same time the demand for these products too has been expanding rapidly, with the result that the dependence on imported supplies has not diminished and in some cases has even risen.

When one considers their impact on the domestic economy from the angle of growth there is an essential difference between exports and imports. From the discussion of the direct and secondary benefits of export expansion it is clear that export growth has a multiplier effect on the domestic economy. Imports, on the other hand, have no such direct generative impact on the growth of the importing country; these effects are enjoyed by the exporting country.

Nonetheless, depending on their composition:

Imports ... can provide the very items of capital equipment and machinery, the raw materials and specialised services that are not obtainable from domestic sources but which are indispensable to local development. And, even within the consumer category they can, by including the more specialised and sophisticated of consumer goods, which rising incomes bring within range of demand, help towards a development of consumer tastes which has its own contribution to make to general development.

The discussion so far has been concerned with the question of whether international trade has a role to play in the growth of the developing countries and both theoretical reasoning and empirical evidence suggest that trade is important to the growth process in the developing countries. One obstacle to the possibility of growth induced by trade, however, is the short-run instability of export earnings. The short-run instability of export earnings may, as will be argued below, have serious implications for the economic growth of

<sup>1</sup>United Nations, World Economic Survey, 1962, New York, 1963, p.1.

<sup>2</sup>United Africa Company, Statistical and Economic Review, 1964, p.9.

the developing countries. The following sections will be concerned, therefore, with examining the empirical evidence of the export instability experienced by the developing countries, the consequences of such instability for the economies of the developing countries and the causes of export instability.

##### 5. Empirical Evidence of the Instability of Export Earnings.

Concern with the problem of export instability was stimulated largely by the United Nations study, Instability in Export Markets of Underdeveloped Countries<sup>1</sup>. This study examined trade between the developing countries and the United States and contained an analysis of fluctuations in the unit import prices of goods imported into the United States and an analysis of fluctuations in the export receipts of those developing countries which exported to the United States. Fluctuations in these variables were analysed for each year from 1922 to 1949 or as far back as comparable statistics existed.

The year-to-year variations in unit import prices were found for a large number of commodities entering the United States from different countries of origin. Average year-to-year fluctuations in export prices of individual commodities ranged from 5% to 21% for different commodities. Of 218 averages obtained, only 18 were below 10%; 143 were in the range 10% to 19.9%; 50 in the range 20% to 29.9%; and 7 were in the range 30% and upwards. This picture was not significantly altered by excluding the war and post-war years. These estimates mean that, on average over the period, most commodities would be expected to be from 10% to 20% dearer or cheaper

<sup>1</sup>United Nations, Instability in Export Markets of Under-Developed Countries, New York, 1952.



in one year than in the next, An analysis of exports to the United States from developing regions as a whole indicated that the vulnerability of developing countries to price fluctuations was much greater than that of other exporters to the United States.

Average year-to-year fluctuations in the volume of exports of primary commodities were between 18% and 19% a year. The range in average year-to-year fluctuations among different commodities was from 6% to 33% with fluctuations in the volume of exports to the United States being greater for developing regions as a whole than for the average of all exports to the United States.

Fluctuations in the export receipts of underdeveloped countries are the joint product of fluctuations in the volume of their exports and in the prices of the commodities that enter into their export trade. Year-to-year fluctuations in export proceeds from eighteen major primary commodities averaged 23% between 1901 and 1950. For the period as a whole, therefore, average year-to-year fluctuations in export earnings were found to be higher than those for either volume or price alone. This was found to be true also when the period under study was broken down into various sub-periods. Thus, fluctuations in volume did not counteract the fluctuations in price but rather reinforced them. Moreover, from the data above on price and quantity fluctuations it was established that changes in volume contributed more to the instability of proceeds than changes in prices.

A later study had the following to say of the conclusion that export earnings from particular products varied by 23% on average from 1901 to 1950.

A figure such as this is already reduced because of the averaging among different grades of commodities, different exporters and different markets; there can be no doubt that it is a

conservative estimate of the instability often experienced by particular exporters of individual products.

A comparison of the experiences of the inter-war and post-war periods can be obtained from the World Economic Survey, 1958. This Survey states that:

Experience throughout the post-war years has forcibly demonstrated that short-period instability in world trade of primary commodities has persisted as a major flaw in the fabric of the international economy, but that there has been some lessening of the short-period instability in world trade of primary commodities since the inter-war years.<sup>2</sup>

The results of this Survey show that in the post-war years from 1948 until 1957, the value of world trade in individual primary commodities fluctuated, on the average, by 12% per annum, while in the inter-war period, these fluctuations amounted to 17%. This lessening of the short-run instability of export proceeds appears to have been the consequence of more stable prices during the years 1948 to 1957, since the average fluctuations in volume in both the inter-war and the post-war periods were estimated at 8% per annum, while prices were estimated to have fluctuated by 16% on average in the inter-war period but by only 11% in the later period.

In both periods the fluctuations in proceeds were larger than the fluctuations in either prices or quantities, indicating that changes in prices and quantities tended to reinforce one another in their effects on export proceeds. Furthermore, the data indicate that in both periods the degree of price instability was greater than the degree of instability of export volume. The former of these results lends support to the conclusions of the 1953 study discussed

<sup>1</sup>United Nations, Commodity Trade and Economic Development, New York, 1953, p.8.

<sup>2</sup>United Nations, World Economic Survey, 1958, p.39.

above, but with regard to the relative magnitude of price and quantity changes the results of these studies differ. The situation is further complicated by the conclusions reached in the World Economic Survey, 1963<sup>1</sup>.

The 1963 Survey observed that from 1950 to 1961 movements in prices tended to be in the opposite direction to movements in volume more often than in the same direction with the result that "on the whole, fluctuations in export proceeds were somewhat less marked than fluctuations in either prices or volume"<sup>2</sup>. This observation conflicts with the conclusion common to the two other studies. Moreover, the 1963 Survey gave no support to the results obtained in either of the earlier studies concerning the relative importance of price and quantity changes in determining changes in export earnings. Rather it was found that changes in prices and changes in quantities contributed equally to the instability of export proceeds. Prices and quantities were each estimated to fluctuate by 11% on average over the period.<sup>3</sup>

Despite these differences in results, the 1963 Survey did agree with the 1958 Survey that fluctuations in international commodity markets were less frequent and less severe in the post-war years than in the inter-war period.<sup>4</sup> Nevertheless, although the degree of export instability has been lower in the post-war years than in earlier periods, the significance of export fluctuations has been

<sup>1</sup>United Nations, World Economic Survey, 1963, New York, 1964.

<sup>2</sup>Ibid., p.147.

<sup>3</sup>Ibid., p.146.

<sup>4</sup>Ibid., p.140.

greatly magnified by the growing importance attached to economic growth and the role played by exports in the growth process. This has led various authors to examine the proposition that fluctuations in export earnings may have damaging effects on the economic growth of the developing countries and their a priori reasoning concerning the impact of export instability on the economies of the developing countries will be discussed in the following section.

6. The Impact of the Instability of Export Earnings on the Economies of the Developing Countries.

The contention that fluctuations in export earnings may have serious repercussions throughout the economies of the developing countries rests on the assertions that the exports of primary commodities generally account for a large proportion of total production in the developing countries and that the developing countries are less capable of dealing with the effects of export instability than the developed countries.

A. I. MacBean<sup>1</sup> points out that, although rather more primary commodities are exported by the developed world than by the underdeveloped countries, it is true that for the average underdeveloped country primary products form a very much greater proportion of exports than they do for the average developed country. Moreover, MacBean argues that:

Not only are underdeveloped countries' exports more unstable than the exports of the developed countries, but the economies of underdeveloped countries are more vulnerable to such fluctuations. The less developed area is more likely to suffer damage than would a richer, more developed country from the same degree of export instability. The principal reasons for this

<sup>1</sup>A. I. MacBean, Export Instability and Economic Development, Cambridge, Mass., 1966.

situation include a greater quantitative and qualitative importance of foreign trade to underdeveloped countries and the lack of the techniques or the facilities for effective counter-cyclical monetary and fiscal policies.

The impact of the instability of export earnings on the economies of the developing countries manifests itself in several ways. MacBean presents what he calls the "prima facie case" concerning the consequences of export instability on the domestic economy and he begins by looking at the implications of a quotation from G. M. Meier and R. E. Baldwin who argue that:

In one form it (the foreign trade orientation of developing countries) appears in the considerable extent to which the market-type sectors of the economy rely on the production of a few primary products which usually are almost completely exported. The ratio of this export production to total output is normally high; the share of the national income generated by exports normally exceeds the shares generated by private domestic investment or governmental expenditures.<sup>2</sup>

The main implications of this statement, MacBean argues, are that national income in the developing countries is inevitably very responsive to changes in export proceeds and that, through the operation of "multiplier" and "accelerator" effects, export fluctuations "tend on the average to produce changes in the national income which are in the same direction and more than proportional to the initial changes in export proceeds"<sup>3</sup>.

The sensitivity of national income in developing countries to fluctuations in export earnings is most frequently analysed in terms of the effect of export instability on gross domestic fixed investment. MacBean gives several reasons why export instability

<sup>1</sup>Ibid., p.25.

<sup>2</sup>G. M. Meier and R. E. Baldwin, Economic Development: Theory, History, Policy, New York, Wiley, 1957, p.310.

<sup>3</sup>MacBean, Export Instability and Economic Development, p.26.

may be expected to deter entrepreneurs from undertaking investment programmes. Export instability, he argues, increases the risk for the entrepreneur since it is likely to raise borrowing costs and, because export fluctuations tend to cause balance of payments difficulties, they may lower confidence in the maintenance of the exchange rate. Moreover, changes in export earnings will lead to changes in the incomes of those producing for export and such changes in income will lead to changes in consumption. More attention has been concentrated, however, on the possibility that foreign exchange problems arising from the instability of export earnings may damage the ability to import input imports essential to investment programmes than on the desire of entrepreneurs to invest.

The full impact of the instability of export earnings on the capacity to import may be mitigated, if developing countries hold large reserves of foreign exchange or are able to borrow large sums of short-term capital abroad. In most developing countries, however, the level of foreign exchange reserves is low in comparison with their volume of imports and "despite the low reserves, the difficulty of obtaining compensatory short-term financing has compelled most countries to withdraw from their reserves more often than to augment them"<sup>1</sup>. It is not surprising, therefore, that the developing countries should tighten or relax their controls over the volume of imports more or less in line with the fluctuations in export earnings. Domestic investment is closely linked to the availability of input imports in most developing countries and, consequently, it is true that "in the face of a decline in export earnings, a country

<sup>1</sup>United Nations, World Economic Survey, 1958, p.59.

can attempt to maintain a reasonable degree of external balance by a quick and sufficient adjustment of the volume of imports"<sup>1</sup> but, at the same time, it is true that "the reduction in imports, while thus alleviating the pressure on the balance of payments, tends to have far-reaching repercussions on the economy as a whole"<sup>2</sup>. In periods of falling export earnings, therefore, should inadequate foreign exchange reserves necessitate cutbacks in the imports of capital goods, domestic investment activity will be reduced and the pace of economic growth retarded.

The World Economic Survey, 1958 examined the relationship between short-period fluctuations in export earnings and the volume of imports for the period 1950-57 and found that, with the exception of the petroleum exporting countries, there was a close relationship between these variables for the developing countries. This study also tested the hypothesis that fluctuations in export earnings, which have brought about corresponding changes in imports of capital goods, have been transmitted directly to domestic investment activity. The conclusions reached were that the severe short-period instability in export proceeds frequently compels under-developed countries to cut their imports of capital equipment and that this "may have a strong destabilising influence on domestic economic activity through its impact on the level of domestic investment"<sup>3</sup>.

The changes in national income resulting from fluctuations in export earnings may have repercussions on the level of employment in

<sup>1</sup>Ibid., p.60.

<sup>2</sup>Ibid., p.60.

<sup>3</sup>Ibid., p.64.

the developing countries. There are two principal reasons, however, why the level of employment in developing countries is not liable to be seriously affected by changes in national income resulting from export instability. Firstly, MacBean points out that the proportion of the total population actually involved in wage-earning employment is generally very small. Secondly, B. Higgins<sup>1</sup> argues that, since by far the greater part of the labour force in most developing countries is self-employed or works in family units in small-scale farming, much of the unemployment which might result from a fall in export earnings will tend to be absorbed by an expansion of the numbers of people in the category of the "disguised unemployed".

Domestic price levels in the developing countries are likely to be sensitive to changes in demand brought about by export fluctuations. An increase in total export earnings will result in higher incomes in the agricultural sector which, in turn, will generate increased demand for both domestically produced and imported commodities. Where the short-run elasticities of supply of these products are low, the outcome will be domestic inflation. Moreover, developing countries may experience inflationary conditions not only during an "export boom", but also when their earnings from exports have fallen. This situation arises where government revenues depend mainly on indirect taxes and where export taxes form a high proportion of indirect taxes. The revenue from export taxes will increase as export earnings rise and frequently this leads to an expansion in public expenditure based on the assumption that the gains will be maintained. When export earnings fall, however, the

<sup>1</sup>B. Higgins, Economic Development, Norton, New York, 1959, p.557.



revenue from export taxes will fall and, hence, public revenue will drop, but it may be difficult for political, social and even technical reasons to cut back government spending accordingly and, since in many developing countries the ensuing budget deficit cannot be averted by the borrowing of genuine savings, "new money is created, usually through advances by the central bank. Thus we find budget deficits which have nothing to do with deliberate deficit spending."<sup>1</sup>

Finally, when the incomes of those engaged in production for export are affected by changes in export earnings, this may cause severe hardship to these producers.

If they are not sufficiently prudent to put away some cash as a reserve when their incomes rise, they cannot support their new standard of living when the recession follows the boom. They may even starve unless they normally grow sufficient food for themselves or can borrow. The latter situation may bring other hardships, given the very high interest rates,<sup>2</sup> normally charged by moneylenders in the underdeveloped countries.

Export instability may result, therefore, in both harmful effects on the domestic economy and direct hardship to individual export producers and, consequently, the problem of stabilising export earnings has been a matter of considerable concern throughout the post-war period. Appropriate policies to deal with the problem of export instability can be devised, however, only with reference to the causes of fluctuations of export earnings and one must turn, therefore, to a consideration of the causes of export instability.

<sup>1</sup>United Nations, Commodity Trade and Economic Development, p.15.

<sup>2</sup>MacBean, Export Instability and Economic Development, p.28.

## 7. Causes of Fluctuations in Export Earnings of the Developing Countries.

Explanations of the instability of export earnings experienced by the developing countries have been sought frequently in terms of factors operating both on the demand side and on the supply side and in terms of three forms of concentration, i.e. concentration of exports on primary products, concentration on a narrow range of export commodities and concentration of exports on a small number of developed countries, which characterise the export trade of the developing countries. The present discussion will examine these explanations in turn and will relate to the conditions prevailing in the world markets for primary products. Statements which are true of the world markets for the exports of the developing countries as a group are not necessarily true of the conditions facing an individual exporting country, however, and the relevance of these statements to the individual country will be considered and, if need be, modified in later chapters rather than at this juncture.

On the demand side, short-run fluctuations in the export proceeds from primary products are often explained in terms of the fluctuations in income in the developed countries. The contention is that:

A major source of export instability is to be found in the cyclical variations that continue to characterise income and output in the industrially advanced countries which constitute by far the most important markets for primary commodities entering international trade. Though the post-war period has been free from economic upheavals of the magnitude of the nineteen twenties and thirties ... even the mild post-war recessions in the industrially-advanced countries have resulted in sharp movements in the demand for primary commodities.

<sup>1</sup>United Nations, World Economic Survey, 1962, p.48.

Fluctuations in demand in the developed countries will lead, it is argued, to fluctuations in their imports from the developing countries and will result, therefore, in fluctuations in export earnings for the developing countries. The argument that income changes in the developed countries will give rise to "sharp" movements in the demand for primary commodities must be regarded with caution, however. The income elasticities of demand for primary products are generally lower than the income elasticities of demand for other commodities and low income elasticities of demand will tend to moderate the effects of income changes on the demand for primary products. Thus, the income-induced fluctuations in demand for primary products may be less than income-induced changes in demand for other commodities. When discussing the impact of income changes in the developed countries one must bear in mind, therefore, the mitigating effects of low income elasticities of demand.

Income changes in the developed countries are not the only cause of export fluctuations on the demand side since changes in the demand for primary products may result from the development in the developed countries of substitutes for primary commodities. Technical progress in the developed countries is usually inspired by technical considerations and tends to affect the demand for primary products in several different ways.

New methods of production are causing economies in the use of raw materials. Remarkably rapid rates of innovation and changing consumer tastes are causing major adjustments in manufacturing output and hence in the composition of the demand for raw materials. The better heating of homes and offices, the invention of the electric blanket, the competition from paper and other materials in packaging and other uses, are influencing the demand for natural fibres just as clearly as is

competition from man-made fibres.<sup>1</sup>

Consequently, changes in demand for the exports of the developing countries may result not only from changes in income but also from technical developments in the developed countries.

The problem of changes in demand in the developed countries for the export commodities of the developing countries is aggravated by the low price elasticities of demand for primary products in the markets of the developed countries. H. C. Wallich points out that "as far as the elasticity of demand is concerned, one of the few safe generalisations is that the elasticity for almost all major commodities is on the low side"<sup>2</sup> and he enumerates several factors which account for the low price elasticities of primary products on world markets.

Many such commodities are foodstuffs which commonly have a low price elasticity. In the case of many others, elasticity is low because the demand for these products is derived demand, i.e. their share in the final product is small. This is exemplified, for instance, by the share of copper in the the price of a house. Such commodities can be genuinely surplus, in the sense that even a price of zero would not clear the market, because a price of zero to the producer<sup>3</sup> may mean only a modest reduction in the price to the consumer.

Changes in income, technical progress and the low price elasticities of demand are factors operating on the demand side to contribute to the instability of proceeds from primary products. In addition to these demand factors, however, one must consider those forces affecting supply conditions which contribute to such

<sup>1</sup>United Nations, Trade and Development, Commodity Trade, New York, 1964, p.350.

<sup>2</sup>H. C. Wallich, Stabilisation of Proceeds from Raw Material Exports, in Economic Development in Latin America edited by H. S. Ellis, International Economic Assoc., St. Martin's Press, New York, 1961, p.349.

<sup>3</sup>Ibid., p.349.

instability. The supply factors influencing the instability of proceeds from primary products are threefold, i.e. natural factors affecting the level of output in the developing countries, technical progress and the price elasticity of supply.

It is self evident that susceptibility to climatic conditions and other natural factors lend a large element of potential instability to the production of primary products; droughts, floods, pest and disease can play havoc with the output of a particular crop in one year, while favourable weather conditions can bring about an overabundant output in the following year. These changes in production may lead to changes in the amounts available for export. Such observations are obviously true for an individual primary-producing country and a Gatt study has indicated that they tend to be valid also, at any given time, for a large number of countries.

In the course of history such fluctuations have become less pronounced as a result of improved methods of production and of international trade, but there remain fluctuations over a sufficiently large geographic area to influence the level of world trade.

Instability may be introduced into world trade, therefore, as a result of natural factors which bring about changes in the quantities supplied to the world markets. Changes in the quantities offered for sale on the world markets for primary products may result also from technical progress in the developing countries. Over time one must consider not only the accumulation of new capital within the agricultural sector, but also the acquisition of capital to maintain the existing capital intact. This capital might take the form of

<sup>1</sup>General Agreement on Tariffs and Trade, Trends in International Trade, A Report by a Panel of Experts, Geneva, October 1958, p.68.

new buildings, new equipment, new stocks and additional livestock. At the same time, however, new ideas and knowledge will be reaching the agricultural sector while existing knowledge is becoming more widely diffused. The effect of such accumulation and technical progress is to raise agricultural productivity. Thus, technical advance in the developing countries may lead to changes in the quantities of particular products being offered for sale on the world markets.

With respect to the price elasticities of supply in the world markets for primary products, Wallich argues that generalisations are more difficult than with respect to the price elasticities of demand. He observes, however, that:

The short-run inelasticity of the supply of most raw materials is familiar. This condition, imposed by the period that it takes to bring new capacity into production, may extend to five years or more, as in the case of coffee trees. Often an increase is not reversible or is only very slowly reversible. Elasticity in the face of a price drop becomes very small.

The inelasticity of supply with respect to price in any given period means that, given the period required to produce a changed level of output, a change in the price received in the world markets for a particular product is a potential source of instability of export proceeds. This potential instability arises frequently from the nature of the decision-making process determining export production in the developing countries.

For many primary commodities, the productive structure is composed of a multiplicity of small-scale producers or peasants whose decisions to produce - which often have to be made long in advance of sales - are often based on scant knowledge about actual or prospective market conditions and tend to be guided by past, not prospective, prices. This may give rise to the familiar seesaw pattern of behaviour between production and

<sup>1</sup>Wallich, Stabilisation of Proceeds ..., p.349.

prices - producers react to high prices in one period by over-producing in the subsequent period, whereupon prices fall and producers react by underproducing in the next period, whereupon prices rise, and so on.

Attempts have been made to establish whether supply factors or demand factors have been the more important in determining fluctuations in export proceeds from primary products and, hence, in export earnings for the developing countries. The comparisons of the impact on export proceeds of these two sets of factors have considered only the variability of demand and the variability of supply, taking no account of the effects of the price elasticities of supply and the price elasticities of demand. In practice, whichever of these two potential causes of instability, i.e. variability of supply or variability of demand, deserves primary attention depends on the relative frequency and amplitude of one cause relative to the other. The relative importance of changes in supply and changes in demand may differ from time period to time period and from commodity to commodity but, in general, the emphasis tends to have been laid on the variability of demand. According to Wallich, "it seems that, in principle, demand fluctuations are a source of more serious instability ... than supply fluctuations"<sup>2</sup>. Nurkse agreed with Wallich on the dominant role of fluctuations in demand, stating that "the export fluctuations of primary producing countries originate in the world's industrial centres"<sup>3</sup>. Similarly, M. Bye argued that "fluctuations of activities in the leading economies are the original

<sup>1</sup>United Nations, World Economic Survey, 1958, p.43.

<sup>2</sup>Ibid., p.350.

<sup>3</sup>R. Nurkse, Trade Fluctuations and Buffer Policies of Low-Income Countries, Kyklos, Vol. XI, 1958, p.141.

cause of fluctuations in the receipts of "poor countries", as countries, and of producer-exporters in poor countries, as an economic group"<sup>1</sup>.

This emphasis on the dominance of demand conditions has not, however, gone unquestioned. The basis of the attack against this position rests on the assertion that the assumed dominance of demand conditions originates in the conditions which prevailed in the pre-war period but that these conditions no longer exist. The World Economic Survey, 1958 argued that:

The assumed dominance of demand conditions doubtless draws much of its strength from experience in the inter-war period when the very large fluctuations in industrial activity certainly had considerable impact upon the stability of trade in almost all commodities. In the more buoyant economic conditions of the post-war years, however, when the fluctuations in industrial activity have assumed much smaller dimensions, the influence of supply conditions upon the short-period variations in price and volume of trade have become much more readily apparent.<sup>2</sup>

This view has been supported by J. Adler who argues that:

In the thirties ... the decline in effective demand in the importing countries was largely responsible for the substantial and in many ways catastrophic fall in the prices of primary commodities, and for the drop in quantities taken off the market. The world-wide depression of the thirties, and the ensuing collapse of commodity prices, can now be safely regarded as events sui generis, not likely to recur. This is not to say that we have come to live in a Marshallian world, where the trend of production and employment is invariably and inevitably up, and that deviations from the trend can be safely disregarded as essentially self-correcting. But I do mean to suggest that downward shifts of the demand curves are likely to be small and short-lived, that declines in quantities demanded are therefore likely to be of much smaller proportions than they were in the thirties. This way of looking at the problem ... has the advantage of permitting us to focus on changes on the supply side.

<sup>1</sup>M. Bye, Comments on Professor Nurkse's Paper, Kyklos, Vol. XI, 1958, p.180.

<sup>2</sup>United Nations, World Economic Survey, 1958, p.64.

<sup>3</sup>J. H. Adler, Comments on Professor Nurkse's Paper, Kyklos, Vol. XI, 1958, p.155.



Given that there has been a decline in the severity of income fluctuations in the developed countries and that the low income elasticities of demand for primary products tend to lessen the impact of income changes on the demand for primary products, the shift in emphasis towards a greater appreciation of the influences of supply factors on the instability of world trade does seem warranted. However, the causes of export instability cannot be divided simply into the categories of supply and demand factors. One must consider also the forms of concentration which are said to cause export fluctuations.

The first form of concentration which is often forwarded as an explanation of export instability concerns the specialisation of the developing countries on the export of primary commodities. This explanation of export instability is concerned with establishing that the developing countries, because they export mainly primary products, are subjected to greater instability in export earnings than are developed countries which export mainly manufactured goods. The validity of this explanation rests upon the strength of two basic assumptions. Firstly, it is assumed that the developing countries do specialise in the export of primary products. Secondly, it is assumed that the fluctuations in the earnings from the export of primary products are greater than the fluctuations in earnings from the export of manufactured commodities.

With regard to the first assumption there is substantial evidence that the exports of the developing countries are overwhelmingly composed of primary products. Tables expressing exports of primary products as a proportion of total exports from individual developing countries are presented by various

authors<sup>1</sup> and the conclusion to be drawn from each source is that the exports of the developing countries are composed predominantly of primary commodities. MacBean points out that, although Australia, New Zealand, Denmark, Ireland and Finland also fall into the category of countries whose exports consist mainly of primary products, "it is clear that the typical underdeveloped country is much more heavily specialised in primary product exports than is the typical developed country"<sup>2</sup>. The first assumption is, therefore, a satisfactory assumption.

Little evidence is available concerning the validity of the second assumption. Coppock<sup>3</sup> attempted to compare fluctuations in export proceeds from manufactured products with fluctuations in export proceeds from primary products. He estimated instability indices for the total value of world trade in manufactures and for total world trade in primary commodities for the years 1948 to 1958 and found trade in manufactures to have a higher degree of instability than trade in primary products over this period. The overall indices for trade in manufactures and for trade in primary products were then broken down into instability indices for different categories of manufactures and of primary products on the

<sup>1</sup>See, for example, the following:

Higgins, Economic Development, pp.552-553.

J. D. Coppock, International Economic Instability, New York, McGraw-Hill, 1962, p.102.

MacBean, Export Instability and Economic Development, p.40.

J. Pincus, Trade, Aid and Development; the Rich and Poor Nations, Council on Foreign Relations/Atlantic Policy Studies, McGraw-Hill, 1967, pp.252-254.

<sup>2</sup>MacBean, Export Instability and Economic Development, p.41.

<sup>3</sup>Coppock, International Economic Instability, p.33.

grounds that, since the overall indices depend on the time patterns of changes in earnings from individual products, the degree of instability for a broad group may be reduced if the time patterns of changes in proceeds from individual products are such that they offset one another and vice versa. The instability indices constructed for individual commodities revealed that some primary products were more unstable than some manufactured goods but, also, that some primary products exhibited less instability than some manufactured goods.

Coppock<sup>1</sup> then examined the instability indices of export earnings both for developing countries and for developed countries and he found that the ranges of instability indices for the countries of Africa and Asia were much wider than, and began with higher values than, the range of the indices for the developed countries of Europe and North America. Despite the inconclusive nature of the evidence concerning the instability of export earnings from individual primary products and from individual manufacturing products, the evidence on total export earnings for individual countries does suggest that the developing countries of Africa and Asia experienced greater export instability than the developed countries of North America and Europe.

Whereas Coppock was concerned with the instability of world trade in different types of commodities, MacBean<sup>2</sup> examined the association between the proportion of a country's exports composed of primary products and the degree of export instability experienced.

<sup>1</sup>Ibid., p.51.

<sup>2</sup>MacBean, Export Instability and Economic Development, pp.39-40.

Cross-sectional correlation analysis of this relationship revealed that very little, if any, of the variation between countries' export instability can be explained by the ratio of primary exports to total exports.

These results suggest that, although the proceeds from primary products are not necessarily more unstable than proceeds from manufactured goods, the primary-producing countries experience greater instability of export earnings than countries exporting manufactured goods, but that differences among the developing countries in terms of the degree of export instability cannot be explained by differences in the proportion of primary products to total exports.

Another characteristic of the exports of the developing countries frequently advanced as an explanation of the instability of export earnings is the concentration on the export of a narrow range of primary commodities. It has been argued by MacBean that:

A priori, it seems reasonable to expect that specialisation on a limited range of goods should make for instability - on the grounds that it is always risky to put all one's eggs in a single basket. Concentration on a few products reduces a country's chances of having fluctuations in one direction in some of its exports offset or ameliorated by counter-fluctuations or stability in others.

Such interrelationships among products have also been discussed by Massell who argues that:

The instability of total export receipts depends not only on the instability of individual items, but also on the correlation between receipts from different pairs of goods. Receipts from goods that are affected by similar market forces will tend to move together. Receipts from items that are dissimilar may fluctuate independently. In some cases fluctuations in receipts from different goods may even offset each other ... A country with a large share of its exports derived from a single good or

<sup>1</sup>MacBean, Export Instability and Economic Development, p.41.

from several closely related goods will tend to experience greater instability than a country with a widely diversified export base.

It follows, therefore, that a country's total export receipts will tend to be more stable, the more diversified are its exports, i.e. the larger the number of goods it exports, the more evenly its resources are spread over the different goods, and the more dissimilar these products are.

The hypothesis that commodity concentration leads to instability in the export earnings of the developing countries has been tested by various authors. In attempting to explain the instability of export earnings Coppock used nearly forty independent variables, one of which was an index of commodity concentration, and the results of Coppock's multiple correlation analysis indicated that commodity concentration was not a significant explanatory variable. M. Michaely's principal concern was not with the relationship between commodity concentration and fluctuations in export earnings but with the relationship between commodity concentration and fluctuations in export prices. He found that fluctuations in prices were positively correlated with concentration of exports and with the primary-product ratio, taking each independent variable separately. On the basis of partial correlation analysis, however, Michaely concluded that the simple relationship between export instability and the primary-product ratio was "solely due to the strong association between commodity concentration and the extent of specialisation in primary goods"<sup>2</sup>.

<sup>1</sup>Massell, American Economic Review, September 1970, p.622.

<sup>2</sup>M. Michaely, Concentration in International Trade, Contributions to Economic Analysis, North Holland, Amsterdam, 1962, pp.6-18.

Using partial correlation analysis, Massell arrived at results which indicated a positive but insignificant correlation between fluctuations in export proceeds and commodity concentration and he concluded that "it is clear that the relationship between instability of export earnings and concentration of exports is a tenuous one indeed".<sup>1</sup> This conclusion was reached also by MacBean whose correlation coefficients suggested very little or no effect on the stability of export earnings of commodity concentration. MacBean noted the similarity in the results obtained by the different authors and he concluded that:

All the correlation analysis yielded roughly the same answer of a very weak, if any, association between commodity concentration and export fluctuations. Since none of the samples is quite identical to another, the possibility that the results are seriously distorted by the presence of a few countries whose concentration ratio is incorrect is relatively small.<sup>2</sup>

The third form of concentration which is often proffered as an explanation of export instability is geographic concentration. Geographic concentration relates to the concentration of the exports of the developing countries on a narrow group of developed countries. According to MacBean:

Underdeveloped countries generally have particular trade ties with individual rich countries or groups. The exports of most Latin American countries are directed largely to the United States, those of the French Franc Area go mainly to France, while most Sterling Area primary exporters sell the bulk of their exports in Britain and Western Europe. Once again this may be thought risky, as placing too many eggs in one basket. Fluctuations in demand in one region could be offset by contrary changes in demand in another consuming country if exports were regionally diversified.<sup>3</sup>

<sup>1</sup>B. F. Massell, *Export Concentration and Fluctuations in Export Earnings: A Cross-Section Analysis*, American Economic Review, Vol. LIV, 1964, p.61.

<sup>2</sup>MacBean, Export Instability and Economic Development, p.43.

<sup>3</sup>Ibid., p.44.

Massell agrees with this view:

High geographic concentration is likely to imply greater dependence on economic conditions in one or a few countries. Fluctuations in demand in any recipient country will then have a more pronounced effect on receipts of the exporting country than if receipts were more diversified among recipients.

MacBean tested the validity of this theory and concluded that:

Statistical analysis fails to substantiate the theory. The correlation coefficients for association between export instability and geographic concentration of export destination are actually negative, and none is significant ... These correlations indicate some, though rather weak, tendency for geographical concentration to be associated with less rather than more instability of export proceeds.<sup>2</sup>

Coppock<sup>3</sup> and Massell<sup>4</sup> also tested this theory and produced findings similar to those of MacBean. "All their results", MacBean argues, "show that if any association exists between geographical concentration and export fluctuations it is negative"<sup>5</sup>. In a later study Massell<sup>6</sup> found that geographic concentration was unimportant as an explanatory variable of, but not negatively related to, export instability.

The empirical evidence concerning both commodity concentration and geographic concentration seems to be heavily weighted against the acceptance of either form of concentration as a significant variable in explaining the instability of export earnings. In only one of the five studies cited concerning commodity concentration was

<sup>1</sup>Massell, American Economic Review, 1970, p.622.

<sup>2</sup>MacBean, Export Instability and Economic Development, p.44.

<sup>3</sup>Coppock, International Economic Instability, p.105.

<sup>4</sup>Massell, American Economic Review, p.64.

<sup>5</sup>Ibid., p.44.

<sup>6</sup>Massell, American Economic Review, 1970, p.628.

such concentration significantly related to export instability. Geographic concentration was not significantly related to instability in any of the studies cited.

The observations made above concerning the importance of trade to the developing countries, the effects of the instability of export earnings on the economies of the developing countries and the causes of export instability are of a general nature. Consequently, if one is concerned with the instability of export earnings in one particular economy during a given period of time there is no reason to suspect that all of these generalisations are relevant to that particular economy. This thesis sets out to examine the instability of Ethiopian export earnings during the years 1962 to 1970 and the subject matter involves a consideration of the relative importance of the factors responsible for the instability of export earnings during this period.

As was argued earlier, in general terms, the instability of export earnings can only be regarded as a matter of importance if it can be shown that such instability has had some impact on the economy. Again, however, this is not to say that the Ethiopian economy must have been subjected to all of the effects enumerated above before the instability of export earnings is regarded as a problem. It may be that only one or two of the above effects have manifested themselves on the Ethiopian economy, but that these effects have been sufficiently great to justify concern. Similarly, there is no reason to suggest that all of the potential causes of export fluctuations have been in operation in the Ethiopian case during the period under review. One particular country may find that its earnings from exports have been unstable but that only some of



the above causes have been responsible for the instability exhibited.

The time period chosen covers the years 1962 to 1970. The choice of 1962 as the initial year was dictated by the fact that any examination of the factors responsible for the instability of Ethiopian export earnings would require recourse to international data consistent with the data for Ethiopian exports published by the Customs Office of the Ministry of Finance. Such data is available only from the Standard International Trade Classification (SITC) published in the Commodity Trade Statistics of the United Nations, which was revised in 1962 and on which the Ethiopian International Trade Classification (EITC) is based. The terminal year, 1970, was determined by the availability of the latest United Nations Commodity Trade Statistics.

## CHAPTER TWO

The first chapter presented statistical evidence on the degree of instability in export proceeds from primary products and discussed the implications for the economies of the developing countries of fluctuations in export earnings. It was argued, in very general terms, that export instability tended to have damaging effects on the economies of these countries and the principal concern of this chapter is the specific issue of establishing whether the instability of export earnings has adversely affected the Ethiopian economy. This chapter may be divided conveniently into four sections. The first section examines briefly the Ethiopian setting. The second section involves a comparison of the degree of instability of total Ethiopian export earnings with the degree of instability in the export earnings of other African countries. The third section examines the impact of export fluctuations on the Ethiopian economy and the final section is concerned with determining the instability indices for export proceeds from individual commodities and with breaking these indices down into instability indices for unit export (fob) prices and quantities exported.

### 1. The Ethiopian Setting.<sup>1</sup>

The accession of Emperor Tewodros in 1855 is customarily held to mark the emergence of modern Ethiopia. The significance of this period is that it witnessed the reconquest, occupation and consolidation of much of those territories now comprising the Empire and the simultaneous expansion of the influence of the ruling tribe,

<sup>1</sup>The discussion in this section refers to the situation up to February 1974.

the Amhara, over a range of diverse ethnic groups.<sup>1</sup>

The modern Ethiopian nation was the creation of the Amhara. Although in numbers the Amhara probably represent only something of the order of one-quarter of the total population, their dominance is to be measured in political and cultural terms.

On the political side it is manifest in the perpetuation of the Amhara monarchy and the preponderance of Amhara in top political offices. On the cultural side it appears in the spread of Amhara customs throughout the Empire by officials, soldiers, settlers and teachers and in the continuous Amharisation of the peoples of the Empire through the required use of Amharic in schools and government offices and through the substitution of Amharic names for indigenous place-names in many parts of the country. If the national institutions and culture of Ethiopia<sup>2</sup> are essentially Abyssinian, more particularly they are Amhara.<sup>2</sup>

The social and political structure imposed by the Amhara has had certain implications for the process of modernisation and growth.

The system was based on

a pyramidal hierarchy of multiples of asymmetrical dyadic relations between lord and vassal. The dyadic bond consists of the right of the vassal to be given protection and tenure to part of this lord's land in return for his obligation to render economic, military and other support to the lord. The vassal in one dyad may in turn be the lord in another dyad because he may subinfeudate the land he holds in feud.<sup>3</sup>

At the apex of the pyramid has been the Imperial family.

Immediately below were the members of the nobility and, reflecting the significance of religion in Amhara life, the leading members of the clergy. Moving further down the pyramid, one can then identify the provincial administrators, the local landowners and administrators and

<sup>1</sup>For an outline of the various ethnic groups within Ethiopia see R. L. Hess, Ethiopia, The Modernisation of Autocracy, Cornell University Press, 1970, pp.1-75.

<sup>2</sup>D. N. Levine, Wax and Gold: Tradition and Innovation in Ethiopian Culture, University of Chicago Press, 1965, pp.2-3.

<sup>3</sup>F. C. Gamst, Peasantries and Elites without Urbanism: the Civilisation of Ethiopia, Comparative Studies in Society and History, 1970, Vol. 12, No. 4, pp.373-392.

at the base the tenant farmers and agricultural workers. This hierarchy tended to be extremely rigid with its vertical organisation being determined by economic power as defined by land ownership and rights to land use. Although Ethiopia has an extremely complex land tenure system with numerous variants of different types of tenure operating within even limited geographic areas, one can enumerate certain basic elements in the system.

The Ethiopian Government is a major land-owner and distributes land in various forms including maderia, mengist, gebretel, hudad and weregenu tenure.<sup>1</sup> Maderia is land granted by the Government to employees in lieu of salary or as a pension for the period of office or for life. Maderia landholders are exempted from paying land tax and may not transfer their rights of possession by sale, gift or inheritance. All land the titles to which are registered in the name of the Government are known as mengist land. In addition to the use made of mengist lands by various government agencies, the Government rents part of this land on long-term concession leases to private companies, both Ethiopian and foreign. The remainder of the mengist land is either vacant or leased to tenants. Gebretel land comprises land taken over by the Government on the failure of the owner to pay land taxes. The delinquent tax-payer may reclaim his land, however, on payment of double the amount of tax due, unless the land has already been granted to another party. Hudad and weregenu tenures were directly linked to the Imperial Palace and have been used for the production of the agricultural requirements of the Palace.

<sup>1</sup>A good outline of government land tenure systems is found in J. M. Cohen, *Ethiopia After Haile Sellassie: The Government Land Factor*, African Affairs, October 1973, pp.365-382.

Communal ownership of land is restricted to the northern provinces of Eritrea, Tigre, Begemdir and Gojjam and to some districts in Wollo and Northern Shoa. Under this system individuals own rights to land either by inheritance through the extended family system or by residence in the community to which the land belongs. The nature of the extended family system is such that individuals may be able to claim land rights in various localities and differences in practice among different areas mean that these rights may be inherited through either parent in some regions, but only through the male line in others. Rights to land under village tenure may be obtained by permanent residence or descent. Land automatically reverts to the community when a family leaves the village. Under both systems no individual may sell or mortgage communal land, but he may lease the land to tenants and each child receives an equal share of the inherited land.

During the territorial expansion in the second part of the nineteenth century<sup>1</sup> the types of tenure involving individual and institutional rights to land prevalent in the central provinces were extended to the southern parts of the Empire.<sup>2</sup> This was done by dividing land among soldiers, clergy and local noblemen, these groups receiving land under rist, semon and siso tenure respectively. Rist and siso tenure involve inalienable, inheritable rights to land.

<sup>1</sup>The expansion into the southern provinces during this period is discussed in Hess, Ethiopia: The Modernisation of Autocracy, Chapter 3.

<sup>2</sup>Individual and institutional rights in land are discussed in A. Hoben, Social Anthropology and Development Planning in Ethiopia, Journal of Modern African Studies, 1972, Vol. 10, No. 4, pp.564-582. and in P. Gilkes, The Dying Lion; Feudalism and Modernisation in Ethiopia, Julian Friedmann, London, 1975, pp.101-137.

Semon is the major type of church tenure and differs from rist in that revenues from land taxes, agricultural income taxes, health taxes and education taxes accrue to the church and not the Government. The purposes of granting semon tenure were to provide income for the church and to ensure, thereby, its continuing support for the political regime. This latter purpose of generating political support also underlay the granting of land under rist gult and gult tenure.

Rist gult tenure was given to members of the royal elite as a reward for their services or to religious institutions. The individual or institution could then exact taxes from and had administrative and judicial authority over those cultivating the land. Although conceptually distinct, rist gult and rist tenure may be complementary. Thus, a single estate of rist gult land may be held in rist by other farmers and rist tenure holders may be required to provide labour for the rist gult holder. While rist gult given to an individual is inheritable, that of the church passes not to heirs but to successors in office. Gult differs from rist gult in that it is usually given to an important provincial governor in lieu of salary and is non-inheritable.<sup>1</sup>

Common to these various types of landholding is the ability to subinfeudate and it appears that the majority of the rural population are tenant farmers working on very small holdings estimated to cover only 3 hectares on average.<sup>2</sup> Data obtained in sample surveys of the

<sup>1</sup>In practice, however, emperors have often been unable to prevent inheritance. See Gilkes, The Dying Lion ..., pp.107-108.

<sup>2</sup>Assefa Bequele and Eshetu Chole, A Profile of the Ethiopian Economy, Oxford University Press, Nairobi, 1969, p.42.

Central Statistical Office and the Ministry of Land Reform and Administration throw some light on the terms and conditions of lease arrangements.<sup>1</sup> In summary, these data show that the tenancy system operates with the following characteristics: tenants have no security against either eviction or unilateral changes in terms and conditions; in the event of eviction tenants cannot expect compensation; and tenants must pay up to 75% of total output as rent. Conditions such as these would clearly tend to militate against efforts by the tenant farmer to innovate and to increase production. Moreover, the impact of these conditions is reinforced by certain "non-economic" factors affecting the attitudes of peasant farmers towards change and innovation.

E. Hagen has argued that innovation and change occur more rapidly in societies which hold that the natural environment is capable of rational manipulation by man to his own ends.<sup>2</sup> In direct contrast, the anti-intellectual attitude of the Ethiopian clergy has meant a negative view of experimentation with ideas and the Ethiopian peasant's religiously-induced conservatism prevents him from attempting to alter his environment through scientific examination and investigation.<sup>3</sup> The will of God is considered to be the prime determinant of one's fate and the outcome, it is believed, cannot be influenced by one's own

<sup>1</sup>Central Statistical Office, Provincial Reports, National Sample Survey, First Round, 1966-68, Ministry of Land Reform and Administration, The Major Features of the Prevailing Land Tenure System in Ethiopia, Vol. 1, The Compilation of the General Land Tenure Survey Reports of Ten Non-Communal Provinces, October 1971 and Ministry of Land Reform and Administration, A Preliminary Study of Landlord-Tenant Relationships in Ada Woreda, September 1970.

<sup>2</sup>E. Hagen, The Theory of Social Change, R. D. Irwin, New York, 1962.

<sup>3</sup>See Levine, Wax and Gold ..., pp.55-95 for a fuller discussion of factors influencing attitudes towards innovation.

efforts. Indeed, any attempt at understanding the natural environment is thought to impinge on the mysteries of the Diety and to tempt the invocation of Divine anger. Moreover, it is believed that man's presence on earth is simply a transient, preparatory stage for life after death and that the greater has been the degree of secular poverty endured, the higher will be the heavenly rewards.

In addition to feeling that his actions can have no impact on his fate, the peasant tends to regard innovation and change as immoral. Reverence for one's forefathers is a crucial principle in the Amhara culture. Innovation causing a departure from the way in which things were done traditionally involves an unacceptable implied criticism of one's predecessors. A further constraint on innovation arises from a "disdain for puttering about with one's hands - doing anything, that is, similar to the activities of the socially dejected artisans and slaves"<sup>1</sup>. Hence, "the peasant retains the same rudimentary tools for wresting a subsistence from nature that he has used for millenia, and searches about the woods for a properly shaped piece of wood rather than improve his art of carpentry"<sup>2</sup>.

D. N. Levine outlines two factors of special significance in accounting for the peasant's unwillingness to draw upon experience and insight to reshape custom:

One is the fact that the primary medium for the elaboration and dissemination of such ideas - the written word - ... had almost never been employed as a medium for promulgating new ideas or discussing contemporary problems. Another feature of Amhara culture that helps to account for the mental inertia of the peasantry is its emphasis on the value of deference and obedience to authority. The Amhara typically rely on legitimate authority figures to define appropriate responses to new situations, and

<sup>1</sup>Ibid., p.87.

<sup>2</sup>Ibid., p.87.



regard the delegation of powers as a diminution of the status of such authorities. The peasant has thus refrained from initiating changes in the public domain because the prerogative of taking initiative is generally reserved to ecclesiastical and political authorities.

Not only do these factors limit the possibilities for innovation, but beliefs about the individual self lead to practices which influence directly the productivity of the peasant farmer. Man is believed to be naturally aggressive and sinful and the question of subduing man's potential for aggression is a recurrent issue in Amhara life. A strict regime of prayer and fasting is regarded as being the most effective means of controlling aggression and lust and it is this rationale which explains the numerous fasts and religious holidays. There are about two hundred and fifty fasting days each year and of these about one hundred and eighty are almost obligatory for all.<sup>2</sup> The physical weakness caused by such fasting must have a detrimental effect on productivity.

It is this setting of cultural and religious values and land tenure arrangements with their implications for innovation and productivity which one must bear in mind when considering the question of export instability in Ethiopia.

## 2. The Instability of Total Export Earnings.

Before turning directly to an examination of the degree of instability of Ethiopian export earnings relative to the degree of instability of total export earnings experienced by other African countries, one must consider the method employed to measure export fluctuations. The index of export instability used here and throughout the rest of this chapter is based on the annual fluctuations around the trend of export earnings, since, as Massell points out:

The observable changes over time in the value of exports result from the interaction of a variety of market forces, both on the

<sup>1</sup>Ibid., pp.87-88.

<sup>2</sup>Assefa Bequele and Eshetu Chole, A Profile of the Ethiopian Economy, p.11.

supply and the demand sides. It is an arbitrary, but nevertheless convenient, procedure to distinguish between long-run forces, which can be said to determine the trend, and short-run forces, which can be viewed as determining fluctuations around the trend. If a measure of instability is used which does not distinguish between the two sets of forces, then a country with a rapid secular increase (or decrease) in its export earnings will exhibit greater instability than a country whose export earnings are secularly unchanging.

It is more appropriate, therefore, to construct an index of instability based on annual fluctuations around the trend than one based on fluctuations from the mean. One may begin, therefore, by fitting a trend line to export earnings expressed as a function of time and then measuring the deviations from the estimated trend. This may be done using an equation of the form<sup>2</sup>:

$$Z_t = a + bt^n$$

where  $Z$  = export earnings,

$t$  = time,

and where the coefficients  $a$  and  $b$  can be estimated by means of least squares regression for the value of  $n$  giving the lowest standard error.

This relationship is of a more general form than the simple, linear regression equation employed by Massell, and is preferred since the trend-corrected measure of instability should be based on the results of the equation form which fits the observed data more closely. The use, for instance, of a linear trend in a situation where the observations follow a non-linear trend would overestimate the deviations from the trend and, thus, the index of instability.

<sup>1</sup>Massell, American Economic Review, 1964, p.48.

<sup>2</sup>This equation form is used also in Section 3 below where the concern is with measuring fluctuations in prices and quantities traded. It is used also to calculate deviations from the trend in Chapter Four which is concerned with concentration in trade and export fluctuations.

The standard error of estimate measures the dispersion of observed values of exports about the regression line as a standard deviation and the trend-corrected index of instability is the standard error of estimate (i.e. the square root of the unexplained variance) divided by the mean of the observations. Thus:

$$I = \frac{\sqrt{\frac{\sum (U_t)^2}{n}}}{\bar{Z}}$$

where  $U_t = Z_t - (a + bt)$ ,

$n$  = the number of years in the series

and  $\bar{Z} = \frac{\sum Z_t}{n}$ .

This measure, the "normalised standard error", is independent of the overall level or the rate of growth of a country's exports.

Indices of instability for total export earnings were computed for a sample of twenty developing African countries, chosen randomly from the ECA Statistical Yearbook, and the results are presented in Table 1. The countries are ranked in Table 1 according to their instability indices and Ethiopia lies just below the middle of the table. Ethiopia's index is greater than the index for Total Developing Africa but the latter index will be influenced by the weights of individual countries in the total export earnings of the developing countries of Africa. Those countries in the sample with the greater weights, i.e. Libya, Nigeria and the U.A.R., are ranked in the lower part of the table. The export earnings of those three countries comprised about 35% of export earnings for Total Developing Africa in 1970 and their low instability indices must tend to lower the value of the aggregate index.

TABLE 1

INSTABILITY INDICES OF TOTAL EXPORT EARNINGS  
FOR SOME AFRICAN COUNTRIES, 1962-1970

Country	Instability Index
Niger	0.1780
Ghana	0.1279
Sierra Leone	0.1232
Gabon	0.1177
Togo	0.1058
Sudan	0.1017
Uganda	0.0915
Chad	0.0911
Madagascar	0.0855
Reunion	0.0774
Tanzania	0.0771
Senegal	0.0755
Ethiopia	0.0707
U.A.R.	0.0682
Liberia	0.0589
Nigeria	0.0578
Kenya	0.0487
Tunisia	0.0436
Angola	0.0120
Libya	0.0118
Total Developing Africa	0.0565

The index for Ethiopia was calculated from data in Table 3 below. The data from which the indices for the other countries were calculated are presented in Table 1 of the Statistical Appendix.

The ranking of countries according to their instability indices does not provide any indication of the relative severity of the impact of export instability in different countries. Differences in economic structure among the developing countries will cause the impact of a given degree of export instability to vary from country to country. Thus, although Ethiopia is ranked thirteenth out of twenty countries ordered according to their instability indices, this does not mean that the question of export instability is a less crucial issue in Ethiopia than in the twelve countries with higher instability indices.

The only countries in Table 1 for which individual case studies are available are Uganda and Tanzania and both of these countries have higher indices of export instability than Ethiopia. The case studies for Uganda and Tanzania were carried out by MacBean<sup>1</sup>, along with case studies for Puerto Rico, Chile and Pakistan. For each of these five countries MacBean examined the consequences for the rate of economic growth of fluctuations in export earnings and his conclusions about the impact of export instability contradicted the conventional wisdom that export fluctuations are detrimental to the economic growth of the developing countries. MacBean's conclusions should not be construed, however, as having established that the question of instability is unimportant. Indeed, MacBean's analysis has not been without criticism.

A. Maizels<sup>2</sup> has criticised MacBean's work on several counts. Maizels began his critical appraisal of MacBean's work by arguing

<sup>1</sup>MacBean, Export Instability and Economic Growth, pp.131-203.

<sup>2</sup>A. Maizels, Book Reviews, American Economic Review, Vol. 58, 1968, pp.575-580.

that MacBean's statistical analysis was unconvincing and that the statistical tests employed were not statistically meaningful. These observations led Maizels to the conclusions that "the statistical evidence adduced appears to be in direct contradiction with the author's conclusions"<sup>1</sup> and that the data presented by MacBean "would seem to support the view that short-term variations in national income in many, probably the majority, of developing countries are associated with variations in those countries' export proceeds"<sup>2</sup>. Turning to the limitations of the data used by MacBean, Maizels makes two basic criticisms. Firstly, he points out that it is vital to base any analysis on time series data which is comparable and correctly articulated. MacBean's unsatisfactory articulation of data could, Maizels maintains, influence the results of the regression analysis. Secondly, Maizels contends that there is a difficulty created by including in the regression analysis every possible country for which data can be obtained or estimated. "For a few countries, some of the variables appear so abnormal as to raise doubts about their accuracy; alternatively, if they are accurate, they would seem to constitute special cases which could reasonably be excluded."<sup>3</sup> Finally, Maizels argues that it is unwise to draw conclusions from cross-country comparisons since such comparisons involve the implicit assumption that there is a single, unique relationship between a given degree of fluctuations in exports and the resultant growth rate of GNP for all countries. The

<sup>1</sup>Ibid., p.576.

<sup>2</sup>Ibid., p.577.

<sup>3</sup>Ibid., p.579.

diversity of economic conditions make it unlikely, however, that such a relationship exists. Despite these criticisms MacBean's work has established the need for case studies of individual countries to determine the extent to which particular countries are affected by export instability and the following section is concerned with the impact of the instability of export earnings on the Ethiopian economy.

### 3. The Impact of the Instability of Export Earnings on the Ethiopian Economy.

The widely accepted theory explaining the consequences of export fluctuations on the domestic economy focusses attention on the impact of such fluctuations on the macroeconomic variables, gross domestic expenditure, private consumption expenditure, government consumption expenditure, investment expenditure and imports. The procedure adopted in this section is to examine the relationships for Ethiopia between export fluctuations and those variables which form the basis of the Keynesian model. No attempt will be made to establish whether fluctuations in export earnings lead to changes in employment since, as is the case in other developing countries, detailed estimates of employment and unemployment are not available for Ethiopia. In addition, the absence of data on prices rules out the possibility that one may investigate the relationship between export fluctuations and the domestic price level.

The impact on the economies of the developing countries of any change in export earnings is usually assumed to result from the foreign-trade orientation of these countries. The ratio of export earnings to GDP at market prices is a commonly used index of a

country's foreign-trade orientation and the following table, Table 2, expresses Ethiopian exports as a percentage of total GDP and as a percentage of monetary GDP for the years 1962-1969.

TABLE 2

THE PERCENTAGE RATIOS OF EXPORT EARNINGS TO TOTAL GDP  
AND TO MONETARY GDP FOR ETHIOPIA, 1962-1969

	1962	1963	1964	1965	1966	1967	1968	1969
Export Earnings as % of Total GDP	8.1	8.7	9.2	8.8	9.2	7.8	8.1	7.6
Export Earnings as % of Monetary GDP	17.3	18.1	18.5	17.3	14.6	13.3	14.8	13.8

Calculated from data in the Statistical Abstract, Central Statistical Office, Imperial Ethiopian Government: various issues.

The percentages of export earnings to GDP and of export earnings to monetary GDP for Ethiopia are lower than the corresponding ratios for most developing nations. A comparison of these proportions with the relevant data for Uganda and Tanzania, given by MacBean, show that Ethiopia's foreign-trade orientation is much lower than that of either of these countries. MacBean found that from 1950-1961 export earnings accounted for approximately 30% of total GDP in Tanzania<sup>1</sup> and approximately 27% of total GDP in Uganda<sup>2</sup>, while the ratio of export earnings to monetary GDP in Tanzania was approximately 45%. No estimate of this latter ratio was provided for Uganda. In view, however, of Maizels' criticisms of MacBean's conclusions about the experiences of Tanzania and Uganda and his observation that a given degree of export instability may vary in its impact from economy to

<sup>1</sup>MacBean, Export Instability and Economic Development, p.151.

<sup>2</sup>Ibid., p.132.



economy, the low percentage ratios recorded for Ethiopia do not exclude the possibility that the Ethiopian economy is sensitive to fluctuations in export earnings.

Data for Ethiopia on the macroeconomic variables which are conventionally thought to be affected by export fluctuations are given in Tables 3, 3a and 3b. Table 3a, which expresses expenditure on the various components of GNP as proportions of total expenditure on GNP, and Table 3b, which shows changes in the macroeconomic variables, are derived directly from the data on GNP and its components in Table 3.

From Table 3a one can see that private consumption expenditure, changes in which will be shown to have the highest correlation with changes in export earnings, comprised by far the largest percentage share of GNP. The lowest proportion of private consumption expenditure in GNP was 73% in 1967 and the highest percentage share was 78.1% in 1962. Gross domestic fixed capital formation rose to its highest share of 14.5% of total GNP in 1968, while government consumption expenditure reached its highest proportion of 10.7% in 1967. The relationships between changes in each of these variables and changes in export earnings will be examined now in turn using the data in Table 3b.

3a. The Relationship Between Changes in Export Earnings and Changes in Private Consumption Expenditure.

It has been estimated that in Ethiopia 92% of the total population live in rural areas<sup>1</sup> and almost all of the rural

<sup>1</sup>IBRD, IDA, Growth and Prospects in Ethiopia, Vol. 1, Main Report, Report No. AE-9, Eastern Africa Department, September 27 1970, p.1.

TABLE 3

## EXPENDITURE ON GNP AND ITS COMPONENTS, 1962-1970

Eth. \$ mns.

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Expenditure on GNP at current market prices.	2525	2623	2972	3380	3576	3588	3807	4067	-
Private consumption expenditure.	1973	2009	2311	2577	2657	2620	2788	3145	-
Government consumption expenditure	173	256	283	336	376	384	403	411	-
Gross domestic fixed capital formation.	308	312	353	400	448	511	544	500	-
Imports <sup>1</sup>									
a) Total	257	276	308	376	404	357	385	388	429
b) Capital goods	96	104	120	163	172	143	148	129	144
Exports	196	219	259	283	269	250	258	293	295

- indicates not available.

<sup>1</sup>The data on imports do not include the value of two commercial aeroplanes purchased by Ethiopian Airlines in 1968. The cost of these aeroplanes was excluded since the concern below is to consider the relationship between merchandise exports and imports and these aeroplanes were to be paid for not from "visible trade" earnings but out of the service earnings of the airline.

Sources: Statistical Abstract, Central Statistical Office, Imperial Ethiopian Government, various issues and

Annual External Trade Statistics, Central Statistical Office, Imperial Ethiopian Government, various issued.

TABLE 3a

## COMPONENTS OF GNP AS PERCENTAGES OF TOTAL GNP, 1962-1969.

	1962	1963	1964	1965	1966	1967	1968	1969
Expenditure on GNP at current market prices.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Private consumption expenditure.	78.1	76.6	77.8	76.2	74.3	73.0	73.2	77.3
Government consumption expenditure.	6.8	9.7	9.5	9.9	10.5	10.7	10.6	10.1
Gross domestic fixed capital formation.	12.2	11.9	11.8	11.8	12.5	14.2	14.5	12.2
Imports	10.1	10.5	10.3	11.1	11.2	9.9	10.1	9.5
Exports	7.7	8.3	8.7	8.3	7.5	6.9	6.7	7.2

TABLE 3b

## CHANGES IN GNP AND ITS COMPONENTS, 1963-1970

	Eth. \$ mns.							
	1963	1964	1965	1966	1967	1968	1969	1970
Expenditure on GNP at current market prices.	98	349	408	196	12	219	260	-
Private consumption expenditure.	36	302	266	80	-37	168	357	-
Government consumption expenditure.	83	27	53	40	8	19	8	-
Gross domestic fixed capital formation.	4	41	47	48	63	33	-44	-
Imports								
a) Total	21	32	68	28	-47	28	3	41
b) Capital goods	8	16	43	9	-29	5	-19	15
Exports <sup>1</sup>	23	40	24	-14	-19	8	35	2

- indicates not available.

<sup>1</sup>In order to test the possibility of lagged relationships between changes in export earnings and changes in the other variables, it is useful to know also the changes in export earnings in earlier years. In 1961 and 1962 the changes in export earnings were Eth. \$-4 mns. and Eth. \$13 mns. respectively

population is engaged in basically subsistence agriculture, producing crops for sale in excess of subsistence requirements to meet their cash needs.<sup>1</sup> Among the agricultural producers, one would expect to find that the incomes of those engaged in the production and sale of products for export change with fluctuations in export proceeds and that these income changes will exert "multiplier" effects on the economy. Time series data on incomes in the agricultural sector are not available for Ethiopia but, if, following this Keynesian-type analysis, producers' incomes do fluctuate in sympathy with export earnings, one would anticipate parallel fluctuations in consumption expenditure.

In the absence of time-series data on incomes, one may examine the relationship between export fluctuations and changes in consumption expenditure in terms of the money supply.<sup>2</sup> The mechanism by which export earnings influence consumption expenditure operates through the effects of export changes on changes in net foreign assets, which, in turn, bring about changes in the money supply and, thus, changes in consumption.

The Annual Reports of the National Bank of Ethiopia make repeated references to the importance of changes in the export sector on the money supply. Of the relationship between the external sector and the money supply, the general point has been made that "variations in external reserves and, consequently, in money supply are mainly due to variations in export receipts"<sup>3</sup>. With regard to specific years,

<sup>1</sup>Ibid., p.22.

<sup>2</sup>The money supply is defined here in its narrow sense and includes, therefore, only currency in circulation and the bank deposits held by the private sector.

<sup>3</sup>National Bank of Ethiopia, Second Annual Report, 1965, p.18.

these Reports have argued that "in 1966 monetary expansion slowed down substantially, reflecting the unfavourable export situation which characterised the year"<sup>1</sup> and that "just as in previous years, monetary developments in 1970 have closely been affected by external factors"<sup>2</sup>. In addition, the IBRD reached the conclusion that "the main factor affecting changes in money supply is the movement in foreign assets"<sup>3</sup>. A detailed analysis of the determinants of the money supply by E. L. Furness has shown, however, that, as far as year-to-year changes are concerned the bank deposits held by the private sector are unaffected by changes in foreign assets. The relationship is not so much between changes in net foreign assets and changes in money supply, therefore, as between changes in net foreign assets and changes in currency in circulation.<sup>4</sup> Consequently, it is more appropriate to consider the effects of changes in net foreign assets on currency in circulation rather than on the money supply and changes in currency in circulation may be taken as a proxy variable for changes in income.

The table on the following page, Table 4, presents the year-to-year changes in those variables which, it is suggested, are responsible for bringing about changes in consumption. Detailed monetary statistics are available for Ethiopia only from 1963, however, and, as the concern is with the effect of changes in these

<sup>1</sup>National Bank of Ethiopia, Third Annual Report, 1966, p.13.

<sup>2</sup>National Bank of Ethiopia, Seventh Annual Report, 1970, p.11.

<sup>3</sup>IBRD IDA, Growth and Prospects in Ethiopia, Vol. 1, 1970, p.19.

<sup>4</sup>E. L. Furness, The Determination of the Volume of Money in Ethiopia, Occasional Economic Paper No. 1, Department of Economics, Haile Sellassie 1 University, Addis Ababa, January 1973, p.35.

variables, there must be a reduction at the beginning of the time period of two years. Using the data in Table 4, one may examine not only the proposition that export fluctuations lead to changes in consumption, but also the argument that this occurs as a result of changes in income, which are indicated by changes in currency in circulation.

TABLE 4

CHANGES IN THE YEAR FOR EXPORTS, NET FOREIGN ASSETS, CURRENCY  
IN CIRCULATION AND PRIVATE CONSUMPTION EXPENDITURE, 1964-1969

Eth. \$ mns.

	1964	1965	1966	1967	1968	1969
Export Earnings <sup>a</sup>	39	21	-14	-19	8	35
Net Foreign Assets <sup>b</sup>	27	34	-8	-44	8	10
Currency in Circulation <sup>b</sup>	30	32	14	-17	13	45
Private Consumption Expenditure <sup>a</sup>	302	266	80	-37	168	357

<sup>a</sup>These data are taken from Table 3b.

<sup>b</sup>IBRD, Growth and Prospects in Ethiopia, p.55.

The correlation coefficients ( $r$ ) and coefficients of determination ( $r^2$ ), calculated using the data in Table 4, are given below. From these results one can see that the correlation coefficient between changes in exports and changes in consumption is 0.9651 and the corresponding coefficient of determination indicates that 93% of changes in private consumption expenditure were associated with changes in exports. This result was found to be statistically significant, as were the correlation coefficients for the relationships involved in causing changes in currency in circulation and, thus, changes in consumption. There do seem to be, therefore,

Y	X	r	r <sup>2</sup>	t-value	Significance level (%)
Changes in Private Consumption Expenditure	Changes in Exports	0.9651	0.9314	7.37	0.5
Changes in Net Foreign Assets	Changes in Exports	0.8209	0.6738	2.87	5.0
Changes in Currency in Circulation	Changes in Net Foreign Assets	0.8483	0.7196	3.20	2.5
Changes in Private Consumption Expenditure	Changes in Currency in Circulation	0.9634	0.9281	7.19	0.5

strong grounds for asserting that there was a significant relationship between changes in exports and changes in private consumption expenditure over the period.

The IBRD has pointed out that GDP per capita in Ethiopia is low "even by African standards"<sup>1</sup> and that "the material quality of life of the vast majority of Ethiopians is extremely poor by normally accepted standards"<sup>2</sup>. Although welfare judgements based on such observations are fraught with difficulties<sup>3</sup>, these observations do suggest that peasant farmers will suffer hardships when their cash earnings from the production of crops for export decrease, and this proposition is supported by conclusions drawn from available evidence concerning farmers' behaviour.

<sup>1</sup>IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. 1, Main Report, Report No. 9-ET, Eastern Africa Dept., Nov. 9 1972, p.27. GDP per capita in Ethiopia in 1970 was US \$76 i.e. Eth.\$170 (calculated at the 1970 exchange rate of US \$1.00 = Eth.\$2.50).

<sup>2</sup>Ibid., p.22.

<sup>3</sup>See S. H. Frankel, Economic Impact on Underdeveloped Societies, Oxford, 1953, Chapter V.



Peasant farmers in Ethiopia retain for their own consumption that part of their output which can be stored for use after the harvest and sell the remainder. The lack of on-farm storage facilities means, however, that crops can be kept for only a short period of time and the cash income obtained from the sale of the surplus must be used to finance consumption during the period after retained crops have been consumed and before the next harvest.<sup>1</sup> The very close correspondence between changes in currency in circulation, the proxy variable for income changes, and changes in consumption expenditure tend to support the view that producers do not hold back a cash reserve from periods of high income to support their consumption expenditure in years when their incomes fall. Moreover, evidence indicates that peasant farmers are permanently in debt to local money-lenders (the curb market) who are prepared to lend funds for consumption purposes<sup>2</sup> and any reduction in cash incomes, consequent upon a fall in export earnings, will force peasants to rely further on these money-lenders. The state of permanent indebtedness to money-lenders suggests that farmers' incomes in periods of high export earnings are not sufficient to clear debts incurred in less favourable periods, but whether this means also that farmers still require to borrow from money-lenders in periods of high income is not known due to the lack of data on incomes and expenditure. That evidence which is at hand tends to indicate,

<sup>1</sup>The question of storage facilities is discussed more fully in Chapter Three, Section 4a.

<sup>2</sup>The curb market is discussed in detail in IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. IV, Institutional Aspects of Private Sector Savings Mobilisation, January 15, 1973.

however, that accumulated cash debt represents a high proportion of farmers' cash incomes.

Evidence presented by the IBRD indicates that, before the Chilalo Agricultural Development Unit Project was begun, the average cash debt of farmers in this area of Arussi was Eth. \$130<sup>1</sup> and another study found that in one of the richer, coffee-growing areas, Limu, the average cash debt was approximately Eth. \$59<sup>2</sup>. The significance of such indebtedness becomes clear when one compares these figures with the estimate of per capita consumption in the rural sector of the economy prepared by D. Luben and W. I. Abraham<sup>3</sup>. Luben and Abraham found that rural consumption was of the order of Eth. \$98 and, although they did not provide a breakdown of this figure into cash expenditure and consumption in kind, they calculated that these components each accounted for 50% of consumption for the country as a whole<sup>4</sup>. While such a division probably underestimates consumption in kind in the rural areas, its application to the data for the rural sector indicates that cash expenditures equalled Eth. \$49. On the assumption that these expenditures were financed out of current income without recourse to borrowing, this figure may be used as an estimate of average, rural cash income and, even allowing for the fact that

<sup>1</sup>IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. 111, Fiscal Policy and the Agricultural Sector, June 15 1973, p.31.

<sup>2</sup>The Limu Sample Survey, Ethiopian Economic Review, No. 6, issued by the Imperial Ethiopian Government Ministry of Commerce and Industry, April 1963, p.108.

<sup>3</sup>D. Luben and W. I. Abraham, An Analysis of Household Consumption in Ethiopia, Staff Report No. 5, Imperial Ethiopian Government Central Statistical Office, Addis Ababa, January 1973.

<sup>4</sup>Ibid., Tables 1 and 2.

incomes in the relatively richer districts of Chilalo and Limu were higher than average, it appears that accumulated debt is high relative to, and may, in fact, exceed annual cash income.

Despite widespread banking facilities<sup>1</sup>, farmers are indebted to the curb market and not to the commercial banks and, although this may be attributable in part to the informality and speed of dealing, the principal reason is that borrowing by small farmers is for consumption purposes and would not qualify for loans from the commercial banks.<sup>2</sup> With interest rates as high as 200%, borrowed funds must tend to be used for consumption since sound investment opportunities, which would make borrowing at these usurious rates of interest profitable, are not available to peasant farmers.<sup>3</sup>

The effect, therefore, of shortfalls in export earnings and, hence, in cash incomes is to further immiserise peasant farmers by increasing their dependence on loans from money-lenders at very high interest rates.

3b. The Relationships Among Changes in Export Earnings, Changes in Imports and Changes in Gross Domestic Fixed Capital Formation.

Capital formation is an essential element in economic growth and development and, given an economic structure which is not geared to the production of the necessary capital goods, imported investment goods are of crucial importance. In this context the IBRD has pointed

<sup>1</sup>The spread of banking facilities is discussed in Assefa Mehretu, Diffusion of Banking in Ethiopia, Discussion Monograph No. G/One, Institute of Development Research, Haile Sellassie 1 University, 9 April 1973.

<sup>2</sup>IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. IV, p.13.

<sup>3</sup>Interest rates are discussed in Ibid., p.3.

out that the basic constraint on the growth of the Ethiopian economy is the availability of foreign exchange to purchase essential imports<sup>1</sup> and the importance of imports to the Ethiopian economy may be seen from Table 5 which gives data on imports by end-use classification, and from Table 5a, which presents the various end-use categories of imports as percentages of total imports. If one defines Linder's concept of input imports to include not only capital goods but also raw materials, semi-finished products and fuel, these imports comprise approximately 70% on average of total imports.<sup>2</sup> So defined, growth-related imports represent a high proportion of Ethiopian imports and capital goods alone account for approximately 38% on average of total imports.

The dependence of domestic investment on imports of capital goods requires that there should be sufficient foreign currency receipts to finance the import constituent of capital formation and the primary source of these receipts is export earnings. Accepted theory holds, however, that fluctuations in the availability of foreign exchange will cause instability in imports of capital goods and, hence, instability in domestic capital formation and the following correlation coefficients indicate the nature of the association among these variables for Ethiopia.

<sup>1</sup>IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. 1, p.4.

<sup>2</sup>This definition of input imports does not include that part of imports of consumer goods which Linder would wish to define as incentive goods, due to the difficulty of identifying this component of imports. Identifying some proportion of consumer goods as incentive goods would increase the proportion of input imports in total imports.

TABLE 5

## IMPORTS BY END-USE CLASSIFICATION 1962-1970

	Eth. \$ mms.								
	1962	1963	1964	1965	1966	1967	1968	1969	1970
Raw materials	8.4	14.1	17.1	18.2	20.3	15.8	22.7	18.5	14.3
Semi-finished products	35.5	38.6	43.9	48.1	55.6	61.1	73.4	65.3	84.3
Fuel	23.1	19.3	23.9	23.9	27.6	31.6	27.0	28.2	33.7
Capital goods	95.9	104.1	119.7	163.1	172.3	143.4	148.1	129.3	144.3
Consumer goods	90.2	96.2	98.9	118.7	123.7	103.3	98.1	137.5	152.3
Miscellaneous	3.9	3.8	4.2	3.7	4.2	2.2	6.6	9.3	2.1
Total	257.0	276.1	307.6	375.7	404.2	357.4	385.9	388.3	429.0

TABLE 5a

## IMPORTS BY END-USE CLASSIFICATION AS PERCENTAGES OF TOTAL IMPORTS 1962-1970

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Raw materials	3.3	5.1	5.6	4.8	5.0	4.4	5.8	4.8	3.3
Semi-finished products	13.8	14.0	14.3	12.8	13.8	17.1	19.0	16.8	19.7
Fuel	9.0	7.0	7.8	6.4	6.8	8.8	6.9	7.3	7.9
Capital goods	37.3	37.7	38.9	43.5	42.6	40.1	38.3	33.3	33.1
Consumer goods	35.1	34.9	32.2	31.5	30.6	29.0	25.4	35.4	35.5
Miscellaneous	1.5	1.4	1.4	1.0	1.2	0.6	1.7	2.4	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Annual External Trade Statistics, Central Statistical Office, Imperial Ethiopian Government, various issues.

Y	X	r	r <sup>2</sup>	t-value	Significance level (%)
Changes in Total Imports (t+1)	Changes in Exports (t)	0.7197	0.5179	2.54	5.0
Changes in Imports of capital goods (t+1)	Changes in Exports (t)	0.7349	0.5400	2.65	5.0
Changes in Gross Domestic Fixed Capital Formation (t+2)	Changes in Exports (t)	0.7688	0.5910	2.69	5.0

The correlation coefficients between changes in export earnings and changes in total imports and between changes in export earnings and changes in imports of capital goods are statistically significant and the latter coefficient supports the argument that export fluctuations cause sympathetic changes in imports of investment goods. Moreover, the relationship between changes in export earnings and changes in gross domestic fixed capital formation was found also to be statistically significant; indicating that the impact of export instability on imports of capital goods was reflected in changes in domestic investment. The time lags associated with the relationships with export earnings differed, however, between imports of capital goods and domestic capital formation. Export earnings in time period  $t$  influenced imports of capital goods in time period  $t+1$  and capital formation in period  $t+2$ . The two-year lag between exports and domestic investment results from the one-year lag between export changes and their effects on capital goods imports and from the length of time it takes for imported capital goods to be put into use and to be recorded in the national accounts as having become part of

the capital stock.

The relationship between export changes and changes in total imports, although statistically significant, was loosened to some degree, when compared with the relationship between changes in export earnings and changes in consumption, by allowing imports in time period  $t+1$  to increase more rapidly than, or to decline by less than, the change in export earnings in time period  $t$ . As may be seen from Table 3a, <sup>(b)</sup> imports behaved in this way in each year of the period except 1967 and 1969. This meant that on average imports increased by more than export earnings and this could be achieved only by allowing the deficit on the visible trade balance and the domestic resource gap to widen over the period.

The domestic resource gap may be defined as the extent to which the level of imports of goods and services exceeds the maximum level of exports of goods and services, i.e. it equals the deficit on goods and non-factor services in the statement of the balance of payments. An alternative approach is to consider the domestic resource gap as the difference between investment requirements and domestic savings.<sup>1</sup> Of these two approaches, that which is more useful in the Ethiopian context is the "trade gap" approach since the alternative suffers from two serious drawbacks. Firstly, as in many other developing countries, direct estimates of savings are not available in Ethiopia. The only available estimates of gross domestic savings are those calculated by the IBRD by subtracting the resource gap, determined using the "trade gap" approach, from gross domestic investment.<sup>2</sup>

<sup>1</sup>The equivalence of the two approaches to the calculation of the resource gap is discussed in UNCTAD, Mobilisation of Internal Resources and the Flow of External Assistance, New York, TD/B/C. 3/40, Nov. 1967.

<sup>2</sup>IBRD IDA, Growth and Prospects in Ethiopia, Vol. 1, Statistical Appendix, Table 5.

This requires, however, that estimates of the resource gap and of gross domestic investment are used to calculate gross domestic savings rather than that gross domestic savings and gross domestic investment are employed to determine jointly the resource gap. Secondly, the estimate of gross domestic investment is subject to a wide margin of error. The IBRD had the following to say of this estimate:

The machinery component estimate is fairly well based, although the assumptions used for adjustments are subject to considerable error. The estimates of construction are very rough. There are no estimates for investments in stocks, except for livestock; the figures are, in any case, very small.

Data on the domestic resource gap, calculated from the "trade gap" approach, are presented in Table 6 along with data on the visible trade balance and monetary movements. From this table one can see that the resource gap is very strongly influenced by the visible trade balance in each year and, thus, the widening of the visible trade gap, caused by the more rapid growth of imports than of export earnings, was reflected in the domestic resource gap.

TABLE 6

DOMESTIC RESOURCE GAP, VISIBLE TRADE BALANCE  
AND MONETARY MOVEMENTS, 1963-1970

	Eth. \$ mns.							
	1963	1964	1965	1966	1967	1968	1969	1970
Domestic Resource Gap	-52	-30	-66	-98	-77	-84	-30	-80
Visible Trade Balance	-57	-49	-93	-135	-107	-133	-93	-135
Monetary Movements (- increase)	-3	-27	-34	-8	44	-8	-11	42

Source: IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Statistical Appendix, Table 23.

<sup>1</sup>Ibid., p.6.



In principle, the problem of the widening of the resource gap may be resolved either by making use of foreign exchange reserves and/or by obtaining credit from abroad. In practice, however, the concern with improving the low levels of foreign exchange reserves meant that the former solution was not available to the Ethiopian authorities as a regular policy measure and was used only in those years in which foreign capital inflows were insufficient to cover the resource gap, i.e. in 1967 and 1970<sup>1</sup>. The reduction in foreign exchange reserves in these years may be seen from the data on monetary movements in Table 6. In the other years of the period the authorities relied upon inflows of foreign capital to finance the resource gap. The reliance on foreign capital inflows involves a cost to the economy, however, in terms of the interest payments which have to be made on these loans and, along with the repayment of the capital sum, these interest payments impose a charge on future export earnings.

The National Bank has pointed out that, although it is not possible to make estimates of private capital debt servicing, figures are available for debt servicing on public capital from 1964.<sup>2</sup> Public capital inflows are, in any case, as the National Bank has indicated, the main source of finance for the resource gap and have become increasingly important over the period.<sup>3</sup> The following table, Table 7, presents data on the amortisation of and interest payments

<sup>1</sup>The relationship between capital inflows and external reserves is discussed in IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. 1, pp.39-40.

<sup>2</sup>National Bank of Ethiopia, Fourth Annual Report, 1967, p.14.

<sup>3</sup>National Bank of Ethiopia, Seventh Annual Report, 1970, p.41.

made on public capital inflows during the period 1964-1970 and these data show clearly the increasing burden of debt servicing.

TABLE 7

AMORTISATION AND INTEREST PAYMENTS ON  
PUBLIC CAPITAL INFLOWS, 1964-1970

	Eth. \$ mms.						
	1964	1965	1966	1967	1968	1969	1970
Amortisation	13.7	16.2	21.5	26.4	31.0	34.8	41.1
Interest Payments	7.9	8.3	10.3	12.5	14.3	17.1	17.3
Total	21.6	24.5	31.8	38.9	45.3	51.9	58.4
Total as % of Export Earnings	8.4%	8.5%	11.9%	15.4%	17.0%	17.4%	19.1%

Source: National Bank of Ethiopia, Seventh Annual Report, 1970, p.41.

A commonly used indicator of a country's vulnerability to external debt repayment requirements is the ratio of debt servicing to merchandise exports. The level of merchandise export earnings gives an indication of the country's capacity to release foreign exchange to meet its debt obligations and this is important, as a matter of simple arithmetic, since there is a danger that these obligations may accumulate more rapidly than the expansion of a country's ability to repay such debts. From the data in Table 7 one can see that debt servicing as a percentage of export earnings has been increasing over time, indicating an increasing drain on scarce foreign resources.

It appears, therefore, that changes in export earnings are the major determinant of changes in total imports and that the loosening of this relationship was achieved only by increasing the government's debt obligations.

3c. The Relationship Between Changes in Export Earnings and Changes in Government Consumption Expenditure.

Conventional wisdom contends that export fluctuations cause parallel changes in government consumption expenditure through the impact of changes in export proceeds on public revenues and the basis for this contention is the assumption that changes in public revenues result from the sensitivity to export fluctuations of revenue from different sources, i.e. income taxation, domestic indirect taxation and taxes on foreign trade. The evidence for Ethiopia indicates, however, that government expenditure does not change in sympathy with export fluctuations.

The correlation coefficient between changes in Ethiopian export earnings and changes in government consumption expenditure, calculated from the data in Table 3a, is 0.4868 with a coefficient of determination of 0.2369. The t-value of 1.2458 associated with this correlation coefficient is insignificant at the 5% level and there is, therefore, no evidence of a statistically significant relationship between changes in exports and changes in government expenditure. An explanation of the statistical insignificance of this relationship may be provided by an examination of the extent to which export fluctuations lead to changes in revenue from the three sources mentioned above.

A recurrent theme of discussions of agricultural income taxation in Ethiopia concerns the small and stagnant contribution of the agricultural sector to the budget.<sup>1</sup> This is largely a result of the

<sup>1</sup>This theme is evident throughout the following publications:-  
 IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. 111.  
 IBRD IDA, The Economy of Ethiopia, Vol. 1V, Tax Policy for Development, Report No. AF-60a, August 31 1967, and  
 IBRD IDA, Economic Growth and Prospects in Ethiopia, Vol. V, Domestic Resources, Annex 9, September 27 1970.

fact that the coverage of the tax system is far from complete within the basically subsistence sector of the economy and of the fact that, even where small farmers are subject to income taxation, the underassessment of tax payments is made possible by the system of tax assessment. Taxable income is computed as gross income minus land taxes paid minus rents payable in cash or in kind minus a deduction of one-third of gross income as production expenses. Where farmers maintain accounts or records, actual rather than estimated income is considered for tax purposes.<sup>1</sup> Ethiopian farmers do not tend to keep accounts, however, and reliable information on output and prices is difficult to obtain. This leaves considerable scope for errors of judgement and abuse and these problems are compounded by the use of bribery to influence assessments.<sup>2</sup>

In addition to the underassessment of taxation, the non-collection of assessed taxes is substantial in the case of the agricultural income tax. Tax delinquency is such that in fiscal year 1970/71 Eth. \$5.8 mn. of assessed agricultural income taxes were not collected against a collection of only Eth. \$13.6 mn.<sup>3</sup> The laxity in the assessment and collection of agricultural income tax and the inadequate coverage of the system suggest, therefore, that revenues from this tax are not likely to change significantly in line with those cash incomes in the agricultural sector which are

<sup>1</sup>The estimation of taxable agricultural income is discussed in depth in IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, Vol. 111, p.52.

<sup>2</sup>Ibid., p.58. This source indicates that, although normally associated with the richer landlords, bribery has been used by peasant farmers to influence their tax assessments.

<sup>3</sup>Ibid., p.62.

affected by export fluctuations.

The effect on revenue from domestic indirect taxation of changes in export earnings depends upon the extent to which those disposable incomes, which vary with export fluctuations, are spent on goods covered by this form of taxation. Although data on consumption patterns are not available, it is known that in the past few years the Government has been considering the adaptation of the system of indirect taxation to make it more income elastic.<sup>1</sup> Evidence provided by the IBRD provides adequate justification for such adaptation. The IBRD found in 1970 that the relatively more elastic taxes, the transactions tax and the turnover tax on domestic output, represented only approximately 20% of revenue from domestic indirect taxation.<sup>2</sup> Moreover, no indirect taxes are levied on services. A further problem arises from the fact that taxes such as the transactions tax are difficult to administer "in the Ethiopian pattern of small transactions by a large number of small traders"<sup>3</sup> and, consequently, when upward changes in incomes occur in the rural areas, tax revenues are unlikely to increase. These observations indicate that, in all probability, changes in disposable incomes and expenditures, resulting from export fluctuations, will have little effect on revenues from domestic indirect taxation.

<sup>1</sup>IBRD IDA, Economic Growth and Prospects in Ethiopia, Vol. V, Annex 9, p.7.

<sup>2</sup>Ibid., p.7. Domestic indirect taxation accounts for approximately 32% of total public revenues. The basis for the division of indirect taxes into the more and less elastic categories is the observation that, while GDP has shown successive increases from 1963/64 F.Y. to 1970/71 F.Y., revenue from the transactions tax and the turnover tax increased on average by 22% per annum, but revenue from other indirect taxes grew at an average annual rate of only 7.4%.

<sup>3</sup>Ibid., p.8.

The third aspect of changes in public revenues concerns changes in revenue from taxes on foreign trade. The assertion that export fluctuations lead to changes in revenue from these taxes implicitly assumes that not only the revenue yield of taxes on exports, but also the revenue yield of import taxes is sensitive to changes in export proceeds. The evidence above concerning the relationship between export earnings and imports shows that the latter part of this assumption is warranted in the Ethiopian case and, thus, of the three components of public revenues, which are conventionally thought to be influenced by export fluctuations, only taxes on foreign trade are, in fact, related to export changes. The effect on total public revenues of changes in revenue from taxes on foreign trade depends, however, on the proportion that these revenues represent of total revenues. Data on revenue from taxes on foreign trade are given in Table 8, while Table 8a expresses revenue from these taxes as percentages of total revenue.

From Table 8a one can see that indirect taxes on foreign trade accounted for about 20% of total tax revenue on average over the period. Revenue from import taxes made up by far the larger proportion of these indirect taxes with revenue from export taxes reaching a highest level of only 7.0% in fiscal year 1964/65. In view of the relatively small proportion of revenues from these taxes in total revenue, one would not anticipate fluctuations in these revenues to have a significant effect on total government revenues. Moreover, given the insensitivity of revenues from income taxation and indirect taxation to export changes, this explains also the statistically insignificant correlation coefficient between changes in export proceeds and changes in government consumption expenditure.

TABLE 8

REVENUE FROM EXPORT AND IMPORT TAXES AND TOTAL  
GOVERNMENT REVENUE IN ETHIOPIAN FISCAL YEARS

Eth. \$ mms.

	1962/3	1963/4	1964/5	1965/6	1966/7	1967/8	1968/9	1969/70
Revenue from Export Taxes	14.9	21.6	28.0	20.1	21.6	21.1	19.0	34.0
Revenue from Import Taxes	49.4	61.0	68.9	81.0	77.8	71.4	70.8	77.9
Total Revenue	283.5	359.8	396.4	470.1	484.0	492.2	505.5	565.4

TABLE 8a

REVENUE FROM EXPORT AND IMPORT TAXES AS PERCENTAGES OF  
TOTAL GOVERNMENT REVENUE IN ETHIOPIAN FISCAL YEARS

	1962/3	1963/4	1964/5	1965/6	1966/7	1967/8	1968/9	1969/70
Revenue from Export Taxes	5.3	6.0	7.0	4.3	4.5	4.2	3.7	6.0
Revenue From Import Taxes	17.4	17.0	17.4	17.2	16.1	14.5	14.0	13.8
Total Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistical Abstracts, Central Statistical Office, Imperial Ethiopian Government, various issues.

The analysis of this section has shown that of those variables, changes in which the accepted theory suggest are affected by export instability, private consumption expenditure, imports and gross domestic fixed capital formation are significantly associated with changes in export earnings. The only variable which was found not to be significantly related to export changes was government consumption expenditure. The problem of export instability does seem to be a matter of substance, therefore, for the Ethiopian economy,

The discussion of the question of export instability has been concerned so far only with changes in total export proceeds. The instability index for total export proceeds covers, however, a wide variety of experience for different commodity groupings and individual commodities and an analysis of the causes of export fluctuations and the formulation of policy prescriptions requires that one should consider not only the instability of total export earnings but also the instability of proceeds from particular commodity groupings and individual commodities. Moreover, since the instability of export earnings results from the interaction of changes in prices and quantities, instability indices will be calculated in the following section for changes in export earnings, changes in prices and changes in quantities for different commodity groupings and individual commodities.

#### 4. Instability Indices for Commodity Groupings and Individual Commodities.

The commodity groupings for which instability indices of export earnings, quantities exported and unit export prices will be



estimated are pulses, hides and skins and oilseeds and oilseed cakes. These three commodity groupings were chosen because they formed a high proportion of total export earnings excluding export earnings from coffee during the period 1962-1970. Coffee will be considered independently of any commodity grouping due to its individual importance as a source of export earnings and the individual commodities to be considered, in addition to coffee, are those within the various commodity groupings.

Table 9 presents data on export earnings from coffee, from each commodity grouping and from the individual commodities within these groupings and Table 9a expresses these data as percentages of total export earnings. From Table 9a one can see the dominant position of export earnings from coffee in total export earnings. The lowest percentage of total export earnings arising from this source as 50.55% in 1963 and the highest such percentage was 66.48% in 1964. Export earnings from coffee, pulses, hides and skins and oilseeds and oilseed cakes together comprised approximately 87% on average of total export earnings. The importance of these proportions for the instability of total export earnings will be discussed below in the light of instability indices calculated from the data in Table 9.

#### 4a. Instability Indices for Export Earnings from Commodity Groupings and Individual Commodities.

The instability indices for export earnings estimated using the data in Table 9 are presented in Table 10 and several features of these indices are of interest.

The first point of interest arises from a comparison of the indices for the commodity groupings with the index for coffee. One can see from Table 10 that the indices for the pulse and hides and

TABLE 9

## EXPORT EARNINGS FROM COMMODITY GROUPINGS AND INDIVIDUAL COMMODITIES, 1962-1970

	(000's Eth. \$)									
	1962	1963	1964	1965	1966	1967	1968	1969	1970	
<u>Coffee</u>	107,198	110,935	158,932	188,180	155,313	139,182	152,957	173,947	181,269	
<u>Pulses</u>	15,894	14,061	12,652	13,962	21,259	19,459	21,072	21,455	15,724	
Lentils	6,381	3,911	2,401	1,461	5,441	5,192	7,526	9,292	4,915	
Horsebeans	3,924	5,000	3,441	3,367	5,663	5,151	3,613	5,256	3,521	
Haricotbeans	4,485	3,546	3,951	6,935	7,000	6,257	6,895	5,042	6,783	
Chickpeas	1,104	1,604	2,859	2,199	3,155	2,859	3,038	1,865	505	
<u>Hides and Skins</u>	24,764	23,454	21,945	23,662	35,647	29,837	24,915	29,158	24,484	
Hides	7,168	6,753	4,090	4,351	9,444	5,776	2,776	4,196	5,848	
Goatskins	5,408	5,216	5,926	7,334	12,087	9,890	8,695	8,456	7,955	
Sheepskins	11,105	9,968	11,515	11,107	13,741	13,356	13,066	14,921	10,506	
Skins Other	1,083	1,517	414	870	375	815	378	1,585	175	
<u>Oilseeds and Oilseed Cakes</u>	23,668	31,801	30,130	29,080	28,564	27,075	25,117	27,290	31,747	
Groundnuts	1,806	2,641	3,702	1,910	1,245	831	1,106	822	264	
Linseed	8,488	12,400	10,044	6,130	3,557	2,895	1,137	97	0.2	
Cottonseed	217	556	814	884	1,486	2,465	1,157	1,654	1,268	
Castorseed	2,255	2,185	2,063	1,257	1,298	571	405	619	211	
Sesame Seed	3,861	4,363	6,768	9,993	11,221	11,385	14,041	15,607	23,294	
Niger Seed	1,530	4,760	2,583	3,506	2,486	3,032	3,074	3,983	3,002	
Seeds Other	1,405	3,505	640	1,999	4,458	1,521	520	401	314	
Oilseed Cakes	4,106	3,503	3,516	3,401	2,813	4,375	3,677	4,107	3,394	

Source: Annual External Trade Statistics, Central Statistical Office, Imperial Ethiopian Government, various issues.

TABLE 9a

EXPORT EARNINGS FROM COMMODITY GROUPINGS AND INDIVIDUAL COMMODITIES  
EXPRESSED AS PERCENTAGES OF TOTAL EXPORT EARNINGS, 1962-1970

	1962	1963	1964	1965	1966	1967	1968	1969	1970
<u>Coffee</u>	54.63	50.55	61.32	66.48	57.71	55.67	59.27	59.44	61.53
<u>Pulses</u>	8.09	6.39	4.86	4.91	7.89	7.77	8.15	7.31	5.32
Lentils	3.25	1.78	0.92	0.51	2.02	2.07	2.91	3.17	1.66
Horsebeans	2.00	2.27	1.32	1.18	2.10	2.06	1.40	1.79	1.19
Haricotbeans	2.28	1.61	1.52	2.45	2.60	2.50	2.67	1.72	2.30
Chickpeas	0.56	0.73	1.10	0.77	1.77	1.14	1.17	0.63	0.17
<u>Hides and Skins</u>	12.61	10.67	8.44	8.34	13.22	11.92	9.63	9.94	8.29
Hides	3.65	3.07	1.57	1.53	3.50	2.31	1.07	1.43	1.98
Goatskins	2.75	2.37	2.28	2.59	4.49	3.95	3.36	2.88	2.70
Sheepskins	5.66	4.54	4.44	3.92	5.10	5.34	5.06	5.09	3.56
Skins Other	0.55	0.69	0.15	0.30	0.13	0.32	0.14	0.54	0.05
<u>Oilseeds and Oilseed Cakes</u>	12.02	14.45	11.58	10.24	10.58	10.79	9.80	9.30	10.84
Groundnuts	0.92	1.20	1.42	0.67	0.46	0.33	0.42	0.28	0.08
Linseed	4.32	5.65	3.87	2.16	1.32	1.15	0.44	0.03	-
Cottonseed	0.11	0.25	0.31	0.31	0.55	0.98	0.44	0.56	0.43
Castorseed	1.14	0.99	0.79	0.44	0.48	0.22	0.15	0.21	0.07
Sesame Seed	1.96	1.98	2.61	3.53	4.16	4.55	5.44	5.33	7.90
Niger Seed	0.77	2.16	0.99	1.23	0.92	1.21	1.42	1.40	1.15
Seeds Other	0.71	0.63	0.24	0.70	1.65	0.60	1.19	1.36	1.01
Oilseed Cakes	2.09	1.59	1.35	1.20	1.04	1.75	0.20	0.13	0.10

TABLE 10

INSTABILITY INDICES FOR EXPORT EARNINGS FROM COMMODITY  
GROUPINGS AND INDIVIDUAL COMMODITIES, 1962-1970

Commodity	Index
<u>Coffee</u>	0.1308
<u>Pulses</u>	0.1588
Chickpeas	0.4158
Horsebeans	0.2055
Haricotbeans	0.1858
Lentils	0.3934
<u>Hides and Skins</u>	0.1446
Hides	0.3155
Goatskins	0.2297
Sheepskins	0.1120
Skins Other	2.0897
<u>Oilseeds and Oilseed Cakes</u>	0.0919
Castorseed	0.1639
Linseed	0.3148
Cottonseed	0.3931
Sesame Seed	0.1495
Groundnuts	0.1273
Seeds Other	0.7668
Oilseed Cakes	0.1232
Niger Seed	0.8810

skins groupings are slightly greater than the index for coffee, while the index for the oilseeds and oilseed cakes grouping is less than that for coffee. Fluctuations in export earnings from a particular commodity grouping are more serious in terms of changes in total export earnings, however, the higher the proportion that that grouping represents of the value of total exports. Despite the similarity, therefore, in the indices for coffee, pulses and hides and skins, one would anticipate fluctuations in export earnings from coffee to have a much greater impact on total export receipts than fluctuations in proceeds from the pulse group or from the hides and skins group and this expectation may be verified by reference to Table 9.

Even from casual inspection of the data in Table 9, it is obvious that fluctuations in total export earnings tend to be determined principally by changes in receipts from coffee exports. Total export proceeds rose during the period 1962-1965, when receipts from coffee exports rose, and fell during the following two years, as did the value of coffee exports. Total export receipts then increased from 1968 until 1970 following the increases in export earnings from coffee.

Although these data show that fluctuations in total receipts were influenced strongly by changes in receipts from the major export product, a comparison of the instability index for total export earnings, given in Table 1, with that for coffee indicates that the degree of instability was less for total export earnings than for proceeds from coffee. This implies that fluctuations in export earnings from other sources tended to offset partially the effect of changes in coffee earnings on total export earnings.

Examination of the instability indices for coffee, pulses, hides and skins and oilseeds and oilseed cakes indicates that this must be the case. Had export earnings from the three commodity groupings not tended to "soften" the impact on total exports of changes in coffee earnings, the index for total export earnings would inevitably have recorded a higher value, given that the indices for coffee and the three commodity groupings are greater than the index for total export receipts.

Another feature of the results in Table 10 concerns the values of the indices for commodities within particular groupings. With only one exception, the instability indices for the individual commodities, which make up a grouping, exceed the index for aggregate export earnings from that grouping. The exception is the index for sheepskins in the hides and skins group. It follows, therefore, that the pattern of offsetting fluctuations holds not only for the relationship between changes in export earnings from coffee and changes in export earnings from the commodity groupings, but also for the relationship among fluctuations in export earnings from individual commodities within each grouping.

A final point of interest concerns the quantitative importance of the products exhibiting the higher degrees of instability. In each grouping there is a marked tendency for those commodities with the higher instability indices to be the quantitatively less important products. Changes in export earnings from these products will have less impact on export earnings from the grouping as a whole, therefore, than fluctuations in proceeds from the more stable products.

This section has been concerned with the instability indices

for export earnings. Fluctuations in export earnings from a particular product are determined, however, by changes in the quantities exported and in the unit prices received for that product and the following section will be concerned, therefore, with measuring the instability of quantities and of prices experienced by the commodities under consideration.

4b. The Interaction of Fluctuations in Unit Export Prices and Fluctuations in Quantities Exported.

Data on unit export prices and on quantities exported of particular products are presented in Table 11 and the instability indices calculated using these data are given in Table 12. From these indices it is possible to reach some conclusions concerning the effects of the interaction of prices and quantities on changes in export earnings and the relative importance of price and quantity changes in determining the instability indices for export earnings from particular commodities.

When considering the implications of the interaction of changes in unit export prices and changes in quantities exported on export earnings, one can distinguish several possible outcomes. Firstly, where the observed values for prices and for quantities tend to move simultaneously in the same direction around their respective trend estimates, the index of fluctuations around the trend of export earnings for a particular commodity will be greater than the index for either prices or quantities. Secondly, where prices and quantities tend to change in opposite directions around their respective trends, the instability index for export earnings will lie below the price and quantity indices. Thirdly, the time

TABLE 11

## QUANTITIES EXPORTED AND UNIT EXPORT PRICES OF INDIVIDUAL COMMODITIES AND COMMODITY GROUPINGS

		1962	1963	1964	1965	1966	1967	1968	1969	1970
<u>Coffee</u>	Q	62,464	66,387	70,194	87,654	73,642	73,604	80,250	88,383	70,761
	P	1,716	1,677	2,263	2,146	2,110	1,891	1,905	1,968	2,561
<u>Pulses</u>	P	237	257	224	264	314	285	286	280	310
<u>Lentils</u>	Q	25,335	16,187	10,451	5,776	14,936	15,031	22,089	24,534	15,751
	P	252	242	230	253	364	345	341	379	312
<u>Horsebeans</u>	Q	22,805	23,139	19,950	17,808	22,438	24,749	18,470	27,420	15,641
	P	172	216	172	189	252	208	196	192	225
<u>Haricotbeans</u>	Q	13,983	6,960	10,695	19,712	19,473	17,885	19,329	16,672	17,134
	P	321	509	369	352	359	350	357	302	396
<u>Chickpeas</u>	Q	4,969	8,527	15,316	9,541	10,949	10,724	13,863	7,981	2,148
	P	222	188	187	230	288	267	219	234	235
<u>Hides and Skins</u>	P	1,821	1,622	1,760	2,245	2,386	2,615	2,818	2,473	2,300
<u>Hides</u>	Q	7,262	6,738	4,406	5,293	9,409	5,873	3,466	5,265	5,830
	P	987	1,002	928	822	1,004	983	801	797	1,003
<u>Goatskins</u>	Q	3,680	3,789	3,759	1,806	2,154	1,739	2,096	2,150	1,966
	P	1,470	1,377	1,576	4,061	5,611	5,687	4,148	3,933	4,046
<u>Sheepskins</u>	Q	2,645	3,924	4,298	3,076	3,353	3,295	3,259	4,363	2,848
	P	4,198	2,541	2,679	3,611	4,098	4,053	4,009	3,420	3,689
<u>Skins Other</u>	Q	10	11	6	367	23	501	19	12	2
	P	108,300	137,909	69,000	2,370	16,304	1,626	19,895	132,083	87,500
<u>Oilseeds and Oilseed Cakes</u>	P	285	286	305	320	338	304	331	303	382
<u>Groundnuts</u>	Q	3,150	5,411	7,131	3,371	1,997	1,589	3,083	1,866	651
	P	573	488	519	567	623	523	359	441	406



TABLE 11 - Continued

	1962	1963	1964	1965	1966	1967	1968	1969	1970
<u>Oilseeds and</u> <u>Oilseed Cakes</u>									
<u>Linseed</u>	Q 25,908	37,152	31,047	19,308	10,505	9,689	3,715	290	1
	P 328	334	324	317	339	299	306	334	200
Cottonseed	Q 1,556	3,845	4,920	4,958	7,860	11,206	6,891	9,878	7,289
	P 139	145	165	178	189	220	168	167	174
Castorseed	Q 7,135	7,249	6,789	4,453	5,173	1,919	1,056	1,962	735
	P 316	301	304	282	251	298	384	315	287
Sesame Seed	Q 9,556	8,557	14,346	21,457	20,343	19,752	27,015	30,683	39,739
	P 404	510	472	466	552	576	520	509	586
Niger Seed	Q 5,716	10,076	9,344	10,848	6,804	8,841	6,933	10,323	7,163
	P 268	472	276	323	374	343	443	386	419
Seeds Other	Q 3,813	12,546	2,386	3,115	756	4,804	1,444	1,084	735
	P 368	279	268	642	590	317	360	370	427
Oilseed Cakes	Q 26,272	26,407	22,850	23,335	31,149	31,289	25,846	34,056	26,710
	P 156	133	154	146	90	140	142	120	127

Q denotes metric tons

P denotes unit export price per metric ton in Eth.₡.

Sources: Quantities exported were obtained from Annual External Trade Statistics, Central Statistical Office, Imperial Ethiopian Government, various issues, and unit export prices were calculated from data in Table 9 and quantities exported in Table 11.

TABLE 12

INSTABILITY INDICES FOR QUANTITIES EXPORTED AND UNIT EXPORT PRICES  
FROM COMMODITY GROUPINGS AND INDIVIDUAL COMMODITIES, 1962-1970

Commodity		Index
<u>Coffee</u>	Q	0.0951
	P	0.1086
<u>Pulses</u>	Q	0.1387
	P	0.0690
Chickpeas	Q	0.2548
	P	0.1220
Horsebeans	Q	0.0578
	P	0.1146
Haricotbeans	Q	0.2331
	P	0.1468
Lentils	Q	0.3583
	P	0.1124
<u>Hides and Skins</u>	Q	0.1251
	P	0.1099
Hides	Q	0.2584
	P	0.0363
Goatskins	Q	0.2054
	P	0.3538
Sheepskins	Q	0.1729
	P	0.1583
Skins Other	Q	1.6876
	P	0.8084
<u>Oilseeds and Oilseed Cakes</u>	Q	0.0943
	P	0.0662
Castorseed	Q	0.1846
	P	0.1097
Linseed	Q	0.3152
	P	0.1046
Cottonseed	Q	0.3261
	P	0.1175
Sesame Seed	Q	0.0795
	P	0.0641
Groundnuts	Q	0.4959
	P	0.1217
Niger Seed	Q	0.2040
	P	0.1581
Seeds Other	Q	0.4770
	P	0.3202
Oilseed Cakes	Q	0.0415
	P	0.1268

patterns of changes in prices and in quantities may be such that there is a tendency for fluctuations from the respective trends to be in the same direction in some years and in the opposite direction in other years. In this situation the effects on export fluctuations depend on the degree of fluctuations in prices and quantities. The degrees of fluctuations in these variables may interact to produce an instability index for export earnings greater than or less than the indices for prices and quantities and these outcomes correspond to those discussed above. In addition, however, they may produce an instability index for export earnings which lies between the indices for prices and quantities. The instability index of export proceeds may, therefore, be greater than, less than or may lie between the indices for prices and quantities and comparisons of the indices in Tables 10 and 12 will indicate the categories into which the products exported by Ethiopia fall.

Of the seventeen commodities under consideration nine belong to the first category; namely coffee, chickpeas, horsebeans, lentils, hides, "skins other", cottonseed, sesame seed and niger seed. Thus, for these products price and quantity changes tended to reinforce one another over the period and the inclusion of coffee in this group means that proceeds from these commodities account for a high proportion of total export earnings. Only one commodity, sheepskins, falls into the second category in which price and quantity changes were offsetting over the period. The remaining commodities, castorseed, linseed, groundnuts, oilseed cakes and "seeds other" all have instability indices for export earnings which lie between their indices for prices and quantities and, consequently, are in the third category in which changes in prices and changes in quantities

tended to be reinforcing in some years and offsetting in others. These results show that among the products exported by Ethiopia there was a tendency both in terms of the number of products involved and in terms of the proportion which these commodities represent of total export earnings, for price and quantity changes to be reinforcing over the period.

The foregoing discussion of the instability indices of export earnings, quantities and prices was concerned with the outcome on total export earnings of changes in quantities and prices. Comparisons of the indices for quantities and prices in Table 12 allow one to establish also which of these variables has been the more influential in determining the fluctuations in export earnings from individual commodities. These indices show that for fourteen of the seventeen commodities fluctuations in quantities were greater than fluctuations in prices. Only three commodities, coffee, goatskins and oilseed cakes experienced fluctuations in prices greater than fluctuations in quantities. Although small in terms of number of commodities, the presence of coffee in this group causes the percentage share of these three products in total export earnings to exceed the percentage share of the other fourteen commodities.

##### 5. Conclusions.

The purposes of this chapter were to examine the impact of export instability on the Ethiopian economy, to measure the instability of export earnings in terms of commodity groupings and individual commodities and to examine the interaction of fluctuations in unit export prices and fluctuations in quantities

exported. The analysis presented above allows one to arrive at the following conclusions.

Firstly, it was found that of the macroeconomic variables, changes in which are conventionally thought to reflect the sensitivity of the domestic economy to export instability, changes in private consumption expenditure, changes in imports lagged one year and changes in gross domestic fixed capital formation lagged two years yielded positive and statistically significant relationships with changes in export earnings. Only government consumption expenditure was found not to be significantly associated with changes in exports and this appeared to be, in part, the result of the small percentage of total government revenue coming from taxes on foreign trade and, in part, the result of the problems associated with the systems of income and indirect taxation.

Secondly, a comparison of the instability indices of export earnings for individual commodities within the three commodity groupings with the indices for the groupings shows that the time patterns of changes in export earnings from the individual commodities were such that the index for any particular grouping was less than the indices for the individual commodities.

Thirdly, most of the commodities exported have instability indices of export earnings greater than the instability indices of either prices or quantities, indicating that changes in prices and changes in quantities tended to reinforce one another. The commodities for which changes in quantities and changes in prices tended to reinforce one another are coffee, chickpeas, horsebeans, lentils, hides, "skins other", cottonseed, sesame seed and niger seed. Seven commodities, castorseed, linseed, groundnuts, oilseed

cakes, "seeds other", goatskins and haricotbeans have instability indices of export earnings lying between their instability indices of prices and quantities. For these commodities changes in quantities and changes in prices tended to offset one another in some years and to reinforce one another in other years. One commodity, sheepskins, has an instability index of export earnings lying below its instability indices of prices and quantities and this indicates that changes in prices and changes in quantities tended to be offsetting in most years of the period.

Fourthly, for three commodities, coffee, goatskins and oilseed cakes, was the degree of fluctuations in prices greater than the degree of fluctuations in quantities. For all other commodities the degree of fluctuations in quantities exceeded the degree of fluctuations in prices.

### CHAPTER THREE

Discussions of the causes of export instability have tended to emphasise increasingly the importance of supply conditions. The purpose of this chapter is to examine the implications for the instability of Ethiopian export earnings of the supply conditions for export products. This chapter can be divided into five sections. The first section discusses the effects on world market conditions of changes in world supply conditions. The second section examines the implications for an individual trading country of its share in world trade. The third section applies the conclusions reached for an individual trading country in the second section to the Ethiopian situation. The fourth section is concerned with the relationship between domestic production of exportables and the quantities exported by Ethiopia and the relationship between domestic consumption and the quantities exported. Finally, the fifth section is concerned with the responses of farmers to changes in market conditions.

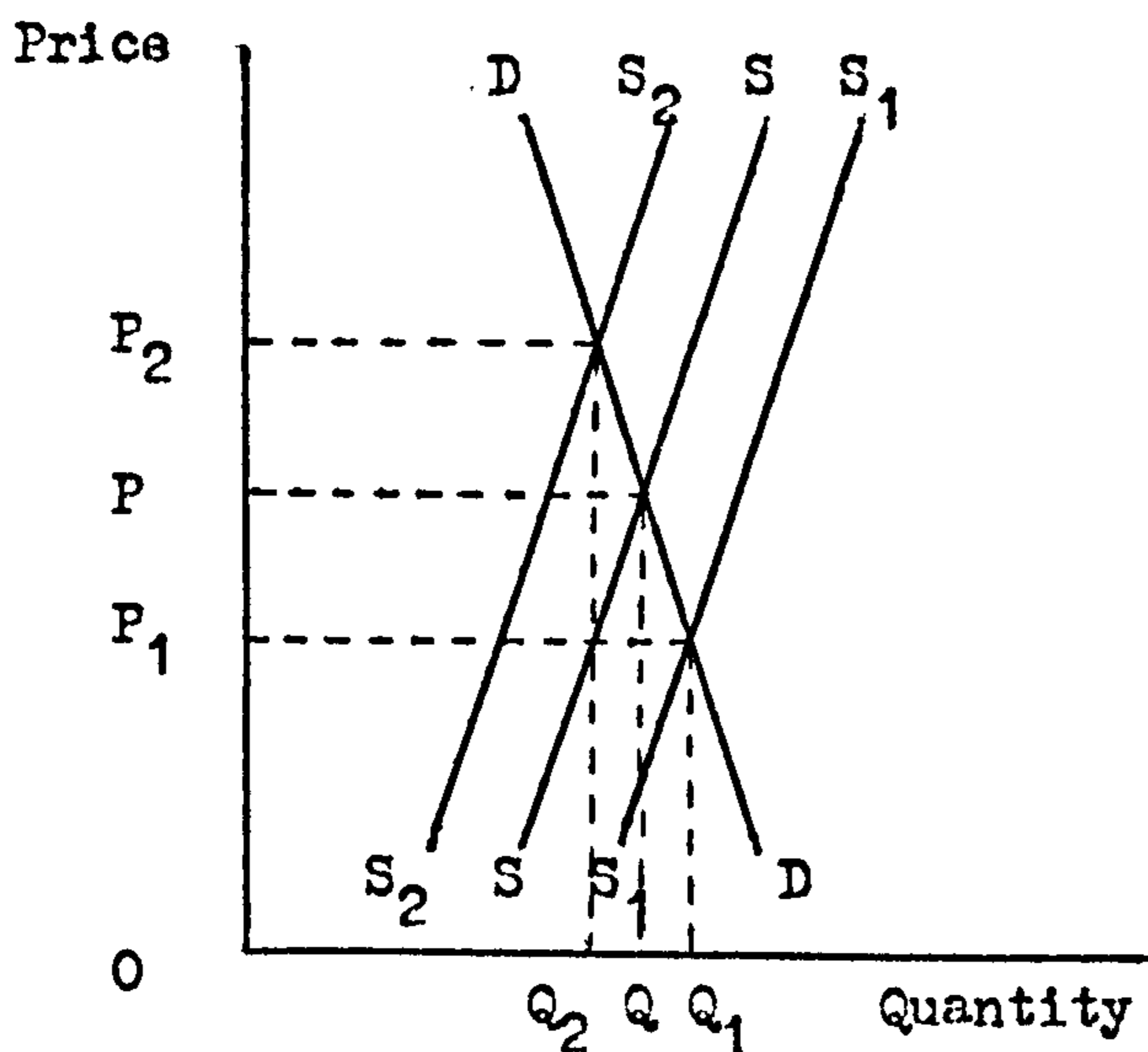
#### 1. World Market Conditions and Changes in World Supply Conditions.

A simple exercise in partial equilibrium analysis may be used to examine the implications for the world market of changes in world market conditions. This exercise will employ the assumptions of supply and demand price elasticities of less than unity which, it is argued, hold in the world markets for primary products and one may begin by analysing the effects on quantities traded, on world market prices and on total world market proceeds of shifts of the world export supply curve for a particular commodity.

In Diagram 1 (on the following page) the world demand curve and

the world supply curve for a particular primary product are given by DD and SS respectively and the market price which equates the quantity demanded with the quantity supplied is OP. Ceteris paribus, a rightward shift of the supply curve from SS to  $S_1S_1$  results in a lower equilibrium price,  $OP_1$ , and a larger equilibrium quantity,  $OQ_1$ , but, given the inelastic demand curve, there is a decrease in

Diagram 1

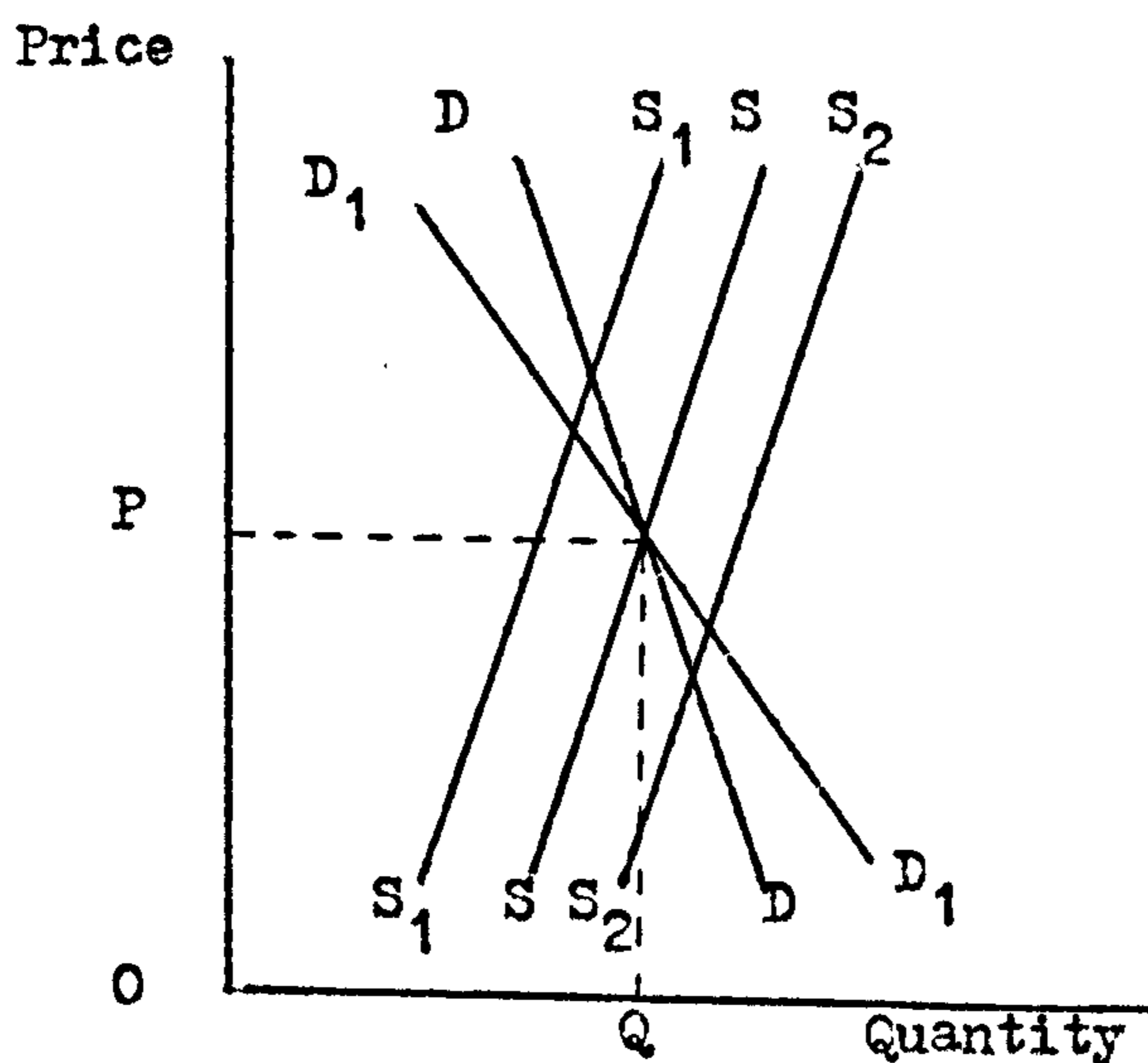


total market proceeds. On the other hand, a shift to the left of the supply curve from SS to  $S_2S_2$  would change the equilibrium price and the equilibrium quantity from OP to  $OP_2$  and from OQ to  $OQ_2$  respectively. In this case total market proceeds increase. The extent of the changes in total market proceeds resulting from given shifts of the supply curve depends upon the price elasticities of the world demand and supply curves for the commodity and, if one concentrates for the moment on the price elasticity of demand, it can be shown that the lower the price elasticity of demand, the greater are the fluctuations in market proceeds brought about by a shift of the world supply curve.



The demand curves  $DD$  and  $D_1D_1$  in Diagram 2 both intersect the supply curve  $SS$  at the equilibrium price of  $OP$  and the quantity traded in this market is  $OQ$ . If the supply curve shifts to the left from  $SS$  to  $S_1S_1$ , ceteris paribus, the intersection of the less elastic demand curve  $DD$  with the supply curve  $S_1S_1$  produces a higher equilibrium price and a greater equilibrium quantity than the

Diagram 2



intersection of the more elastic demand curve  $D_1D_1$  with the new supply curve. The increase in market proceeds is greater, therefore, for the less elastic demand curve than for the more elastic demand curve. Ceteris paribus, a rightward shift of the supply curve from  $SS$  to  $S_2S_2$  produces both a lower market price and a smaller quantity traded at the equilibrium between the new supply curve  $S_2S_2$  and the less elastic demand curve  $DD$  than at the equilibrium between the supply curve  $S_2S_2$  and the more elastic demand curve  $D_1D_1$ . Consequently, the decrease in market proceeds is greater for the less elastic demand curve. This analysis indicates that the changes in export earnings resulting from shifts either to the left or to the

right of the supply curve are greater, the less elastic is the demand curve.

Diagrams 1 and 2 show also that shifts, whether leftwards or rightwards, of the world market supply curve produce changes in prices and changes in quantities which are inversely related. This observation led Nurkse to conclude that, "if movements on the supply side were the dominant factor in the export trade of primary producing countries, then export prices and quantities would tend to fluctuate inversely"<sup>1</sup>. Thus, if empirical data showed that changes in prices and changes in quantities traded were inversely related, Nurkse would have argued that changes in supply conditions were the principal cause of changes in trade. Although, in terms of the partial equilibrium analysis above, this contention is correct with respect to total world trade in a particular primary product, one must consider whether or not Nurkse's conclusion is valid for an individual trading country.

In the partial equilibrium analysis above it was assumed that both the price elasticity of the world demand curve and the price elasticity of the world supply curve were less than unity. Such price elasticities are not necessary, however, to arrive at Nurkse's conclusion. His conclusion may be reached also if the price elasticity of one or both curves is equal to or greater than unity. An inverse relationship between changes in prices and changes in quantities resulting from shifts in the supply curve will not be found only where the price elasticity of the demand curve equals

<sup>1</sup>Nurkse, Kyklos, 1958, p.141. It will be shown at a later stage that, where demand factors are responsible for changes in trade, prices and quantities change in the same direction.

either infinity or zero. Consequently, one may begin a consideration of the relevance of Nurkse's conclusion for an individual exporting country by examining the elasticities of the foreign demand curves for that country's exports.

The degree to which the price elasticities of the foreign demand curves for the exports of a particular country reflect the price elasticities of the corresponding world demand curves depends upon the country's shares in world trade. The following section is concerned, therefore, with the implications for the foreign demand curves for an individual country's exports of the country's shares in world trade.

## 2. The Implications for the Foreign Demand Curves for an Individual Country's Exports of the Country's Shares in World Trade.

The concept of a country's share in world trade has been discussed by Michaely who argues that:

The "share" of a country in world trade is understood conventionally as the ratio of the country's trade to world trade. For a few important purposes, however, this concept is inadequate. One has in mind here investigations of the relation between the share in world trade and the monopolistic or monopsonistic power of nations.

To illustrate the inadequacy of this concept Michaely uses an example involving two exporting countries. He assumes that the total exports of the first country account for 10% of total world exports in a given year and that the country's percentage share in world trade of each commodity it exports is exactly the same as the country's share in total world trade. For each commodity it exports, therefore, this country accounts for 10% of total world trade.

<sup>1</sup>Michaely, Concentration in International Trade, p.26.

Michaely contrasts this country with a second, but much "smaller", trading nation which exports only a few goods, for each of which it accounts for a major, or a very substantial, part of world exports. This second country, although "small" if judged by the ratio of its total exports to total world exports, is, nevertheless, more important in the markets for the goods which it does export than the former "large" trading nation. Consequently, the "smaller" trading nation has a greater degree of monopoly power in world trade in its export commodities than the "larger" trading nation. This example suggests, therefore, that one should be concerned not with a country's share in total world exports, but with a country's share in world exports of each commodity.

The percentage share of country  $j$  in world exports of commodity  $i$  may be estimated using the following index:

$$W_{jx} = 100 \left( \frac{X_{ij}}{X_i} \right)$$

where  $X_{ij}$  represents the value of exports of commodity  $i$  by country  $j$  and  $X_i$  represents total world exports of commodity  $i$ .

Where country  $j$  is the sole exporter of commodity  $i$ , i.e. where  $W_{jx}$  equals 100, country  $j$  has complete monopoly power in the market for commodity  $i$  and the foreign demand curve for country  $j$ 's exports of commodity  $i$  is given, therefore, by the world demand curve for that commodity. If, however, her share of total world trade in commodity  $i$  is so small that country  $j$  cannot influence the world market price, the foreign demand curve will be perfectly elastic at the world market price. Between these two limiting cases, the price elasticity of the foreign demand curve for commodity  $i$  will approach more closely the price elasticity of the world demand curve or

perfect price elasticity, the larger or the smaller respectively is country j's share in world trade.

This section has discussed the concept of a country's share in world trade and the implications for the foreign demand curves for the exports of an individual country's exports of its shares in world trade and one may now use the analysis of this section to consider the implications for Ethiopia of her shares in world trade.

### 3. Ethiopia's Shares in World Trade and the Implications for the Elasticities of the Foreign Demand Curves for her Exports.

The measurement of Ethiopia's shares in world trade using the formula in the previous section requires data on the value of Ethiopian exports and on the value of total world trade in the commodities exported by Ethiopia. These data are given in Table 13. Data are not available, however, on the value of total world trade in hides, goatskins and sheepskins and for these products estimates of the value of imports into Ethiopia's trading partners were used as measures of world trade. To the extent that Ethiopia's trading partners represent the world markets for hides and skins, data on these countries' imports will give an indication of total world trade in these products. The only commodities under consideration for which data are not available either on the value of total world trade or on the value of imports into Ethiopia's trading partners are the commodities in the pulse grouping and niger seeds in the oilseeds and oilseed cakes grouping.

Indices of Ethiopia's shares in world trade are not presented in tabular form because these shares tended to be less than 1.0% in each year for several commodities, namely, groundnuts, cottonseed,

TABLE 13

ESTIMATES OF THE VALUE OF ETHIOPIAN EXPORTS AND OF THE VALUE OF TOTAL  
WORLD EXPORTS OF COMMODITIES EXPORTED BY ETHIOPIA, 1962-1970

COMMODITY	U.S.\$ mms.									
	1962	1963	1964	1965	1966	1967	1968	1969	1970	
Coffee <sup>1</sup>	Ethiopia	4.3	4.5	6.4	7.5	6.3	5.6	6.2	7.0	7.3
	World	186.7	198.1	236.0	222.3	239.9	226.4	255.7	246.7	290.0
Hides <sup>2</sup>	Ethiopia	6.2	1.7	1.4	2.0	3.5	2.2	1.0	1.3	2.0
	World	242.4	200.0	198.3	239.2	256.3	214.2	236.0	299.2	324.5
Goatskins <sup>2</sup>	Ethiopia	1.4	1.7	1.8	2.1	2.2	2.1	1.7	2.4	2.9
	World	40.2	45.3	45.3	57.0	42.8	50.7	47.9	63.4	49.1
Sheepskins <sup>2</sup>	Ethiopia	5.0	3.8	4.8	4.5	4.6	4.8	5.1	6.3	6.0
	World	159.2	213.2	229.9	214.8	236.7	199.5	200.6	266.4	355.0
Groundnuts	Ethiopia	0.7	1.1	1.5	0.5	0.4	0.3	0.6	0.5	0.1
	World	278.0	282.9	288.8	269.5	291.6	269.0	258.5	251.8	209.7
Linseed	Ethiopia	3.4	5.0	4.0	2.5	1.4	1.2	0.5	0.4	0.1
	World	68.4	65.2	81.4	78.5	86.5	69.7	73.0	81.0	70.8
Cottonseed	Ethiopia	0.1	0.2	0.3	0.4	0.6	1.0	0.5	0.6	0.2
	World	32.1	31.1	22.8	30.3	32.1	26.2	24.3	26.1	32.2
Castorseed	Ethiopia	0.9	0.9	0.8	0.5	0.6	0.2	0.1	0.2	0.1
	World	15.6	16.8	15.8	11.5	17.6	20.2	20.8	14.8	14.4
Sesame Seed	Ethiopia	0.4	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1
	World	41.7	43.1	47.9	76.4	90.9	86.7	91.5	100.4	144.7

TABLE 13 - Continued

COMMODITY	1962	1963	1964	1965	1966	1967	1968	1969	1970
Oilseed Cakes	1.7	1.4	1.4	2.5	2.1	2.1	1.9	1.9	1.4
Ethiopia	458.2	529.7	547.5	643.9	725.2	726.7	742.2	761.6	956.7
World									

Sources: FAO Trade Yearbook, Vol. 20, Rome, 1966.  
FAO Trade Yearbook, Vol. 25, Rome, 1971.

<sup>1</sup>Data given in 100ms. U.S.¢.

<sup>2</sup>Estimates of the imports of Ethiopia's trading partners were taken from Commodity Trade Statistics, Series D, United Nations, 1962-1970.

sesame seed, oilseed cakes and hides. Moreover, for the other commodities, coffee, linseed, castorseed, goatskins and sheepskins Ethiopia's shares in world trade varied on average from 2-4%. It follows, therefore, that Ethiopia has no monopolistic powers in world trade in those commodities she exports and that the prices received by Ethiopia for her export products are exogenously determined. In terms of partial equilibrium analysis the foreign demand curves for Ethiopia's export products are perfectly elastic at world market prices.

It was pointed out in Section 1 that an inverse relationship between changes in prices and changes in quantities will not be found where the price elasticity of the demand curve equals infinity. The observation that Ethiopia faces perfectly elastic demand curves for her exports means, therefore, that Nurkse's conclusion cannot be used to identify situations in which changes in Ethiopian supply conditions are the principal factor in determining changes in her export trade in the way that it may be used to identify situations in which changes in world supply conditions are the dominant factor in determining changes in world trade. Consequently, the partial equilibrium analysis of Section 1 must be reconsidered to examine the effects on Ethiopian export earnings and quantities traded of shifts in the Ethiopian export supply curve for a particular commodity.

The foreign demand curve PD in Diagram 3 and Diagram 3a is assumed to remain constant at the world market price OP. The Ethiopian export supply curves SS and  $S_1S_1$  in Diagram 3 intersect the demand curve at the equilibrium quantity  $OQ_1$ . If SS and  $S_1S_1$  shift to the left by an equal amount, the new supply curves are  $S_2S_2$



Diagram 3

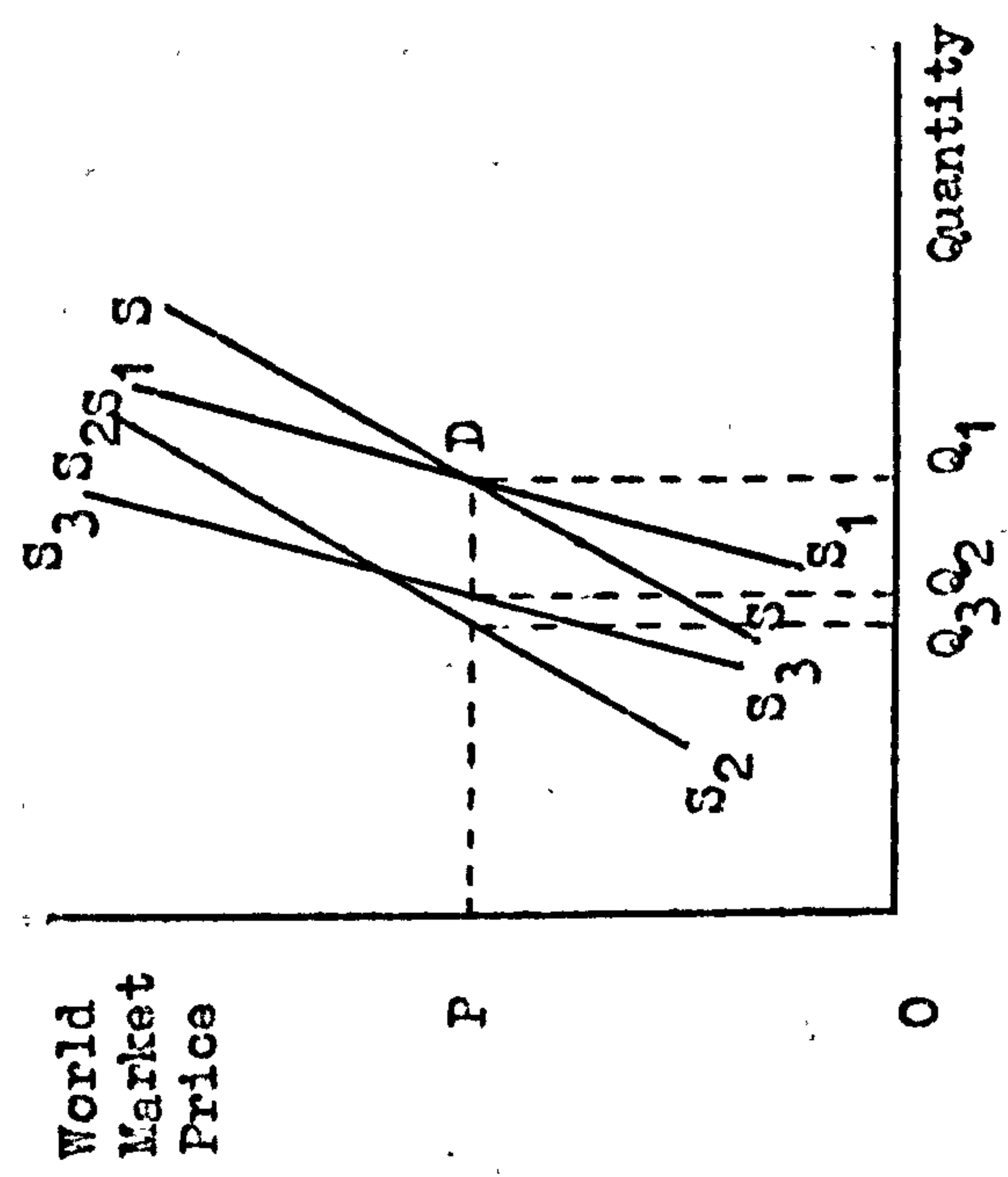
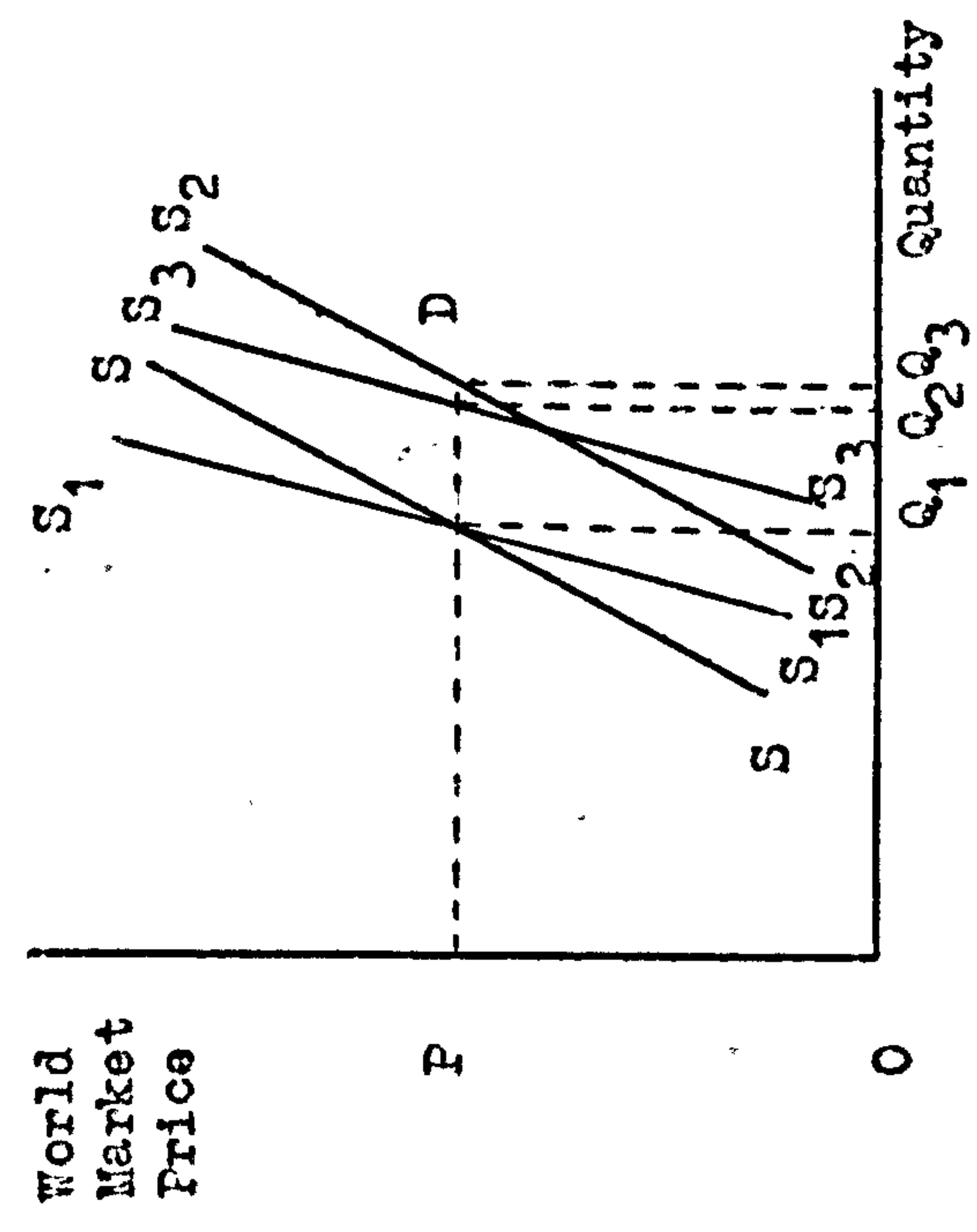


Diagram 3a



and  $S_3S_3$  respectively. The more elastic supply curve  $S_2S_2$  intersects the demand curve at the new equilibrium quantity  $OQ_3$ , while the less elastic supply curve  $S_3S_3$  intersects the demand curve at the equilibrium quantity  $OQ_2$ . The leftward shift in the more elastic supply curve produces, therefore, a larger negative change in export earnings.

The initial equilibrium in Diagram 3a is at price  $OP$  and quantity  $OQ_1$ . Equal rightward shifts in  $SS$  and  $S_1S_1$  to  $S_2S_2$  and  $S_3S_3$  respectively result in greater quantities being exported at the same market price. The more elastic curve  $S_2S_2$  intersects the foreign demand curve,  $PD$ , at quantity  $OQ_3$  while the less elastic curve  $S_3S_3$  intersects the demand curve at quantity  $OQ_2$ . Thus, the rightward shift of the more elastic supply curve produces a larger positive change in export earnings than the rightward shift of the less elastic supply curve.

This exercise in partial equilibrium analysis illustrates clearly two points concerning the effects of shifts of the Ethiopian supply curve for a particular product. Firstly, fluctuations in export earnings arising from shifts of the export supply curve are brought about only by changes in the quantities exported. Secondly, the more elastic the Ethiopian supply curve, the greater are the changes in export earnings resulting from given shifts of the export supply curve.

The use of partial equilibrium analysis assumes that both the export supply curve and the foreign demand curve for a particular product can be identified, i.e. that both the position and the elasticity of these curves can be ascertained. In practice, however, it is frequently difficult to fit either a demand or a

supply curve to a scatter of price and quantity observations. Since Ethiopia is a price-taker in the world markets for her export products, the foreign demand curve for a particular product at any given time can be identified if one has information on export prices, but the problem of identification still remains with respect to the export supply curve. To resolve this problem data are required on those factors which influence supply and, where one is concerned with agricultural products, one requires data on variables such as rainfall, land area under cultivation and cost reductions due to technical progress. Data on these variables are not available for Ethiopia, however, and it is not possible, therefore, to identify export supply curves. On the other hand, estimates of total domestic production, quantities exported, domestic wholesale prices and export prices are available and, using this data, the following section will attempt to establish whether changes in the quantities exported of different commodities are related to changes in domestic supply conditions.

#### 4. Changes in Domestic Supply Conditions and Changes in the Quantities Exported.

The discussion of the impact of changes in domestic supply conditions on the quantities exported will begin by examining the nature of the relationship between changes in the level of production and exports and will then be extended to consider the inter-relationships among domestic wholesale prices, export prices and the quantities exported.

4a. Changes in Domestic Production and Changes in the Quantities Exported.

The effects of changes in domestic production on exports were discussed on Chapter 1. It was argued there that factors such as weather conditions and technical progress may lead to changes in the level of output of exportables and, hence, to changes in the quantities exported. The analysis of this section, making use of estimates of total production and quantities exported, will begin by attempting to establish whether changes in the levels of domestic production of exportables did, in fact, bring about changes in the quantities exported by Ethiopia. The lack of detailed information on factors such as weather conditions and technical progress limits, however, the nature of the conclusions which one may draw from an analysis based only on these estimates since, although one may conclude that changes in domestic production have led to changes in the quantities exported of a particular commodity, one cannot attribute the changes to a particular factor or set of factors. Recognising this limitation, the analysis of this section does no more than attempt to establish whether relationships do exist between changes in domestic production and changes in the quantities exported.

Production estimates taken from the national accounts and data on quantities exported are given in Table 14. The production estimates are available only in Ethiopian Calendar years. The Ethiopian Calendar (E.C.) year differs from the Gregorian Calendar (G.C.) year in that it begins not on 1st January G.C. but on 11th

TABLE 14

QUANTITIES EXPORTED AND ESTIMATES OF TOTAL PRODUCTION FOR COMMODITIES EXPORTED BY ETHIOPIA, 1962-1970<sup>1</sup>  
 000's metric tons

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Coffee	130.0	130.0	132.0	170.4	140.0	155.0	160.0	165.0	170.0
Production <sup>2</sup>	-	125.2	132.3	135.0	134.0	145.3	128.3	135.9	196.9
Production <sup>2</sup>	-	28.7	32.7	47.1	58.7	68.1	56.7	31.9	63.7
Stocks	62.5	66.4	70.2	87.7	73.6	73.6	80.3	88.4	70.8
Exports									
Pulses									
Chickpeas	160.0	162.2	164.7	169.5	172.0	173.9	176.7	180.5	185.3
Production	5.0	8.5	15.3	9.5	10.9	10.7	13.9	8.0	2.1
Exports									
Horsebeans	100.0	101.4	103.0	105.7	116.4	120.9	125.9	131.5	137.8
Production	22.8	23.1	20.0	17.8	22.4	24.7	18.5	27.4	15.6
Exports									
Haricotbeans	60.0	60.7	61.5	62.5	64.8	66.4	68.2	70.1	72.3
Production	14.0	7.0	10.7	19.7	19.8	17.9	19.3	16.7	17.1
Exports									
Lentils	90.0	91.4	92.8	95.0	99.1	99.8	101.2	103.4	106.5
Production	25.3	16.2	10.5	5.8	14.9	15.0	22.1	24.5	15.8
Exports									
Hides and Skins <sup>3</sup>									
Hides	-	-	2717	2719	2787	2765	3026	3081	3155
Production	7.3	6.7	4.4	5.3	9.4	5.9	3.5	5.3	5.8
Exports									
Goatskins	-	-	4524	4113	4149	3977	4098	4344	4525
Production	3.7	3.8	3.8	1.8	2.2	1.7	2.1	2.2	2.0
Exports									
Sheepskins	-	-	4002	4627	4737	4858	4864	4874	4886
Production	2.6	3.9	4.3	3.1	3.4	3.3	3.3	4.4	2.8
Exports									

TABLE 14 - Continued

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Oilseeds and Oilseed Cakes									
Castorseed	10.0 7.1	10.0 7.2	10.0 6.8	10.5 4.5	10.6 5.2	10.9 1.9	11.3 1.1	11.8 2.0	12.8 0.7
Production	10.0	10.0	10.0	10.5	10.6	10.9	11.3	11.8	12.8
Exports	7.1	7.2	6.8	4.5	5.2	1.9	1.1	2.0	0.7
Linseed	50.0 25.9	51.0 37.2	50.0 31.0	55.0 19.3	55.4 10.5	56.5 9.7	58.2 3.7	60.1 0.3	62.1 0.0
Production	50.0	51.0	50.0	55.0	55.4	56.5	58.2	60.1	62.1
Exports	25.9	37.2	31.0	19.3	10.5	9.7	3.7	0.3	0.0
Cottonseed	4.2 1.6	7.5 3.8	6.3 4.9	10.5 5.0	14.4 7.9	16.5 11.2	20.9 6.9	23.5 9.9	27.4 7.3
Production	4.2	7.5	6.3	10.5	14.4	16.5	20.9	23.5	27.4
Exports	1.6	3.8	4.9	5.0	7.9	11.2	6.9	9.9	7.3
Sesame Seed	30.0 9.6	30.5 8.6	30.5 14.3	31.5 21.5	32.6 20.3	36.8 19.8	51.0 27.0	59.7 30.7	69.4 39.7
Production	30.0	30.5	30.5	31.5	32.6	36.8	51.0	59.7	69.4
Exports	9.6	8.6	14.3	21.5	20.3	19.8	27.0	30.7	39.7
Groundnuts	15.0 3.2	15.0 5.4	16.5 7.1	18.3 3.4	17.5 2.0	18.5 1.6	19.6 3.1	20.9 1.9	22.4 0.7
Production	15.0	15.0	16.5	18.3	17.5	18.5	19.6	20.9	22.4
Exports	3.2	5.4	7.1	3.4	2.0	1.6	3.1	1.9	0.7
Niger Seeds	208.0 5.7	210.0 10.1	213.0 9.3	214.8 10.8	227.9 6.8	232.5 8.8	240.8 6.9	249.5 10.3	258.6 7.2
Production	208.0	210.0	213.0	214.8	227.9	232.5	240.8	249.5	258.6
Exports	5.7	10.1	9.3	10.8	6.8	8.8	6.9	10.3	7.2

Sources: The estimates of production were taken from Statistical Abstract, Central Statistical Office, Imperial Ethiopian Government, various issues. The data on quantities exported were taken from Table 11 in Chapter Two.

<sup>1</sup>The estimates of production are given in the Statistical Abstracts in Ethiopian Calendar years.

<sup>2</sup>These data were taken from Working Paper on the Perspective Analysis of Coffee Supply, Demand and Stocks during the Period 1971/72 to 1977/78, International Coffee Organisation, Agreement No. 8 (E), 8th May 1972, Annex A, Table 22.

<sup>3</sup>Given in 000's pieces, not metric tons.

September G.C.<sup>1</sup> Nevertheless, these production estimates and the data on quantities exported in G.C. years are not incompatible. The Ethiopian harvest period lasts from late October or early November until February or March and coincides, therefore, with the first half of the E.C. year, but the lag between the Ethiopian harvest period and the period during which the commodities are exported is such that crops harvested in the first half of the E.C. year are exported during the first half of the G.C. year.<sup>2</sup> Thus, one may relate directly the quantities exported in G.C. years to the levels of total production in E.C. years. This generalisation applies, however, only to harvested commodities and does not cover the commodities in the hides and skins grouping. For these commodities the production estimates in E.C. years and the quantities exported in G.C. years are compatible only if the production of hides and skins in the final quarter of the G.C. year does not change significantly from year to year. This shortcoming in the data available for hides and skins must be borne in mind when one attempts to determine whether changes in production give rise to changes in quantities exported. The only commodity under consideration for which estimates of total production are not available is oilseed cakes.

The argument that changes in domestic production bring about

<sup>1</sup>There are two further differences between the Ethiopian Calendar and the Gregorian Calendar. Firstly, in the Ethiopian Calendar year there are twelve months of thirty days and one month of five or six days at the end of the year. Secondly, the Ethiopian Calendar is seven years behind the Gregorian Calendar. The Ethiopian Calendar year 1965, for instance, began on 11th September 1972 G.C. and ended on 10th September 1973 G.C.

<sup>2</sup>The concentration of the bulk of exports in the first half of the Gregorian Calendar year is shown clearly in National Bank of Ethiopia, Quarterly Bulletin, No. 37 (95), March 1973, Table 13, p.35.

changes in the quantities exported implicitly assumes that the quantities exported in any given year are determined by the quantities produced in that year. This assumption overlooks the possibility that the quantities exported may depend not only on domestic production in that year but also on additions to or withdrawals from stocks accumulated over several years. One must consider, therefore, whether the data in Table 14 require to be supplemented by data on stocks of agricultural commodities.

With the exception of coffee, the annual estimates of crop production for individual commodities given in the national accounts and reproduced in Table 14 are based on estimates of aggregate crop production.<sup>1</sup> The basis of the estimates of aggregate crop production are figures for annual per capita consumption of crops derived from several consumption surveys and multiplied by total population estimates to obtain estimates of total consumption. To these estimates of total consumption are added data on exports and estimates of quantities used as seed, of storage losses of crops retained for subsistence consumption and of crops used for non-consumption purposes, e.g. cotton. Results obtained from the National Sample Survey on crop composition in nine of the fourteen provinces are then used to estimate the production of individual crops from the estimates of aggregate production. The production of coffee is estimated on the basis of exports and assumed consumption figures without reference to additions to stocks. Similarly, the production estimates for hides and skins are built up from estimates of those

<sup>1</sup>The description of the methods of estimating crop production is taken from Statistical Abstract, 1971, Central Statistical Office, Imperial Ethiopian Government, p.38.



quantities retained for domestic consumption and those quantities exported with no allowance being made for changes in stocks. The calculation of production estimates clearly assumes, therefore, that the quantities exported in any given year are related to production in that year and provides no estimates of changes in stocks arising from changes in current production. Consequently, if one wishes to establish whether exports are influenced by the existence of stocks of agricultural commodities, one must turn from the national accounts to consider the importance of the stocks, if any, held in the marketing system.

There seems little doubt that producers do not hold stocks of commodities in excess of their subsistence requirements. The absence of reservation demand on the part of farmers is caused by several factors. Firstly, farmers find themselves under considerable pressure to sell their marketable produce immediately after the harvest to meet their financial commitments.<sup>1</sup> These commitments are the payment of taxes and other fees usually collected at harvest time and the repayment of money borrowed to carry the farmers through the crop-growing period. Secondly, commercial bank credit is not normally available for the construction of stores and non-bank credit is expensive with interest rates as high as 200% per annum.<sup>2</sup> Thirdly, farmers are faced with high transport costs when marketing their surplus output and, consequently, they are in a weak bargaining

<sup>1</sup>A. Thodey, Marketing of Grains and Pulses in Ethiopia, Report No. 16, prepared for the Technical Agency of the Imperial Ethiopian Government, Stanford Research Institute, Menlo Park, April 1969, pp.74-75.

<sup>2</sup>IBRD IDA, Agricultural Sector Survey, Ethiopia, Vol. 1, Report No. PA-143a, Agriculture Division, Projects Department, East Africa Region, January 15th 1973, Annex 16, p.2.

position when they arrive at the market. Having brought their crops to the market, farmers are likely to be better off if they sell the crops than if they incur the cost of a return journey to the market at some later date. Moreover;

The fact that the cost of not selling is often high makes it profitable for buyers to disseminate dubious market information in the interior. For example, merchants may initially pay attractive prices for small quantities, thereby inducing an increased flow of supplies which can then be purchased cheaply.<sup>1</sup>

Farmers take their surplus production to the village markets for sale to local merchants who, in turn, sell the produce in one of the larger trading centres such as Debre Markos or Dessie. In these centres the produce may be bought for export and, thus, be taken out of the domestic market. Alternatively, wholesalers may take the produce one step further in the domestic marketing system by transporting it either to a consuming area such as Addis Ababa, where it is bought by another merchant who resells to retailers, or to an assembly point such as Nazareth, where it is purchased by an exporter, cleaned and sold overseas. Although it varies with the location of production and final sale, the number of stages in the marketing chain usually averages four or five and stocks may be held by merchants or exporters at these different stages.

The ability of wholesalers or exporters to hold stocks of commodities is constrained by the availability of storage capacity. It has been estimated that the grand total of 371,200 tons of storage capacity is available in Ethiopia. Of this total warehouse capacity approximately 80% is concentrated in the three principal

<sup>1</sup>Ibid., Annex 16, p. 2. These various imperfections will tend to keep the prices paid to producers depressed, even when export prices rise. Fluctuations in quantities exported are such, however, that instability will not be removed from producers' incomes. See pp.86-91.

marketing centres of Addis Ababa, Asmara and Nazareth and an estimated 20% is available in the several smaller marketing centres.<sup>1</sup> Data on the stocks held in these warehouses at any given time are not available but the evidence indicates that the existing storage capacity, both in the terminal markets and in the smaller trading centres, is inadequate for storing commodities for longer than a three or four month period. The brevity of the storage period is a consequence of two practical considerations. Firstly, storage space comprises warehouses suitable only for produce in sacks and these warehouses cannot store sacks safely through the wet season.<sup>2</sup> Secondly, serious insect damage frequently occurs after crops have been stored for three or four months.<sup>3</sup> These considerations suggest that crops are moved from the trading centres to their end-use destination in the period after the harvest and that neither wholesalers nor exporters hold stocks of commodities in anticipation of price increases. Moreover, they lend support to the method of calculating estimates of crop production without reference to changes in stocks and to the argument that changes in exports in any given year are related to changes in output in that year.

While the considerations above apply to coffee equally well as they apply to pulses and oilseeds, the International Coffee Organisation has produced estimates of coffee stocks in Ethiopia. These stocks are based on the ICO's estimates of changes in total

<sup>1</sup> Experience Incorporated, Production and Marketing of Pulse Crops in Ethiopia, Final Report Phase 1, prepared for the Ministry of Agriculture of the Imperial Ethiopian Government, Contract No. 626, December 1971, p.34.

<sup>2</sup> Ibid., p.38.

<sup>3</sup> Ibid., p.36.

production, domestic consumption, exportable production and exports<sup>1</sup> and the estimates of stocks and of total production are presented in Table 14 along with the estimates of total production taken from the national accounts. The ICO's estimates of total coffee production bear no striking resemblance to the estimates from the national accounts either in terms of absolute value or in terms of year-to-year changes. Nor can the discrepancies be attributed to the level of or changes in coffee stocks. Both sets of estimates will be used, however, in attempting to determine whether changes in total coffee production have led to changes in the quantities exported.

The lack of data on the nature of the marketing system for and on stocks of hides and skins represents another source of weakness in the analysis for these products. As for the commodities in the pulse and oilseeds grouping changes in the quantities exported of hides and skins in any given year will be related directly to changes in total production in that year.

The production estimates and data on quantities exported in Table 14 indicate that only for goatskins and, to a lesser extent, sesame seed did changes in the quantities exported tend to change in the same direction as changes in the quantities produced. For goatskins this tendency held in each year for which data are available with the exception of 1970 and may result from the fact that goatskins reportedly have very limited domestic uses.<sup>2</sup> In the latter half of the period the rapid growth of output of sesame seed

<sup>1</sup>International Coffee Organisation, Working Paper on the Perspective Analysis ..., Annex A, Table 22.

<sup>2</sup>T. J. Goering, Aklilu Afework and Abate Temesgen, The Response of Ethiopian Farmers to Changes in Product Prices, Ethiopian Observer, 1973, Vol. XV, No. 3, p.156.

due to the development of the partly mechanised large-scale farms in the Setit-Humera region of the north-west lowlands<sup>1</sup> was accompanied by a simultaneous expansion of exports. Changes in output and changes in exports appear to have been unrelated, however, for all other products.

The discussion so far has concentrated on the relationship between changes in domestic production and changes in quantities exported with no account being taken of changes in domestic consumption. Massell<sup>2</sup> has argued, however, that changes in domestic consumption may affect the quantities supplied for export and this omission from the analysis may help to explain the lack of association between changes in domestic production and changes in exports. The analysis of domestic supply conditions should be carried one step further, therefore, to consider the interrelationships among domestic prices, domestic consumption and exports.

#### 4b. Changes in Domestic Consumption and Changes in the Quantities Exported.

The existence or otherwise of a causal relationship between changes in domestic consumption and changes in exports hinges on the question of whether or not the quantities exported are of the nature of a residual. If the quantities exported are the residual after domestic consumption has been catered for, then, given a constant level of output over time, changes in domestic consumption will bring about changes in the quantities exported. Given a non-constant level of output, the rate of growth of domestic consumption relative

<sup>1</sup>Ibid., p.155.

<sup>2</sup>Massell, American Economic Review, 1970, p.622.

to the rate of growth of total production will determine the quantities exported. Aggregate domestic consumption is comprised of two elements, consumption in the subsistence sector and consumption in the monetised sector, and changes in consumption in one or both of these sectors may influence exports.

In Ethiopia the basic pattern of production and consumption is such that most commodities are produced to satisfy the farmers' own consumption needs and not with the express intent of selling the commodities.<sup>1</sup> The exceptions to this observation among the commodities under consideration here are haricotbeans, sesame seed and goatskins. Haricotbeans are produced specifically for export in the southern areas of Shewa Province, the western side of Arusi Province and the northern areas of Sidamo Province.<sup>2</sup> Sesame seed is produced for sale in the Setit-Humera region and, as mentioned already, goatskins are reported to have limited domestic uses. For the other commodities considered here, however, the quantities marketed represent the excess of production over subsistence requirements. This is true even for coffee, the principal export commodity. The production and consumption pattern for coffee has been summarised as follows:

The bulk of coffee production is known to come from small holdings where peasant production does not show commodity specialisation ... The manning of coffee farms along market lines is perhaps left to the few plantations (accounting for about 3% of total coffee output) and the limited numbers of relatively well-to-do farmers. A peasant may keep limited numbers of coffee trees mainly for household consumption and

<sup>1</sup>The residual nature of marketed supplies is discussed at length in IBRD IDA, Agricultural Sector Survey, Ethiopia, Vol. 1, Annex 4, pp.5-8 and Annex 5, p.15.

<sup>2</sup>Experience Incorporated, Production and Marketing of Pulse Crops in Ethiopia, p.10.

sell the balance.<sup>1</sup>

It is apparent, therefore, that, with the three exceptions above, the quantities of each product which enter the domestic market for sale, either to exporters or for domestic consumption, are residuals in that they represent the quantities available after the farmers' subsistence requirements have been met. The estimates of total production cannot be broken down, however, into those quantities used for subsistence consumption and marketed supplies and, consequently, one is unable to establish if changes in subsistence consumption led to changes in the quantities marketed. Moreover, one is now faced with the problem of determining whether the quantities exported are residuals after domestic consumption in the monetised sector has been catered for.

With respect to the marketed supplies it is not unreasonable to argue on several grounds that those quantities in any given year are inelastic with respect to price changes in that year. Firstly, the total output of crops in any given year depends upon production decisions taken in previous time periods and upon exogenous factors such as weather conditions. Secondly, marketed supplies are determined by the level of total production and the level of subsistence consumption and this latter variable is, by definition, also price inelastic. Thirdly, it has been argued already that neither wholesalers nor exporters hold stocks of agricultural commodities and it follows that the quantities marketed are not affected by withdrawals from or additions to stocks in response to

<sup>1</sup>Teshome Mulat, Coffee Taxation, Coffee Study No. 2, prepared for and reproduced by permission of the National Coffee Board of Ethiopia, Addis Ababa, September 1972, p.24.

price changes. This price inelasticity is assumed to hold also for hides and skins since they are by-products in a joint production function. To establish whether the quantities exported are residuals after domestic demand has been satisfied out of these inelastic supplies one may construct two hypotheses.

Firstly, it may be hypothesised that the price mechanism operates within the market sector of the economy to determine the division of the marketed quantities into the volume made available for domestic consumption and the volume sold for export and that such a division of the marketed supplies depends upon the prices prevailing in the domestic market and in the export sector. The prices prevailing in the domestic market are determined by the relationships between the quantities which consumers wish to buy in the domestic market and the quantities made available for domestic consumption. Increases in domestic prices indicate that the quantities demanded in the domestic market are growing more rapidly than the quantities supplied for domestic consumption, and decreases in these prices indicate more rapid growth in the latter than in the former quantities. Changes in export prices are determined exogenously.

The operation of the market mechanism to delimit the quantities entering domestic consumption channels and export markets will reflect the relative changes in the domestic and export prices. An increase in the domestic price relative to the export price will result in the movement of commodities into the domestic market rather than into the export market and a decrease in the domestic price relative to the export price will produce the opposite effect. In the former situation exports are residuals but, since an increase in



the export price relative to the domestic wholesale price will result in the deflection of commodities away from the domestic market and into the export market, this hypothesis holds that exports are not invariably residuals in the monetised sector of the economy.

Secondly, it may be hypothesised that the division of the marketed supplies depends not upon relative prices in the export and domestic markets but upon prices in the domestic market alone. Increases in domestic prices are hypothesised to result in the movement of increased quantities into the domestic market, while decreases in domestic prices are hypothesised to lead to greater quantities being exported. The quantities exported are the quantities remaining after the changes in domestic prices have been acted upon, i.e. exports are residuals according to this hypothesis. Since it assumes that no account is taken of relative price changes and consequently attributes an element of irrationality to the market behaviour of wholesalers, this hypothesis implies that imperfections exist in the dissemination of information on exogenously determined export prices at the same time as adequate information is forthcoming on domestic wholesale prices.

The validity of these hypotheses as explanations of the behaviour of Ethiopian exports may be investigated using the data in Table 15. Table 15 contains data on the Addis Ababa wholesale price indices for export products, unit export prices and quantities exported. The only products not included are sesame seed and groundnuts as data on wholesale prices are not available for these products. Before testing the hypotheses above, however, the use of the Addis Ababa wholesale price indices in preference to other domestic wholesale price indices must be discussed.

TABLE 15

ADDIS ABABA WHOLESALE PRICE INDICES, EXPORT PRICE INDICES AND QUANTITIES EXPORTED, 1962-1970<sup>1</sup>  
1968 = 100

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Coffee	Wholesale P I	85.4	86.1	115.1	112.2	110.0	100.0	96.9	132.4
	Export P I	90.1	88.0	118.8	112.7	110.8	100.0	103.3	134.4
	Quantities Exported	62.5	66.4	70.2	87.7	73.6	80.3	88.4	70.8
	Wholesale P I	88.3	88.7	114.8	111.7	113.8	100.0	96.0	131.8
Pulses									
Chickpeas	Wholesale P I	75.5	70.1	83.0	107.3	100.0	100.0	103.5	156.2
	Export P I	101.4	85.8	85.4	105.0	131.5	100.0	106.8	107.3
	Quantities Exported	5.0	8.5	15.3	9.5	10.9	13.9	8.0	2.1
Horsebeans	Wholesale P I	84.7	84.8	99.7	136.7	122.4	100.0	106.7	170.9
	Export P I	87.8	110.2	87.8	96.4	128.6	100.0	98.0	114.8
	Quantities Exported	22.8	23.1	20.0	17.8	22.4	18.5	27.4	15.6
Haricotbeans	Wholesale P I	81.8	141.3	147.2	122.5	127.7	100.0	140.8	159.2
	Export P I	89.8	142.6	103.4	98.6	100.6	100.0	84.6	110.9
	Quantities Exported	14.0	7.0	10.7	19.7	19.8	19.3	16.7	17.1
Lentils	Wholesale P I	52.3	45.9	52.2	75.2	88.0	100.0	140.8	159.2
	Export P I	73.9	71.0	67.4	74.2	106.7	100.0	111.1	91.5
	Quantities Exported	25.3	16.2	10.5	5.8	14.9	22.1	24.5	15.8
Hides and Skins									
Hides	Wholesale P I	156.3	156.0	134.6	108.3	179.8	100.0	126.5	135.1
	Export P I	123.2	125.1	115.9	102.6	125.3	100.0	99.5	125.2
	Quantities Exported	7.3	6.7	4.4	5.3	9.4	3.5	5.3	5.8
Goatskins	Wholesale P I	95.5	108.2	102.9	122.8	193.0	100.0	123.5	127.2
	Export P I	35.4	33.2	38.0	97.9	135.3	100.0	94.8	97.5
	Quantities Exported	3.7	3.8	3.8	1.8	2.2	2.1	2.2	2.0

TABLE 15 - Continued

	1962	1963	1964	1965	1966	1967	1968	1969	1970
<b>Hides and Skins - Continued</b>									
Sheepskins									
Wholesale P I	117.3	105.6	114.7	115.0	125.0	111.6	100.0	107.8	97.3
Export P I	104.7	63.4	66.8	90.1	102.2	101.0	100.0	85.3	92.0
Quantities Exported	2.6	3.9	4.3	3.1	3.4	3.3	3.3	4.4	2.8
<b>Oilseeds and Oilseed Cakes</b>									
Castorseed									
Wholesale P I	73.8	72.0	84.1	74.0	69.2	81.8	100.0	85.3	80.4
Export P I	82.3	78.4	79.2	73.4	65.4	77.6	100.0	82.0	74.7
Quantities Exported	7.1	7.2	6.8	4.5	5.2	1.9	1.1	2.0	0.7
Linseed									
Wholesale P I	75.7	72.6	77.8	87.9	72.2	68.6	100.0	106.8	107.4
Export P I	107.2	109.2	105.9	103.6	110.8	97.7	100.0	109.2	65.4
Quantities Exported	25.9	37.2	31.0	19.3	10.5	9.7	3.7	0.3	0.0
Nigerseed									
Wholesale P I	71.0	68.7	84.4	103.2	88.0	79.7	100.0	106.5	113.2
Export P I	60.5	106.5	62.3	72.9	84.4	77.4	100.0	87.1	94.6
Quantities Exported	5.7	10.1	9.3	10.8	6.8	8.8	6.9	10.3	7.2
Oilseed Cakes									
Wholesale P I	-	-	-	136.2	129.8	120.8	100.0	95.2	93.7
Export P I	109.9	93.7	108.5	102.8	63.4	98.6	100.0	84.5	89.4
Quantities Exported	26.3	26.4	22.9	23.3	31.1	31.3	25.8	34.1	26.7

P I indicates price index and - indicates indices not available.

<sup>1</sup>The Addis Ababa wholesale price indices were calculated from data made available by the National Bank of Ethiopia. The export price indices were calculated from the data in Table 11 in Chapter Two. The data on quantities exported were taken from Table 11 also.

<sup>2</sup>Wholesale price index numbers for Dire Dawa. Calculated from data in C.S.O., Statistical Abstracts, various issues.

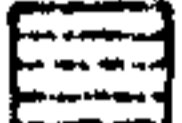


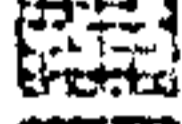


The use of the Addis Ababa price indices is related to the position of the capital city as the single most important consuming area in the Empire and to its strategic geographic position in relation to the areas of agricultural production, the internal road system and the ports through which goods are exported. The significance of the geographic position of Addis Ababa may be ascertained from Map 1 and Map 2 which illustrate the areas of agricultural production and the internal road system respectively. From Map 1 one can see that the major areas of crop production are to the north-west, west, south and south-east of Addis Ababa. Apart from this last area, the distribution of crops is marked by an absence of production in the area between Addis Ababa and the ports of Assab on the east coast and Djibouti in the French Territories of the Afars and Issas.<sup>1</sup> The convergence of the main roads from the crop producing areas into Addis Ababa and the absence of roads leading directly from the crop producing areas in the northwest, west and south to these ports can be seen from Map 2. These observations taken together with the importance of Addis Ababa as a consuming area mean that marketed supplies from these areas are transported to Addis Ababa and the quantities to be exported are then moved either across the arid Danakil Depression to Assab or to Dire Dawa en route to Djibouti. The outcome of this channelling of the marketed supplies into the Addis Ababa area for consumption

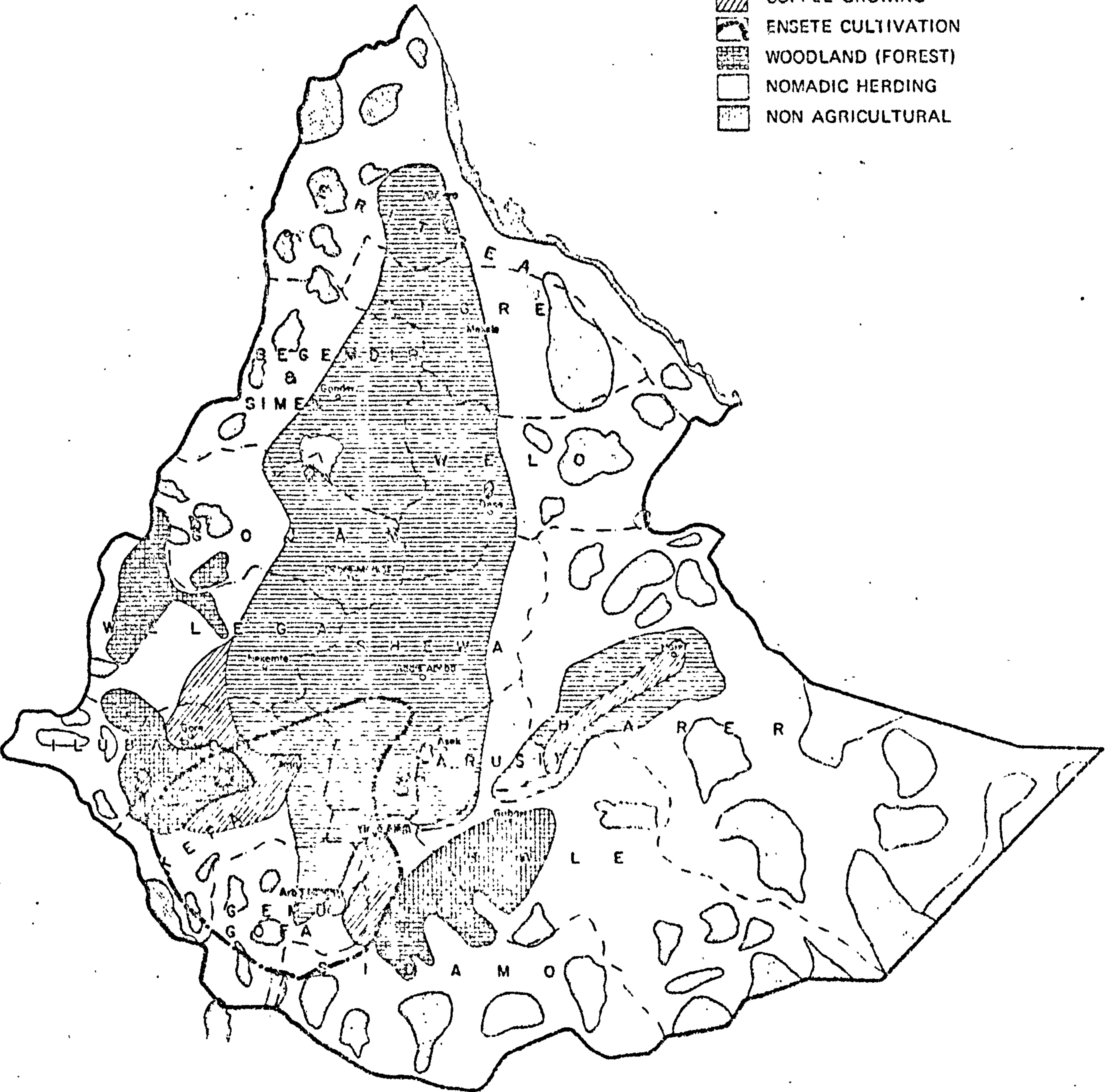
<sup>1</sup>Massawa serves as an outlet for export products marketed in the Asmara area but is not considered here along with Assab and Djibouti as an important port. 95% of the quantities exported of sesame seed passed through Massawa, but for each of the other commodities the quantities exported through this port averaged less than 2% per annum of total quantities exported.

These data were made available by the Marine Department of the Imperial Ethiopian Government.

## Map 1

Areas of Crop Production

-  MIXED AGRICULTURE
-  COFFEE GROWING
-  ENSETE CULTIVATION
-  WOODLAND (FOREST)
-  NOMADIC HERDING
-  NON AGRICULTURAL

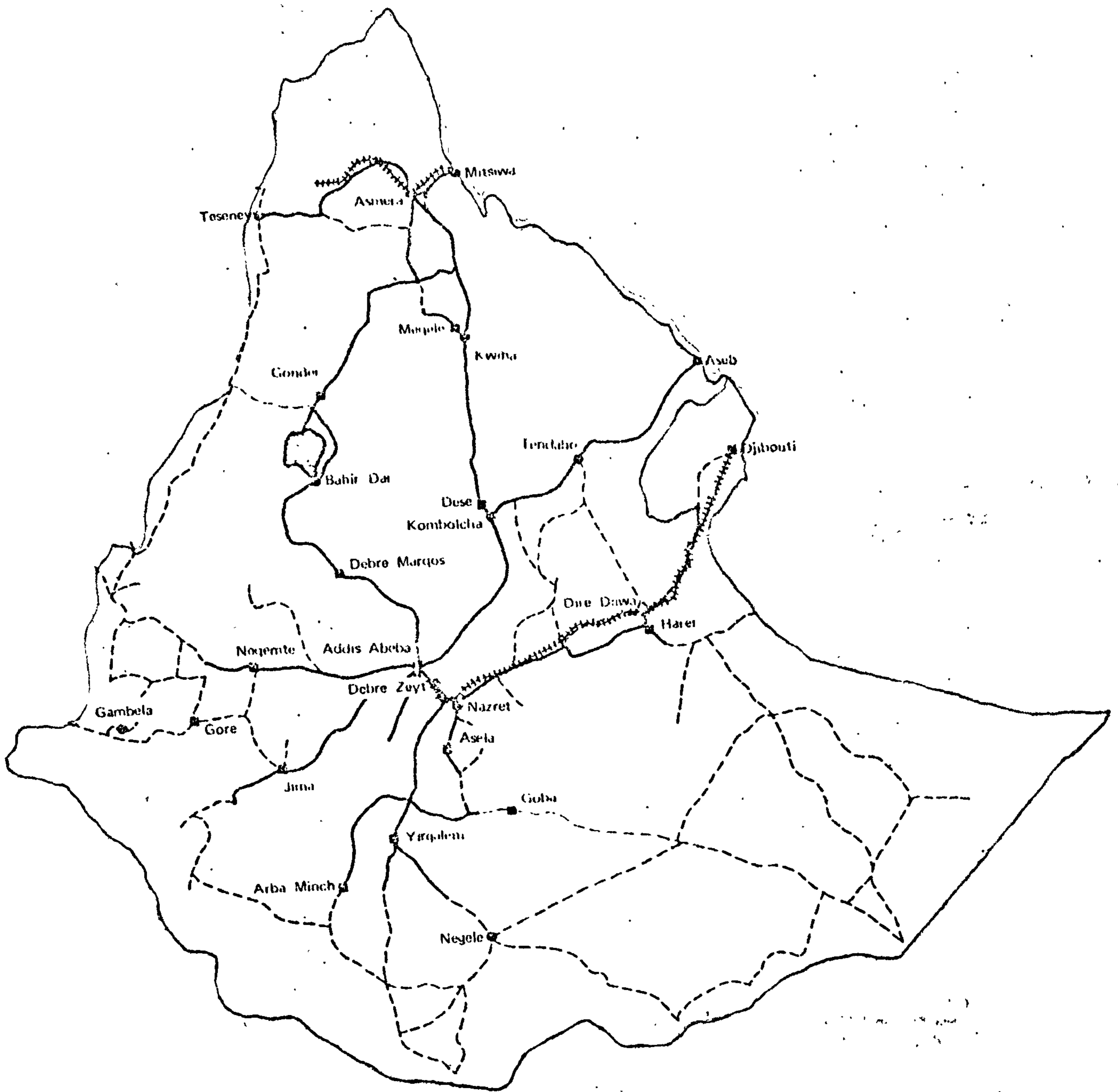


SOURCE: Eng. G. Turceninoff, Mapping and Geography Institute, May 1967.

Source: C.A. Miller, Development of Agriculture and Agro-Industry in Ethiopia, Final Report, prepared for the Technical Agency of the Imperial Ethiopian Government, Dec., 1969, p.58.

Map 2

Internal Road Network



- PROVINCIAL CAPITAL
- OTHER TOWN
- ALL WEATHER ROADS
- - - - DRY WEATHER ROADS
- ||||| HAILROAD
- - - - PROVINCIAL BOUNDARIES

Source: A. Thodey, Marketing of Grains and Pulses in Ethiopia, Frontispiece.

and export is that the relevant domestic price indices for these crops are those for Addis Ababa.

The area of crop production to the south-east of Addis Ababa lies along the route from Addis Ababa to the coast via Dire Dawa. The marketed supplies from this area, Hararghe, pass through Dire Dawa which is located nearer to Djibouti than to Addis Ababa. One might wish to argue, therefore, that if the bulk of exports come from the crops marketed in Dire Dawa and if the prices prevailing in Dire Dawa differ from the prices prevailing in Addis Ababa, the relevant price indices are not those for Addis Ababa but those for Dire Dawa.<sup>1</sup> Of the various export commodities for which data on wholesale prices are available only coffee is grown and marketed in Hararghe. In 1970 coffee from this area accounted for less than 5% of the total volume of coffee inspected by the National Coffee Board for export.<sup>2</sup> It follows that exports of coffee are made up overwhelmingly of coffee from the other producing areas. Moreover, the importance of the Addis Ababa market is such that the Addis Ababa price governs the price in all other markets including Dire Dawa. That the price in Dire Dawa simply reflects the price in Addis Ababa may be seen by a comparison of the respective price indices in Table 15. Neither of the above conditions hold for this product, therefore, and the use of the price index for Dire Dawa rather than the price index for Addis Ababa would be inappropriate.

The Addis Ababa wholesale price indices must be used for hides

<sup>1</sup>A similar argument would be valid for sesame seed marketed in Asmara and exported through Massawa but neither Asmara wholesale prices nor Addis Ababa wholesale prices are available for this product.

<sup>2</sup>Central Statistical Office, Statistical Abstract, 1970, p.41.

and skins due to the lack of time series data on prices in other areas. There is some justification for the use of these indices, however. As it is the major domestic market for meat, one finds that livestock are driven to Addis Ababa for slaughter and, thus, hides and skins come onto the market in Addis Ababa itself. In addition, the domestic leather industry is concentrated in the Addis Ababa area and wholesalers can sell their products either to this industry at the prevailing Addis Ababa price or for export at the ruling export price. On the other hand, the lack of data on the origin of these marketed supplies going for export and on prices in areas other than Addis Ababa does not allow one to reject the argument that exports may be strongly influenced by marketed supplies in the areas around the export outlets. This possibility represents a potential source of weakness in the use of the Addis Ababa wholesale price indices.

The division of the marketed supplies of several products into exports and quantities consumed domestically conforms to the second hypothesis that changes in exports result from changes in domestic wholesale prices and this conclusion holds in terms of year-to-year changes and/or trend movements.<sup>1</sup> These products are castorseed, linseed, niger seed, chickpeas, horsebeans and sheepskins. The quantities exported of these commodities tended to decrease when the wholesale price indices increased, while increases in exports tended to be associated with decreases in the wholesale price indices. The

<sup>1</sup>Given the lack of data on total marketed supplies, the use of trend estimates is a more reliable guide to events than the use of year-to-year changes, as the quantities consumed domestically in any given year may result from a lagged response to domestic price changes in a previous year or to domestic price changes in several years beforehand.



upward trend in domestic wholesale prices for the first five of these products is easily discernible from Table 15 and these positive price trends contrast with the negative trends in the quantities exported for each product including niger seed, although the negative trend in exports of this product is less marked than for the others. For sheepskins one finds a negative price trend and a positive trend in the quantities exported. Thus, the hypothesis that the quantities exported are residuals after domestic consumption has been satisfied seems to fit the evidence for these products.<sup>1</sup>

The two hypotheses above are not mutually exclusive, however, and the conclusion that the quantities exported are residuals may be reached also using the first hypothesis. Under the first hypothesis an increase in the domestic wholesale price index relative to the export price index would result in increased supplies being made available for the domestic market and the remaining marketed supplies being exported, i.e. exports are a residual given such price changes. The data in Table 15 show that the definite upward trends in the wholesale price indices for the products other than sheepskins were associated with negatively or weakly positive trends in export prices and the downward trends in the quantities exported are consistent, therefore, with the first hypothesis. The evidence for sheepskins is consistent also with the first hypothesis since the negative trend in domestic prices and the positive export price trend were associated with a positive trend in the quantities exported. These conclusions suggest once more that exports are the

<sup>1</sup>Directions of the trends over time of the variables are sufficiently clear from data inspection not to require mathematical expression.

quantities remaining after domestic consumption has been catered for.

Of the two hypotheses, that which relates changes in exports to changes in relative prices seems to provide a more satisfactory explanation of events than the other hypothesis which asserts that changes in exports are inversely related to changes in domestic prices only, due to inadequate market information on export prices. If individual traders are not in direct contact with foreign markets, the National Bank of Ethiopia can supply information on current world market prices and it is unlikely, therefore, that market decisions are reached without reference to both domestic and export prices.<sup>1</sup>

Neither the first nor the second hypothesis provides an explanation for the quantities exported of the remaining products. For coffee the lack of correspondence between either hypothesis and the available data is understandable since the quantities exported and the quantities consumed domestically of coffee were determined in a regulated market. The coffee quotas decided by the International Coffee Organisation set an upper limit to the volume of coffee which Ethiopia might export and the National Coffee Board of Ethiopia controlled the marketed supplies of coffee by means of a licensing system. Both exporters and wholesalers were required to be licensed and the sale of coffee on the export market or on the domestic market had to be approved by the Coffee Board. The objective of this system was to ensure the fulfillment of the coffee quota and to make the

<sup>1</sup>This analysis has assumed throughout that the willingness of exporters to sell commodities abroad was not affected by changes in transport costs from Addis Ababa to Assab and to Djibouti. Truck and railroad freight rates did not increase over the period while the latter actually decreased. These decreases were so small relative to the unit export prices, however, that they appear to have had little effect on exports through Djibouti, as witnessed by the growing proportion of total trade being directed through Assab.

remaining supplies available for domestic consumption.<sup>1</sup> Consequently, the determinant of coffee exports was the coffee quota system and not the operation of the price mechanism.

The failure of the two hypotheses to explain the behaviour of the quantities exported of several other commodities may be due to a quantity response of exports to changes in export prices. Alternatively, their failure to shed light on events may be attributable to a quantity response of exports to changes in producers' incomes. Such responses might confound the behavioural assumptions of these hypotheses, since the quantities exported in any given year would depend not upon wholesale prices relative to export prices or upon wholesale prices alone, but upon export prices or producers' earnings either in that year or some previous year. The following section will look into the question of quantity response, therefore, and its implications for Ethiopian exports.

##### 5. Quantity Response to Changes in Export Prices.

The question of quantity response in the agricultural sector in the developing countries is one that has attracted much attention and this section begins by discussing the various hypotheses about the quantity response of marketed supplies to changes in product prices, before considering the more specific question of the quantity response in Ethiopia to changes in export prices and its implications

<sup>1</sup>Evidence presented by Teshome Mulat shows that, although the export quota was the major determinant of exports, coffee exports exceeded the quota in some years and were less than the quota in other years and that these deviations were not related to changes in the domestic availability of coffee. It is probable that these deviations were related to the administrative difficulties of operating the licensing system to meet the quota.

See Teshome Mulat, Coffee Export, Coffee Study No.1, prepared for and duplicated by permission of the National Coffee Board, April 1972, pp.9-10.

for Ethiopian export earnings. The possibility that changes in earnings rather than price changes determine producers' production plans is then discussed both in general terms and in terms of its relevance to the empirical evidence for Ethiopia.

5a. The Debate over Quantity Response to Price Changes in the Agricultural Sector in the Developing Countries.

One of the basic propositions of economic theory is that an increase in price will lead producers to supply more of a commodity. It has been argued, however, that the application of this proposition to African conditions is highly spurious on the grounds that production decisions are made by African farmers without regard to prices. A number of economists have taken issue with this argument and it is possible to divide the various a priori hypotheses about the quantity response in underdeveloped agriculture into three categories. Firstly, it is hypothesised that farmers in the developing countries respond quickly, normally and efficiently to price changes. Secondly, it is hypothesised that the marketed production of subsistence farmers is inversely related to price and, thirdly, it is hypothesised that cultural and institutional constraints in the developing countries are so limiting that any response to price changes is insignificant.

With regard to the first hypothesis, T. W. Schultz has argued that farmers in developing countries respond quickly and in an orthodox manner to price fluctuations. Schultz argues that:

The rate at which farmers who have settled into a traditional agriculture accept a new factor of production depends upon its profit, with due allowance for risk and uncertainty, and in this respect the response is similar to that observed in modern agriculture.<sup>1</sup>

<sup>1</sup>T. W. Schultz, Transforming Traditional Agriculture, Yale University Press, New Haven, 1964, p.33.

and that "the doctrine that farmers in poor countries either are indifferent or respond perversely to changes in price ... is patently false and harmful."<sup>1</sup>

Schultz has not been alone in the contention that farmers in underdeveloped agriculture respond positively to price changes. J.W. Mellor<sup>2</sup> has argued that short-run responses in agriculture in the developing countries may be higher than in developed countries, since the former countries have greater flexibility with respect to factor inputs and distribution channels. P. T. Bauer and B. S. Yamey<sup>3</sup> found that in Nigeria cocoa and palm oil producers were responsive to changes in relative prices and E. Dean<sup>4</sup> showed that in Malawi tobacco producers appear to behave, in the short-run, much as an analysis based on economic theory predicted they would behave. Similar conclusions concerning positive supply responses in agriculture in the developing countries have been reached by others such as R. Krishna<sup>5</sup>, W. J. Barber<sup>6</sup> and R. Stern<sup>7</sup>.

<sup>1</sup>Ibid., p.49.

<sup>2</sup>J. W. Mellor, The Economics of Agricultural Development, Cornell University Press, Ithaca, 1966, pp.199-200.

<sup>3</sup>P. T. Bauer and B. S. Yamey, A Case Study of Response to Price in an Underdeveloped Country, Economic Journal, Vol. LXIX, 1959, pp.300-305.

<sup>4</sup>E. Dean, The Supply Responses of African Farmers, Contributions to Economic Analysis, North Holland, Amsterdam, 1966.

<sup>5</sup>R. Krishna, Farm Supply Response in India-Pakistan: A Case Study of the Punjab Region, Economic Journal, Vol. LXXIII, 1963, pp.477-487.

<sup>6</sup>W. J. Barber, Economic Rationality and Behavioural Patterns in an Underdeveloped Area: A Case Study of African Economic Behaviour in the Rhodesias, Economic Development and Cultural Change, Vol. 8, 1960, pp.237-251.

<sup>7</sup>R. Stern, The Price Responsiveness of Primary Producers, The Review of Economic and Statistics, Vol. 44, 1962, pp.202-207.

The second hypothesis that there is an inverse relationship between the marketed surplus of a subsistence crop and the market price is formulated frequently in terms of the argument that African farmers have fixed or relatively fixed monetary obligations and, therefore, they only sell as much of their production as is necessary to obtain the desired money income. It has been argued by D. R. Khatkhate that:

Suppose prices of agricultural output rise in relation to non-agricultural prices. Since money requirements are a prior fixed charge on the farmer's output, he would be prone to market a smaller proportion of his output for cash in view of the price rise ... The position is reversed when prices of agricultural goods fall.

J. R. Behrman points out that the relatively fixed desire for money income may exist due to;

relatively fixed monetary charges for rent, debt service and an inescapable small amount of consumption of non-agricultural goods ... Whatever production that need not be sold to obtain the desired monetary income has a very high utility at the margin in on-farm consumption because of the inadequate food supplies which are available to the subsistence producers. The subsistence producing unit, therefore, maximises its production (subject to the constraints which are imposed by factor availabilities and production functions), sells whatever is needed to obtain its necessary money income, and consumes the remainder. The market surplus, thus, varies inversely with the market price of the subsistence crop of concern.<sup>2</sup>

R. O. Olson<sup>3</sup> and T. N. Krishnan<sup>4</sup> advocate the same hypothesis of

<sup>1</sup>D. R. Khatkhate, Some Notes on the Real Effects of Foreign Surplus Disposal in Underdeveloped Economies, Quarterly Journal of Economics, Vol. 76, May 1962, p.189.

<sup>2</sup>J. R. Behrman, Supply Response in Underdeveloped Agriculture, Contributions to Economic Analysis, North Holland, Amsterdam, 1968, p.5.

<sup>3</sup>R. O. Olson, The Impact and Implications of Foreign Surplus Disposal on Underdeveloped Economies, The Journal of Farm Economics, Vol. XLIII, December 1960, pp.1042-1045.

<sup>4</sup>T. N. Krishnan, The Marketed Surplus of Foodgrains: Is It Inversely Related to Price?, The Economic Weekly, Vol. XVII, February 1965, pp.325-328.

an inverse relationship between the market surplus and price but their concern is with real rather than money income. They argue that an increased price for a subsistence crop may increase the producer's real income sufficiently so that the income effect on his demand for consumption of this crop outweighs the price effects on production and consumption. Thus, the marketed surplus may vary inversely with the market price.

The third hypothesis is that cultural and institutional restraints make any price response in the agriculture of the developing countries insignificant. The cultural aspects of this hypothesis arise largely from the work of J. H. Boeke, who contends that the social systems prevailing in many developing countries differ in kind from the social systems of the developed countries and, consequently, "anyone expecting Western reactions will meet with frequent surprises"<sup>1</sup>. It is, he argues, social rather than economic needs which give commodities their value. Although Boeke's observations were based on his experiences in Indonesia, his arguments have been applied to African conditions. Dean points out that:

According to some observers, Africans are not interested in money or income. Rather they are more concerned with their position in the network of social relationships. Prices in Africa<sup>2</sup> are determined more by non-economic than economic variables.

In a collection of articles K. Polanyi, C. M. Arensberg and H. W. Pearson<sup>3</sup> present two articles on West Africa which attempt to show

<sup>1</sup>J. H. Boeke, Economics and Economic Policy of Dual Societies, New York, 1953, p.20.

<sup>2</sup>E. Dean, The Supply Responses of African Farmers, p.3.

<sup>3</sup>K. Polanyi, C. M. Arensberg and H. W. Pearson, Trade and Markets in the Early Empires, Glencoe, Illinois, 1957.

that the economy is "embedded" in the society.

It is often argued that institutional restraints arise from market imperfections of various types and these imperfections are said to exist in both the factor and the product markets. The imperfections in the factor market have been summarised as follows:

Inadequate transportation and communication facilities are hypothesised to have limited below desirable levels supplies of factors such as chemical fertilizers in rural markets. Even within small geographic areas, factor markets are said often to be very fragmented because of traditional tenure arrangements and the prevalence of barter exchange. Factors, thus, are not easily reallocated as a result of price changes. Credit markets are said to be imperfect. Perhaps most important of all, knowledge of new factors or of new techniques is said to be considerably less than perfect.

Product markets are said to be fragmented into small geographic units due to "the lack of a pervasive monetary exchange system in combination with the overwhelming concern among many farmers for producing enough food to guarantee physiological survival."<sup>2</sup> Moreover, in many localities farmers are said to be exploited by oligopolistic middle men and both transport and storage facilities are said to be inadequate.<sup>3</sup>

Given these three categories of hypotheses, one may make explicit two distinctions. Firstly, there is a distinction between total production and marketed supply. The quantities produced and the quantities marketed do not necessarily respond identically to changes in prices. Secondly, there is a distinction between changes in total marketed supplies and changes in the marketed supplies of particular crops or commodities in response to changes in relative

<sup>1</sup>Behrman, Supply Response in Underdeveloped Agriculture, p.8.

<sup>2</sup>Ibid., p.8.

<sup>3</sup>Ibid., p.8.



prices. Relative price changes may bring about changes in the composition of marketed supplies of agricultural products without any significant changes in indices of or the real value of total supplies.<sup>1</sup>

The lack of data on marketed supplies of commodities exported by Ethiopia prevents one from reaching any conclusions concerning the quantity response of these supplies in response to price changes. The quantity response of exports to changes in export prices will be investigated in the following section, however, since data are available on the export component of marketed supplies.

#### 5b. The Quantity Response of Ethiopian Exports to Changes in Export Prices.

Goering, Aklilu and Abate have argued that:

In Ethiopia the view of the typical farmer as slow to respond to changing economic circumstances appears to be commonplace as manifested in the frequent assertion that the smaller highland farmer is not likely to be the source of significant gains in agriculture.<sup>2</sup>

They recognise, however, that the current emphasis upon the minimum-package programme as a major vehicle of agricultural development is premised on the belief that Ethiopian farmers will respond in positive fashion to economic incentives. If Ethiopian farmers do respond positively to economic incentives, one might expect to find that, ceteris paribus, changes in export prices will lead to changes in the quantities exported. The analysis of this section will

<sup>1</sup>This assumes that, while changes in the production of agricultural commodities in response to price changes leave the index or real value of total agricultural production unchanged, there are no changes in the prices of agricultural crops vis-a-vis the prices of non-agricultural goods.

<sup>2</sup>Goering, Aklilu and Abate, Ethiopian Observer, p.156.

examine the substance of this line of reasoning by determining the association between changes in export prices and quantities exported and the implications of any such association for changes in export earnings.

The quantity responses of exports to changes in export prices for the various commodities under consideration were estimated by applying regression equations of several forms to the data in Table 16 on export prices and quantities exported. In these regression equations the dependent variables were the quantities exported and the independent or explanatory variables were export prices plus the annual export quota in the case of coffee.<sup>1</sup> For each commodity the following three simple linear equations were tested;

$$Q_t = a + bP_t,$$

where  $Q_t$  = the quantity exported in the current year and  $P_t$  = the export price index number for the current year,

$$Q_t = a + bP_{t-1},$$

where  $P_{t-1}$  = the export price index number for the previous year,

$$\text{and } Q_t = a + bP_{t-2},$$

where  $P_{t-2}$  = the export price index number for two years beforehand.

In addition, distributed lag equations were tested for each

<sup>1</sup>Ethiopia accepted full membership of the International Coffee Agreement in 1964 and the data on authorised export quotas given below for the period 1964-1970 were supplied by the National Coffee Board of Ethiopia. The IBRD has shown that in 1962 and 1963 Ethiopian exports to quota markets, which accounted for over 90% of total coffee exports, corresponded closely to the quota which would have been effective had Ethiopia accepted full membership of the ICO. For data on the coffee quota for 1962 and 1963 see IBRD IDA, Agricultural Sector Survey, Ethiopia, Vol. 11, Annex 3, Table 4.

ETHIOPIAN COFFEE EXPORT QUOTAS (000's metric tons)								
1962	1963	1964	1965	1966	1967	1968	1969	1970
55.9	60.6	63.8	77.6	71.3	72.2	75.8	83.3	77.0



TABLE 16 - Continued

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Oilseeds and Oilseed Cakes											
Linseed											
Export P I	107.2	83.3	75.7	72.6	77.8	87.9	72.2	68.6	100.0	106.8	107.4
Quantities Exported	17.5	16.4	25.9	37.2	31.0	19.3	10.5	9.7	3.7	0.3	0.0
Cottonseed											
Export P I	92.3	119.0	82.7	86.3	98.2	106.0	112.5	131.0	100.0	99.4	103.6
Quantities Exported	1.4	0.2	1.6	3.8	4.9	5.0	7.9	11.2	6.9	9.9	7.3
Sesame Seed											
Export P I	132.7	102.9	77.7	98.1	90.8	89.6	106.2	110.8	100.0	97.9	112.7
Quantities Exported	3.3	3.9	9.6	8.6	14.3	21.5	20.3	19.8	27.0	30.7	39.7
Groundnuts											
Export P I	121.7	139.8	159.6	135.9	144.6	157.9	173.5	145.7	100.0	122.8	113.1
Quantities Exported	3.2	3.7	3.2	5.4	7.1	3.4	2.0	1.6	3.1	1.9	0.7
Niger Seed											
Export P I	88.5	86.2	60.5	106.5	62.3	72.9	84.4	77.4	100.0	87.1	94.6
Quantities Exported	12.6	9.9	5.7	10.1	9.3	10.8	6.8	8.8	6.9	10.3	7.2
Oilseed Cakes											
Export P I	83.8	76.1	109.9	93.7	108.5	102.8	63.4	98.6	100.0	84.5	89.4
Quantities Exported	13.3	19.2	26.3	26.4	22.9	23.3	31.1	31.3	25.8	34.0	26.7

P I denotes price index.

<sup>1</sup>The data for the period 1962-1970 are those given in Table 15. The data for 1960 and 1961 were made available by T. J. Goering of the Planning Commission Office. The estimates of prices and quantities exported for 1961 are in terms of the Ethiopian Calendar year and not the Gregorian Calendar year.

The base year for the price indices is 1968, i.e. 1968 = 100.  
The quantities exported are given in thousands of metric tons.

to establish whether the quantities exported depended on export prices in more than one year. For each commodity two equations of the distributed lag form were tested. The first form of distributed lag equation used prices in the current year,  $P_t$ , and prices in the two previous years,  $P_{t-1}$  and  $P_{t-2}$ , as explanatory variables,

$$\text{i.e. } Q_t = a + bP_t + cP_{t-1} + dP_{t-2}$$

The second form used prices in the immediately preceding year,  $P_{t-1}$ , and prices in the two years previous to that,  $P_{t-2}$  and  $P_{t-3}$ , as explanatory variables,

$$\text{i.e. } Q_t = a + bP_{t-1} + cP_{t-2} + dP_{t-3}$$

To avoid a reduction in the number of observations resulting from a lagged response to changes in export prices the data in Table 15 on export prices and quantities exported have been supplemented in Table 16 by data on these variables for earlier years.

The quantity response for each commodity is then derived from the regression equations.<sup>1</sup> The estimates of quantity response to the

<sup>1</sup>Let the estimated simple regression equation be

$$Q = a + bP$$

where  $Q$  is the volume of exports and  $P$  is the unit export price index. The quantity response of exports with respect to export price is

$$Q_p = \frac{dQ}{dP} \cdot \frac{P}{Q}$$

In the case of multiple regression where, for example,

$$Q = a + bP + cC$$

with  $Q$  the volume of exports,  $P$  the unit export price index and  $C$  the annual coffee quota, then  $Q_p$ , the partial response of quantities

exported with respect to export prices, is

$$Q_p = \frac{fQ}{fP} \cdot \frac{P}{Q}$$

where  $\frac{fQ}{fP}$  is the partial derivative of  $Q$  with respect to  $P$ .

Similarly,  $e_c$ , the partial response of export quantities with respect to the export quota, is

$$e_c = \frac{fQ}{fc} \cdot \frac{C}{Q}$$

where  $\frac{fQ}{fc}$  is the partial derivative of  $Q$  with respect to  $C$ .

significant explanatory variables are presented on the following page in Table 17 along with information on the length of the time lags required to produce significant responses, the coefficients of determination and the corresponding t-values and significance levels.

Three of the commodities under consideration, haricotbeans, lentils and hides, were found to have a quantity response of exports significantly related to export prices,<sup>1</sup> and it was established also that the quantity response of coffee exports was significantly related to the coffee quota. The degree and nature of the quantity response varied from commodity to commodity. Measures of quantity response ranged from 0.91 for haricotbeans to 1.97 for hides and the relevant time lag for lentils and haricotbeans was two years, while coffee and hides exhibited a response in the same year as the change in the significant explanatory variable. With the inclusion of coffee among these commodities something of the order of 65% of exports by value had a significant quantity response in each year.

The importance of the export quota as the determinant of coffee exports explains the significant quantity response to that variable. The result obtained for haricotbeans is explicable in terms of the export-orientation of the commercial farms producing the product with the lag of two years between the price change and the resulting change in exports reflecting the period of time required to bring about a production response and to move the product into export

<sup>1</sup>Significant results were obtained for horsebeans, lentils and hides using simple linear equations with the lags indicated in Table 17. For coffee the relevant equation used only one price variable and the coffee quota. The distributed lag equations did not produce statistically significant relationships for any of the products.

TABLE 17

## ESTIMATES OF THE QUANTITY RESPONSES OF ETHIOPIAN EXPORT PRODUCTS

Commodity	Quantity Response	Lag (in years)	Coefficient of Determination $r^2$	t-value	Significance Level %
Coffee <sup>1</sup>	1.13	0	0.8082	5.4313	0.1
Haricotbeans	0.91	2	0.6021	3.2550	2.5
Lentils	1.42	2	0.6912	3.9590	1.0
Hides	1.97	0	0.4571	3.1430	2.5

<sup>1</sup>For coffee the quantity response was significantly related to the export quota and not to export prices.  
<sup>2</sup>The  $r^2$  for coffee is the partial coefficient of determination with respect to exports and the export quota in a multiple regression equation.

channels. Producers of lentils also needed a two year period after the change in export prices to elicit a significant response, but the quantity response for this pulse was less predictable than that for haricotbeans.

In common with the oilseeds and the other pulses excluding haricotbeans, lentils are generally thought of as being grown by small-scale farmers in the subsistence sector for whom "it does not pay to produce more than enough for their subsistence and minimal cash needs."<sup>1</sup> The lack of incentive to produce quantities in excess of those required for these purposes is related to several "firmly based" assertions concerning imperfections in the Ethiopian marketing system which depress the prices paid to farmers in rural areas.<sup>2</sup> These imperfections exist because there are few independent buyers in production areas, because the market information spread tends to be dubious, because the cost of transport from the farm to the final market is high relative to the market value of the product, because there is insufficient on-farm storage capacity, because the number of transactions in the marketing system raises costs and because the farmer is the victim of the use of erroneous weights and measures. These constraints on a positive, significant response to price changes are the same as those outlined by Behrman in the previous section.

It is plausible in the light of admittedly limited Ethiopian experience<sup>3</sup> that the removal of these constraints will raise farm

<sup>1</sup>IBRD, Agricultural Sector Survey, Ethiopia, Vol.1, Annex 16, p.1.

<sup>2</sup>Ibid., Annex 16. These imperfections and their effects on prices are discussed in this Annex.

<sup>3</sup>The Ethiopian experience concerns the Chilalo Agricultural Development Unit and the Wollamo Development Unit which have shown that rural incomes can be raised and production expanded with improvements in the marketing system. See Ibid., p.1.



incomes and, thereby, induce a positive response to price changes. In this respect the location of the production of lentils in comparison with the location of production of chickpeas, horsebeans and the products in the oilseed grouping is important. Although lentils are produced also in north-western Tigre, western Welo and eastern Gojam, production is more reliable in the cooler climate of Shewa and Arusi provinces.<sup>1</sup> Production of chickpeas, horsebeans and the oilseeds is concentrated, however, outwith these latter areas.<sup>2</sup> The provinces of Shewa and Arusi are at the centre of the trade and transportation network in Ethiopia and this proximity to Addis Ababa tends to reduce the imperfections of the marketing system in these areas. Producers in Shewa and Arusi are faced with a marketing system characterised by lower transport costs to the final market, by more accurate market information on prices, by fewer transactions and by the use of more standardised weights and measures than the marketing system facing producers in more remote areas. It is not unlikely that such factors account for the significant quantity response of lentils.

As by-products, the commodities in the hides and skins grouping might be expected, on a priori grounds, not to have significant quantity responses to price changes. While this was true for goatskins and sheepskins, a significant response was found for hides. This response is probably the outcome of the distribution of hides

<sup>1</sup>Experience Incorporated, Production and Marketing of Pulse Crops in Ethiopia, p.13.

<sup>2</sup>The geographic distribution of the production of pulses is dealt with in Ibid., pp.10-13. The geographic distribution of production of both pulses and oilseeds is dealt with in S. Stanley, An Introduction to the Rural Economy of Ethiopia, Addis Ababa, 1971.

between marketed supplies and supplies remaining in the villages. It has been estimated<sup>1</sup> that roughly 60% of the total supply of hides in any year are retained in the rural areas as substitutes for other forms of containers and clothing. An increase in the export price might make it profitable, therefore, for exporters to exert greater efforts in attracting supplies away from these uses in the villages for export.<sup>2</sup>

It was suggested in Section 4b that a significant quantity response to export prices might obscure the interrelationships among domestic prices, export prices and quantities exported postulated there. This does seem to be the case for hides, haricotbeans and lentils. The domestic wholesale price index for hides fell much more rapidly over the period than the export price index and, thus, one would have anticipated increases in the quantities exported. The quantities exported of this product fell during the period, however. Similarly, although the export price indices for haricotbeans and lentils rose much less rapidly than the domestic price indices and one would have anticipated decreases in the quantities exported, the quantities exported actually increased. In these instances, therefore, due to the quantity response to export prices, one finds results contrary to those expected.

The length of the time lag between the change in the explanatory variable and the change in the quantities exported has an important

<sup>1</sup>IBRD, Agricultural Sector Survey, Ethiopia, Vol. 1, Annex 5, p.15.

<sup>2</sup>This result contradicts the assumption made in Section 4b that, as a by-product, the marketed supplies of hides would be price inelastic in any year. It does not, however, alter the conclusion reached there that neither relative price changes nor changes in domestic wholesale prices alone explain the changes in the quantities exported.

bearing on the implications for the changes in export earnings of a significant quantity response. The importance of the time lag is related to the interaction of the time pattern of quantity changes in response to changes in the independent variable with the time pattern of exogenously determined export price changes. Where one finds a significant unlagged quantity response to export prices, the quantity and price changes must reinforce each other and, consequently, the absolute change in export earnings will be greater than the absolute change in either prices or quantities. The possible outcomes on export earnings of a lagged response are more complex. Where, for instance, the time lag involved is two years, the quantity change in the third year will reflect the price change in the initial year, but, since export prices are exogenously determined, the price received in the third year may increase, decrease or remain constant and, thus, depending on the degree and direction of the price change and on the degree and direction of the quantity change, export earnings may increase, decrease or remain constant.

The quantities exported of three products, hides, haricotbeans and lentils, were found to be significantly related to export prices. For hides the relationship was unlagged and for the two other commodities the time lag was two years. The effect of these time lags on fluctuations in export earnings may be considered using the instability indices for export earnings, prices and quantities given in Chapter Two. These indices show that fluctuations in export earnings were greater than fluctuations in either prices or quantities for hides and lentils and that fluctuations in export earnings from haricotbeans were less than the fluctuations in the

quantities exported but greater than the fluctuations in price.

The result that changes in prices and changes in quantities tended to reinforce one another is the inevitable consequence of the unlagged response for hides. Similarly, although not an inevitable outcome, the evidence indicates that quantities of lentils coming onto the market in response to a price change two years beforehand interacted with price changes to produce fluctuations in export earnings greater than either the price or the quantity fluctuations. On the other hand, for haricotbeans changes in export quantities coincided with changes in export prices such that these variables tended to offset one another in their effects on export earnings.

The remaining commodity for which there was a significant quantity response is coffee. The response for this commodity differs from the others, however, in that the significant explanatory variable was the coffee export quota and not export prices. The quantity response to the export quota was unlagged and the instability indices in Chapter Two show that the fluctuations in export earnings were greater than the fluctuations in prices and the fluctuations in quantities. These statements mean that the quantity changes, determined by the response to changes in the export quota, were reinforced by price changes to produce changes in export earnings in excess of the changes in either prices or quantities.

For three of the four products with a significant quantity response, hides, lentils and coffee, the time pattern of the quantity response and the time pattern of price changes jointly produced, therefore, changes in export earnings greater than the changes in prices and in quantities. Only for one product, haricotbeans, did the time pattern of the quantity response and the

time pattern of price changes tend to offset one another in their effects on export earnings.

One of the propositions of economic theory which arises from the existence of a statistically significant lagged response of quantity to price is the cobweb theorem. The cobweb theorem rests on the basic behavioural assumption that producers base their production plans for some future period on the current market price. The higher the current market price, the more producers will plan to supply to the market in some future time period. The law of demand dictates, however, that an increased quantity being offered on the market can be sold only at a lower price and this lower price leads, in turn, to a smaller quantity being produced for sale at some future date. This reduced quantity then brings forth a higher market price and so the cobweb cycle continues either towards equilibrium in the convergent case or away from equilibrium in the divergent case.

The cobweb theorem describes a market system in which prices and quantities are determined endogenously. The markets under consideration here, however, are the export markets for Ethiopian products in which prices are determined exogenously. Given exogenously determined prices, the law of demand is inapplicable to the exports of an individual country such as Ethiopia and one may argue, therefore, that the cobweb theorem is inapplicable also. On the other hand, world market prices and total world exports of a particular product may follow a cobweb pattern and, consequently, for those Ethiopian exports which respond to changes in export prices events within Ethiopia may reflect the world cobweb system.

In its simplest form the cobweb theorem assumes a one period lag between the change in price and the resulting change in quantity.

Two year lags were established for the Ethiopian products with a significant, lagged, quantity response. The Appendix to this Chapter extends the cobweb analysis with a one year lag, therefore, to include a situation with a two year lag and identifies the rankings of prices and quantities associated with a lagged response of two years for both a convergent and a divergent system.

The data in Table 16 on export prices and export quantities may be fitted to the rankings of prices and quantities in the Appendix to establish whether a cobweb system does exist for the commodities with a lagged response, lentils and haricotbeans. The lack of correspondence between these price and quantity series and the rankings obtained in the Appendix reveals, however, that the cobweb theorem does not hold for these products.

The analysis above was concerned with the reactions of farmers to changes in prices. Specifically, an attempt was made to investigate the validity for the export sector of the basic proposition that changes in quantities supplied result from price movements. One may argue, however, that the decisive factor influencing export producers' actions is not the behaviour of exogenously determined prices but rather the availability of finance. Farmers' decisions, it may be argued, are governed by the earnings from their current harvests. If this is the case, farmers will be able to take greater measures to increase their planned production, the higher are their current earnings and this will affect the volume of crops coming onto the market in subsequent years. One may turn, therefore, to a consideration of the basis for this line of argument and its relevance to the Ethiopian situation.

5c. Income, Investment and Output.

One feature of the agricultural sector of the developing countries is the low level of investment. This is often ascribed to the fact that the low incomes of agricultural producers prevent them from undertaking investment.<sup>1</sup> To the extent that this is the factor behind the low levels of investment, it follows that increased incomes will place producers in a stronger position to undertake investment, since the greater availability of cash will enable them to increase their plantings and to introduce new ideas and techniques through the use of purchased inputs such as improved seeds, fertilizers, insecticides and tools. The effect of these actions is to expand output.

The process by which increased investment, incorporating innovations, leads to increased output has been discussed by N. Kaldor in his theoretical writings on the "technical progress function."<sup>2</sup> The basic postulate of the "technical progress function" is that there exists a relationship between the rate of increase of investment and the rate of increase of output which embodies the effect of constantly improving knowledge and know-how, as well as the effect of increasing capital per man and which does not attempt

<sup>1</sup>The role and problems of capital formation in traditional agriculture are discussed at length in J. W. Mellor, Toward a Theory of Agricultural Development, in H. M. Southworth and B. F. Johnston, Agricultural Development and Economic Growth, Cornell University Press, Ithaca, New York, 1967, pp.21-65, and in Mellor, The Economics of Agricultural Development, pp.81-101.

<sup>2</sup>This concept is discussed in N. Kaldor, A Model of Economic Growth, Economic Journal, Vol. 67, December 1957, pp.591-624, in N. Kaldor, Capital Accumulation and Economic Growth, published in The Theory of Capital, edited by F. A. Lutz and D.C. Hague, MacMillan, 1961, pp.177-220, and in N. Kaldor and J. A. Mirrlees, A New Model of Economic Growth in Readings in Macroeconomics, edited by M. G. Mueller, Holt, Rinehart and Winston, New York, 1966, Chapter 22, pp.306-322.

to isolate these effects from one another. Concerning the absorption of technical progress, Kaldor states that;

It is possible to utilise as yet unexploited ideas (whether old ideas or new ideas) more or less fully; and it is always the most profitable ideas (i.e. those that raise output most in relation to the investment which they require) which are exploited first. Some are old ideas; some are new ideas; most of the technical improvement that takes place embodies both. We cannot isolate the element of pure novelty in a world where knowledge is constantly improving, and where the actual techniques are constantly lagging behind the very latest techniques that would be selected if everything were started afresh.

Any society, however, has only a limited capacity to absorb technical change in any given period and this capacity is determined, in Kaldor's terminology, by society's "dynamism".

The more "dynamic" are the people in control of production, the keener they are in search of improvements, and the readier they are to adopt new ideas and to introduce new ways of doing things, the faster production (per man) will rise, and the higher is the rate of accumulation of capital that can be profitably maintained.<sup>2</sup>

These ideas concerning innovation and "dynamism" are of a general nature and apply equally well to both developed and developing societies. The "technical progress function" provides a useful general framework, therefore, for analysis of the manner in which output increases as a result of investment. One is concerned also, however, with the question of why investment takes place in response to an increase in the availability of finance and to approach this problem one may refer to the "investment function" constructed by Kaldor as a complement to his "technical progress function".

Kaldor uses the "investment function" to make certain assumptions

<sup>1</sup>Kaldor, Capital Accumulation and Economic Growth, p.208.

<sup>2</sup>Ibid., p.207.



concerning entrepreneurial psychology designed to explain the rationale behind investment decisions. Essentially these assumptions describe the nature of the risks which entrepreneurs are prepared to accept and Kaldor recognises that:

There are various alternative assumptions that can be made about investment behaviour ... and at the present stage we cannot say that our knowledge of entrepreneurial behaviour is sufficient to rule out any particular assumption in preference to some other.<sup>1</sup>

With regard to the willingness to accept risk, M. Friedman and L. J. Savage make the point, however, that in general individuals are not indifferent as between the equal probability of an  $\$X$  gain and an  $\$X$  loss, due to the diminishing marginal utility of income.<sup>2</sup>

According to Friedman and Savage;

If the marginal utility of money diminishes, an individual seeking to maximise utility will never participate in a "fair" game of chance, for example, a game in which he has an equal chance of winning or losing a dollar. The gain in utility from winning a dollar will be less than the loss in utility from losing a dollar, so that<sup>3</sup> the expected utility from participation in the game is negative.

Mellor<sup>4</sup> and M. Lipton<sup>5</sup> take up this argument, considering it to be more important when the individual is at the margin of subsistence, since loss may have an abnormally severe outcome for peasant farmers, starvation. Moreover, the risks associated with

<sup>1</sup>Ibid., pp.210-211.

<sup>2</sup>M. Friedman and L. J. Savage, The Utility Analysis of Choices Involving Risk, Journal of Political Economy, 1948, pp.279-304. Reprinted in Landmarks in Political Economy, edited by E. J. Hamilton, A. Rees and H. G. Johnson, Phoenix Books, University of Chicago Press, Chicago, 1962, pp.297-336.

<sup>3</sup>Ibid., p.299.

<sup>4</sup>Mellor, The Economics of Agricultural Development, p.291.

<sup>5</sup>M. Lipton, The Theory of the Optimising Peasant, Journal of Development Studies, April 1968, pp.327-351.

investment and innovation are much greater for peasant farmers in developing countries than for producers in what Lipton has described as "the humane, rich and risk-cushioned agriculture of the West"<sup>1</sup>. Mellor enumerates several forms of risk which may result in the failure of agricultural investment and each of these factors tends to be particularly common in low-income agriculture.<sup>2</sup>

The first form of risk involves the variability of weather conditions. It is possible that;

Because of bad weather, fields on which an innovation, such as fertiliser, is applied will yield no more than, or less than, those on which it is not. A farmer could not only lose his<sub>3</sub> investment in fertiliser but also his normal yield as well.<sup>3</sup>

Secondly, there is the possibility of technical risk. A recommended innovation may not be profitable even under favourable weather and price conditions where there has been inadequate trial under the conditions experienced by the farmer. This risk is a consequence of the lack of adequate facilities and institutions for adapting research and testing results. A third form of risk is price risk. An innovation may not be profitable if the resulting output comes onto the market in a year in which prices have fallen.

In view of these risks one would anticipate low-income farmers to be cautious about committing limited cash reserves to an innovation. Consequently, the problem of risk and uncertainty involved in expenditure on new forms of inputs may be just as important as or more important than the problem of capital availability in explaining the low levels of investment in developing agriculture and

<sup>1</sup>Ibid., p.334.

<sup>2</sup>Mellor, The Economics of Agricultural Development, pp.291-292.

<sup>3</sup>Ibid., p.291.

assumptions in a Kaldor-type analysis about producers' willingness to invest would have to accommodate the greater risks facing peasant producers. This discussion of the effect of risk on investment behaviour draws much of the strength from the general contention that the availability of finance determines peasant producers' actions. Bearing this in mind, the remaining part of this section is concerned with the more specific question of whether or not there appears to be an association between changes in the availability of finance and changes in the quantities exported by Ethiopia.

5d. The Quantity Response of Ethiopian Farmers to Changes in the Availability of Finance.

A detailed empirical investigation into the contention that the availability of finance has an impact on investment decisions and, thus, affects the quantities exported would require statistical information on incomes, investment expenditures and the quantities produced and exported. From analysis of such information one might ascertain whether or not events lend support to the argument. Attempts at any such analysis for the products exported by Ethiopia are confronted, however, by the absence of data on producers' incomes and investment patterns in the agricultural sector. One has only those data presented already in this Chapter and these provide no information on producers' investment. Statistical information on the middle link in the argument is missing, therefore, and one must proceed by considering whether the available data allow one to construct hypotheses about the relationship between changes in earnings and changes in exports.

One might wish to construct two hypotheses. The first is that

changes in the quantities exported are related to changes in earnings from exports. The second is that changes in total marketed output, including the quantities sold abroad, are determined by changes in aggregate earnings from home and exported sales, i.e. the greater are earnings from all sources, the more able are farmers to expand their production for sale and, hence, the greater is the ability to export.

Difficulties created by data deficiencies mean, however, that the latter of these hypotheses cannot be tested. As mentioned in Section 4b, total production of individual products is calculated on the basis of estimated domestic consumption plus exports, but the estimates of the quantities consumed domestically cannot be broken down into the volume of subsistence consumption and those quantities consumed in the monetised sector of the economy. Consequently, it is not possible to measure earnings from domestic sales. One is left, therefore, only with the first hypothesis and this may be tested using the data on export earnings and on the quantities exported in Table 9 and Table 11 respectively in Chapter Two and the various equations in Section 5b above.

No significant results were found and there are various possible explanations. One explanation may lie in the disincentive effects on innovation of the Ethiopian land tenure system. Another possible explanation concerns farmers' indebtedness and their need to borrow money to finance consumption until the next harvest. An increase in earnings from exports may increase farmers' incomes, but it may not place them in a sufficiently healthy position to enable them to clear their accumulated debt or, indeed, to enable them to avoid incurring some additional debt. In view of the high interest charges on loans and the risks and uncertainties

involved in agricultural investment, farmers may prefer to minimise their debts rather than take measures aimed at increasing future output.

The failure to obtain statistically significant results may reflect, however, an unwillingness to accept risk even in situations where producers have no debts. Alternatively, the results may arise from harvest failures after farmers, whether indebted or not, accepted the risks attendant on investment.

A further explanation may be that the hypothesis is inadequate. By relating producers' decisions to earnings from exports alone, it implicitly assumes that production is export-oriented, but, apart from haricotbeans, this is not the case for the products exported by Ethiopia. Producers take commodities to the market for sale to the highest bidder without regard to whether the buyer wants the products for sale domestically or for export. Consequently, an increase in the domestic wholesale price relative to the export price may reduce the quantities sold for export. These observations highlight two failings of the hypothesis. Firstly, it does not recognise that incomes and, hence, the availability of finance are determined by sales to both the domestic and export markets. Secondly, it fails to take account of relative price changes in those years in which output is marketed.<sup>1</sup>

The only commodity produced specifically for the export market is haricotbeans. There is no evidence, however, of a significant

<sup>1</sup>The second hypothesis would appear to go further towards providing an adequate explanation of events, were sufficient data at hand, since it recognises that income may come from sales on both the domestic and export markets. Nevertheless, it would still require to be supplemented by provision for the possible effects of changes in relative prices on changes in exports.

quantity response to changes in export earnings for this product, although a significant quantity response to export price changes was found in Section 5b. A difference in findings might have been anticipated from scrutiny of the data on export earnings and prices in Chapter Two, which showed that these variables did not always tend to move in the same direction. The different results indicate that the behaviour of producers of this commodity appears to be guided more by price movements than by changes in the availability of finance.

On one hand, the response to price changes suggests that these producers are prepared to accept the risk and uncertainty of attempting to alter future output in line with current price changes and, on the other hand, the lack of association between export earnings and output suggests that they have the resources to do so without having to rely on current earnings. This latter point is probably explicable in terms of the fact that haricotbeans, unlike the other crops except sesame seed, are grown on large commercial farms. Owners of such farms are likely to be in a much stronger financial position than or can obtain loans from the banking system more easily than peasant producers.

## 6. Conclusions.

The analysis of this Chapter permits one to arrive at the following conclusions concerning the implications of domestic supply conditions for export instability.

Firstly, it was shown that Ethiopia's shares in world trade are so small that Ethiopia has no control over the prices received for her exports and, consequently, changes in supply conditions lead

to export instability only through changes in the quantities exported.

Secondly, only for goatskins and, to a lesser extent, sesame seed did changes in the quantities exported appear to be related to changes in domestic production. Changes in domestic production might not be associated with changes in exports, however, given changes in domestic demand. Although it was not possible to establish whether changes in subsistence consumption led to changes in the marketed supplies, changes in the quantities consumed in the monetised sector of castorseed, linseed, nigerseed, chickpeas, horsebeans and sheepskins did seem to affect the quantities exported.

Thirdly, three commodities, haricotbeans, lentils and hides were found to have a quantity response significantly related to export prices and it was established that coffee had a significant quantity response to the export quota. The inclusion of coffee among these products means that they accounted for approximately 65% of total exports by value in each year. The quantity responses for haricotbeans, lentils and hides obscured the expected relationships between domestic consumption and exports while the export quota determined the volume of coffee going for export and the volume consumed domestically. For coffee, hides and lentils, the time pattern of the quantity response interacted with the time pattern of price changes to produce changes in export earnings greater than either the changes in prices or the changes in quantities. For haricotbeans these time patterns of changes offset one another.

Fourthly, a cobweb pattern of price and quantity changes did not fit the evidence for the products with a significant lagged quantity response, i.e. lentils and haricotbeans.

Finally, no product exhibited a significant quantity response to changes in export earnings. Attempts to explain this result and to construct alternative hypotheses concerning the relationship between changes in the availability of finance and changes in exports were severely constrained by the lack of data on incomes and investment.



CHAPTER THREE: APPENDIXThe Cobweb Theorem: Equilibrium with Lagged Adjustment.

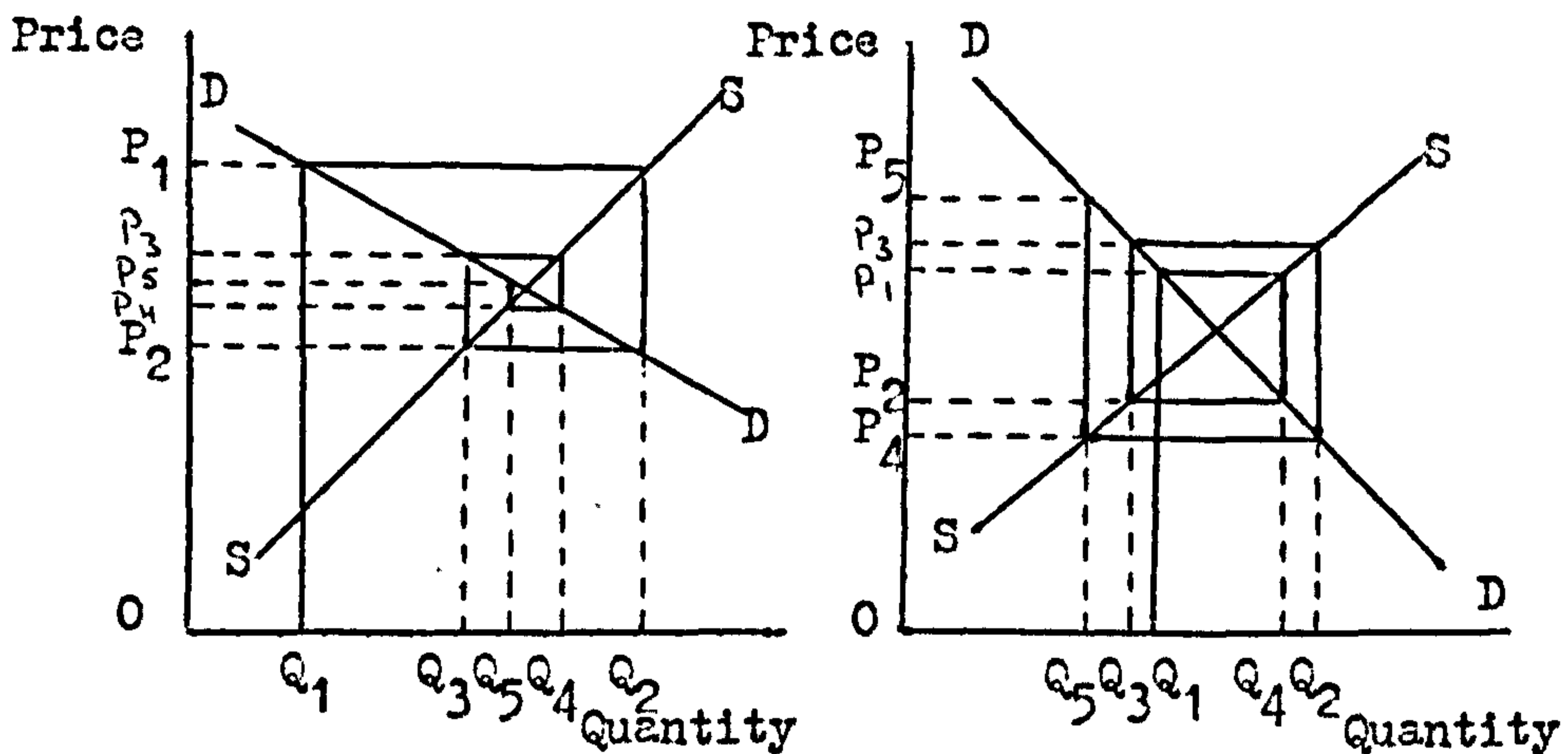
The cobweb theorem is concerned with the adjustment of output to price in a market where instantaneous adjustment is not possible. The basis of the cobweb theorem is that time lags between production decisions and the appearance of the output in the market mean that the quantity supplied ( $S_t$ ) and the quantity demanded ( $D_t$ ) in the current period are functions of two different variables. The quantity supplied is a function of market price in a former period ( $P_{t-1}$ ) whereas the quantity demanded is a function of the current market price ( $P_t$ ),

$$\text{i.e. } S_t = S(P_{t-1})$$

$$\text{and } D_t = D(P_t)$$

It is assumed that the quantity supplied in period  $t$  always equals the quantity demanded in that period and this equality is achieved by the adjustment of price.

The initial market situation in the cobweb theorem is one of disequilibrium. In Diagram 1 on the following page, for example, the quantity supplied is  $OQ_1$  and the corresponding market price is  $OP_1$ . If producers base their production plans on this price, they will supply the amount  $OQ_2$  to the market in the following period. The price falls instantaneously to  $OP_2$  and this price induces a supply of  $OQ_3$  in the following period. In Diagram 1 this cycle continues until equilibrium is reached at the intersection of the demand curve and the supply curve, i.e. the oscillations of price and quantity are convergent. The same mechanism operates in Diagram 2 but the price and quantity fluctuations diverge further and further away from equilibrium, i.e. the market is subject to explosive

Diagram 1Diagram 2

oscillations.

The convergent cobweb cycle in Diagram 1 produces the following ranking of market prices;

$$OP_1 > OP_3 > OP_5 > OP_4 > OP_2$$

and the following ranking of quantities;

$$OQ_2 > OQ_4 > OQ_5 > OQ_3 > OQ_1$$

The market prices and quantities supplied in the divergent case in Diagram 2 are ranked as follows;

$$OP_5 > OP_3 > OP_1 > OP_2 > OP_4$$

$$\text{and } OQ_2 > OQ_4 > OQ_1 > OQ_3 > OQ_5$$

Both the convergent and the divergent cobweb cycles examined above assume that the change in the quantity marketed is lagged one period on the change in price. The introduction of a two period lag complicates the cobweb cycle. With a two period lag the quantity supplied in the current period ( $S_t$ ) is a function of the price

prevailing two periods previously,

$$\text{i.e. } S_t = S(P_{t-2})$$

The quantity demanded in the current period continues to be a function of price in this period.

The convergent cycle in Diagram 1 began with the quantity  $OQ_1$  and price  $OP_1$ . If this were a cobweb cycle with a two period lag the ranking of prices and quantities would become

$$\begin{aligned} OP_1 > OP_5 > OP_9 > OP_7 > OP_3 \\ \text{and } OQ_3 > OQ_7 > OQ_9 > OQ_5 > OQ_1 \end{aligned}$$

Had this cycle begun with price  $OP_2$  and quantity  $OQ_2$  the corresponding rankings of prices and quantities would be

$$\begin{aligned} OP_2 > OP_6 > OP_{10} > OP_8 > OP_4 \\ \text{and } OQ_4 > OQ_8 > OQ_{10} > OQ_6 > OQ_2 \end{aligned}$$

Assume that the quantities  $OQ_1$  and  $OQ_2$  represent different starting points for cobweb patterns beginning in the first and second periods. One now has rankings of prices and quantities for the cobweb systems originating in the first and second periods. Regardless of where the cobweb system in the second period begins relative to the position of the cobweb system in the first period these rankings remain unaltered. In terms of Diagram 1 it makes no difference to these rankings whether  $OQ_2$  is introduced to the left or to the right of  $OQ_1$ . Given time series data on prices and quantities for a particular product, therefore, one may use these rankings to identify whether or not a convergent cobweb system holds for that product.

Similar steps may be taken to identify the price and quantity rankings for a divergent series with a two year lag. The rankings of prices and quantities derived from Diagram 2 began with the

quantity  $OQ_1$  and price  $OP_1$  and if one introduces a two year lag these rankings become

$$OP_9 > OP_5 > OP_1 > OP_3 > OP_7$$

$$\text{and } OQ_7 > OQ_3 > OQ_1 > OQ_5 > OQ_9$$

If the initial price and quantity had been  $OP_2$  and  $OQ_2$  respectively rather than  $OQ_1$  and  $OP_1$  the rankings would be as follows

$$OP_{10} > OP_6 > OP_2 > OP_4 > OP_8$$

$$\text{and } OQ_8 > OQ_4 > OQ_2 > OQ_6 > OQ_{10}$$

Again, therefore, one has information on the rankings of prices and quantities in the first and second cobweb systems, which remain unchanged whatever the position at which  $OQ_2$  is introduced relative to  $OQ_1$ . Thus, given time series data on prices and quantities one may determine whether these data fit into a divergent cobweb pattern.

## CHAPTER FOUR

Among the possible explanations of the export instability experienced by the developing countries are those concerning the concentration of export earnings. The three forms of export concentration are the concentration of exports on primary products, the dependence on proceeds from a narrow range of foreign markets, i.e. geographic concentration, and the dependence on earnings from a limited number of products, i.e. commodity concentration. This chapter is concerned with the significance of these forms of concentration in explaining Ethiopian export instability and each form will be examined below in turn.

### 1. Concentration on the Export of Primary Products.

The explanation of export instability in terms of the specialisation of the developing countries on the export of primary products rests on two assumptions. Firstly, it is assumed that the developing countries export mainly primary commodities and, secondly, it is assumed that the proceeds from these products in world markets are subject to greater fluctuations than the proceeds from manufactured goods. Thus, it is argued, the dependence of the developing countries on exports of primary products leads to greater instability than that experienced by countries exporting manufactured goods.

Coppock has shown, however, that the evidence in support of the second assumption is not particularly convincing, since he found that proceeds from manufactured goods in world markets are not invariably more stable than proceeds from primary products.<sup>1</sup> This

<sup>1</sup>Coppock's evidence was discussed in Chapter One, Section 7.

evidence notwithstanding, the second assumption requires some qualification when one is considering the export performance of a particular country. Specifically, this assumption must be reformulated such that the greater instability of proceeds from primary products is assumed to hold not only for the earnings of the developing countries as a group, but also for the earnings of that trading nation.

The commodity composition of Ethiopian exports is summarised in Table 18 and the striking feature of this table is the almost complete dependence on primary product exports. The Ethiopian situation clearly conforms, therefore, to the first of the assumptions above. Moreover, the concentration of exports is such that there is no basis for testing the validity of the second

TABLE 18

COMPOSITION OF ETHIOPIAN EXPORTS, 1962-1970<sup>1</sup>

% value

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Primary Products	99.5	99.7	99.7	99.8	99.8	99.8	99.7	99.7	99.7
Manufactured Goods	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Miscellaneous Manufactured Goods	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Commodities not classified according to kind	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Source: Annual External Trade Statistics, I.E.G., various issues.

<sup>1</sup>Primary products include food and live animals, beverages and tobacco, crude materials, inedible, except fuels and animal and vegetable oils and fats. Chemical elements and compounds, although included in the trade statistics, are omitted here as they represent an even smaller proportion of total exports than either manufactured goods or miscellaneous manufactured goods.

assumption. The products exported by Ethiopia under the commodity groupings "Manufactured Commodities" and "Miscellaneous Manufactured Commodities" accounted for only 0.1% on average of total earnings and, given such a small proportion, one cannot compare meaningfully the degree of instability experienced either by manufactured commodities as a group or by individual manufactured commodities with the degree of instability experienced by primary product exports. One is unable to judge, therefore, whether the second assumption is relevant to the Ethiopian situation, but one can conclude safely that the fluctuations in total export earnings resulted from the export of primary products.

## 2. Geographic Concentration.

The concentration of the exports of a developing country on a small number of foreign markets is often thought to be an important cause of export instability, as it means that export proceeds are dependent on economic conditions in only a few countries and that changes in receipts from one of these sources may not be counter-balanced by changes in receipts from another trading partner or from the other trading partners as a group. Consequently, fluctuations in earnings from one source may lead to fluctuations in total earnings. Similarly, for an individual product exported by a particular country changes in receipts from one trading partner may lead to changes in total proceeds.

The following parts of this section will be concerned with establishing whether or not geographic concentration has been an important element in determining the export instability experienced by Ethiopia and one may proceed by examining the index normally

employed to measure concentration in trade.

2a. The Index of Geographic Concentration.

Authors such as Coppock, Massell, MacBean and Michaely, following convention, determine the degree of geographic concentration of export proceeds using the Gini-Hirschman coefficient of concentration.<sup>1</sup> This index defines the geographic concentration of total export earnings of country j, denoted by  $C_{jx}$ , as follows;

$$C_{jx} = 100 \sqrt{\sum_{i=1}^n \left( \frac{X_{ij}}{X_j} \right)^2}$$

where  $X_{ij}$  represents the value of exports of country J to country i and where  $X_j$  represents the value of total exports of country j.

The Gini-Hirschman index may be used to measure also the degree of geographic concentration of export earnings from individual export commodities and this may be done when the terms in the above formula are redefined such that  $C_{jx}$  represents the coefficient of geographic

<sup>1</sup>Michaely points out that this coefficient was developed first, in a slightly different form, by G. Gini, Variabilita e Mutabilita, Bologna, Cuppini, 1912 and was later developed independently in the form defined in the text by A. O. Hirschman, National Power and the Structure of Foreign Trade, University of California Press, Berkeley, California, 1945, Appendix A. Michaely provides this historical note and uses this coefficient in Concentration in International Trade, pp.8-25. Use is also made of this index by Coppock, International Economic Instability, pp.97-98 and p.114, by Massell, American Economic Review, 1970, p.623 and by MacBean, Export Instability and Economic Development, pp.40-45. MacBean's data are, in fact, taken from Tables 1 and 2 of Michaely's study. Coppock also employed the proportion of exports to one region, the proportion of exports to the U.S.A. and the proportion of exports to the U.S.A. as a percentage of G.N.P. as explanatory variables. To establish a significant result using these measures requires making the same assumption as is required when employing the Gini-Hirschman coefficient, i.e. that there is a direct relationship between these indices and the degree of export instability experienced. The adequacy of this assumption is discussed later in the text by reference to the more commonly-used Gini-Hirschman coefficient.



concentration of commodity  $j$ ,  $X_{ij}$  represents the value of exports of commodity  $j$  to country  $i$  and  $X_j$  represents the total value of exports of commodity  $j$ .

With respect to total export earnings, this formula indicates that the coefficient of geographic concentration will be higher, the lower the number of countries to which country  $j$  exports and the more uneven is the distribution of export earnings among these countries. In the extreme case where all export receipts come from one trading partner, the coefficient will equal 100, its highest possible value. On the other hand, the coefficient will be lower, the greater the number of countries to which country  $j$  exports and the more evenly exports are distributed among the trading partners.<sup>1</sup> By the same reasoning, the index for an individual commodity is determined by the number of countries to which the commodity is exported and by the distribution of export receipts.

The coefficient of geographic concentration for total export earnings takes into account the coefficients for individual commodities and will be influenced, therefore, by the geographic concentration of the more important export products. If, for instance, total export earnings rely largely on receipts from one commodity, the coefficient for that commodity will have a strong bearing on the coefficient for total export earnings. The fewer the countries to which the major export item is exported and the more uneven the distribution of earnings among the trading partners, the

<sup>1</sup>If  $n$  is the largest number of countries to which country  $j$  may potentially export and if exports are divided equally among all trading partners, the lowest possible coefficient is

$$\frac{100}{\sqrt{n}}$$

See Michaely, Concentration in International Trade, p.8.

higher will be its coefficient of geographic concentration and, hence, the higher will be the coefficient of geographic concentration for total export earnings.

The Gini-Hirschman coefficient will be used in the following section to measure the degree of geographic concentration both for total Ethiopian export earnings and for earnings from individual export commodities.

## 2b. The Measurement of Geographic Concentration of Ethiopian Exports.

Coefficients of geographic concentration were calculated for Ethiopia using the data in the even-numbered tables from Table 2 to Table 32 of the Statistical Appendix. In calculating these coefficients, however, export earnings from certain sources were excluded. The first group of countries omitted from the calculations was composed of those markets which represented less than 1.0% of total export earnings from a particular commodity. The estimation of the Gini-Hirschman coefficient involves summing the squares of the proportions of total export proceeds from each source, but a trading partner which makes up less than 1.0% of total earnings will contribute little to an index constructed in this manner. The second group of countries not taken into account comprised those trading partners included in broad categories such as "Others" and "Unspecified". These categories represent the summation of export earnings from countries which would be excluded on the above criterion and it is not legitimate to include these countries as a group, since the square of the sum of the proportions which they represent of total proceeds would exceed the sum of the squares of these proportions. The coefficients are presented in

Table 19 and they allow one to make the following observations.

Firstly, the coefficients for total export earnings lie within the range of values of the coefficients for the individual commodities throughout the period. Moreover, although total export earnings are heavily dependent on proceeds from coffee, the index for total export earnings invariably lies below that for coffee, with the difference between the two coefficients being of the order of 20-30% in each year. These lower indices for total export earnings reflect the differences in the direction of trade as between coffee and the other export products. The Appendix to this chapter identifies the main trading partners for each commodity and indicates that the major market for coffee is the United States of America, while non-coffee exports tend to be concentrated on markets other than the H.S.A. The proportion of export earnings from the U.S.A. is less, therefore, in total export earnings than in earnings from the major export commodity and, thus, the influence of this market on the coefficient for total export earnings is correspondingly reduced.

Secondly, the commodities which had consistently high indices relative to the indices for total export earnings were coffee, chickpeas, castorseed, cottonseed and oilseed cakes. For all other commodities the indices of geographic concentration were neither consistently greater than nor consistently lower than those for total export earnings.

Thirdly, comparisons of the coefficients of geographic concentration in Table 19 with the instability indices given in Table 10 in Chapter Two indicate that there is no clear association between the ranking of commodities according to their coefficients

TABLE 19

THE COEFFICIENTS OF GEOGRAPHIC CONCENTRATION OF TOTAL EXPORT EARNINGS,  
AND OF EXPORT EARNINGS FROM INDIVIDUAL COMMODITIES, 1962-1970

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Total Exports	42.74	40.92	51.02	56.71	46.99	45.84	46.34	45.89	52.29
Coffee	69.75	71.08	77.02	79.79	73.18	73.56	71.19	69.91	73.32
Pulses									
Lentils	55.93	50.65	45.93	43.60	24.72	25.80	60.10	46.17	77.69
Horsebeans	34.64	36.43	38.68	42.23	32.17	38.94	36.93	54.13	50.19
Haricotbeans	42.35	42.51	43.58	38.72	49.09	59.76	55.63	57.69	69.39
Chickpeas	66.74	82.07	88.19	61.58	71.17	81.68	91.03	89.59	78.00
Hides and Skins									
Hides	46.09	48.60	45.42	52.14	58.69	67.75	52.96	52.86	64.70
Goatskins	41.42	38.59	42.69	41.60	44.07	48.74	57.44	52.96	51.46
Sheepskins	61.44	49.42	50.02	50.67	48.30	46.83	46.20	48.39	40.54
Oilseeds and Oilseed Cakes									
Groundnuts	47.43	54.48	43.99	65.31	70.71	74.44	50.79	62.99	86.32
Linseed	44.75	64.43	71.21	60.20	41.06	45.29	52.34	83.03	100.00
Cottonseed	98.60	60.67	59.26	86.42	86.01	61.63	100.00	74.31	98.11

TABLE 19 - Continued

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Oilseeds and -- Continued									
Oilseed Cakes									
Castorseed	58.99	74.62	74.58	64.46	61.09	71.48	62.99	52.22	71.73
Sesame Seed	37.49	67.46	46.63	44.88	34.27	24.88	35.46	35.21	43.73
Niger Seed	27.82	66.91	28.42	37.75	39.66	39.84	46.33	43.81	38.45
Oilseed Cakes	93.95	96.06	94.33	81.23	55.43	67.20	55.88	58.01	68.92

These indices were calculated using the data in the even-numbered tables from Tables 2 to 30 of the Statistical Appendix.

of geographic concentration and the ranking of commodities according to their instability indices. The indices of geographic concentration cannot be used to differentiate among commodities, therefore, in terms of their degree of export instability.

Intuitively one would anticipate higher coefficients to be associated with higher degrees of export instability and, consequently, as the last observation indicates that this is not the case, one is tempted to conclude that geographic concentration was not a cause of export instability. Before accepting either this intuitive interpretation of the significance of these coefficients or the conclusion derived therefrom, however, it is useful to consider the manner in which Coppock, Massell and MacBean attempted to establish an association between geographic concentration, as measured by the Gini-Hirschman index, and export fluctuations to see whether their work justifies or repudiates such actions.

2c. The Relationship Between Geographic Concentration and Export Instability.

Coppock, Massell and MacBean were concerned with examining the nature of the relationship between geographic concentration and export instability for a sample of countries and each of these authors conducted an analysis using multiple regression equations. For each of the countries in the sample the Gini-Hirschman coefficient was calculated for total export earnings in one year of the period under review and these coefficients were then incorporated into the multiple regression equation as data on the explanatory

variable, geographic concentration.<sup>1</sup> A necessary condition to obtain a significant result using this method is that there must be similarity between the ranking of countries according to their concentration coefficients and the ranking of countries according to instability indices. Whether this requirement of a direct relationship between these two series of indices provides a satisfactory basis for investigating a possible connection between geographic concentration and export fluctuations may be ascertained by considering the data presented in Examples 1 and 2.

For simplicity, it is assumed that Country X in Example 1 and Country Y in Example 2 are trading with Countries A, B and C over a five year period. The time series of total export earnings are the same in Examples 1 and 2 and, thus, the degree of export instability experienced by Country X is identical to that experienced by Country Y. The index used in Chapter Two to measure export instability was based on the deviations from the trend of export earnings and, as may be seen from Examples 1 and 2 the coincidence of total export earnings ensures that such deviations are the same for Countries X and Y. In addition, although there are differences in the relative importance of the trading partners in each year, the

<sup>1</sup>Coppock was concerned with the question of instability during the years 1946-58 and he calculated coefficients for the year 1957. See Coppock, International Economic Instability, p.98 and Appendix Table A-2. In his study covering the period 1950-66 Massell calculated concentration coefficients for the year 1960. See Massell, American Economic Review, 1970, p.624. MacBean took the data from Michaely's study for the year 1954. See MacBean, Export Instability and Economic Development, p.40.

Coppock also estimated correlation coefficients between the degrees of export instability experienced by different countries and indices of geographic concentration. See Coppock, International Economic Instability, pp.114-115. The criticisms made here concerning the necessary condition to obtain a significant result using multiple regression analysis apply also to the use of correlation coefficients.

Example 1: Country XExport Earnings from Each Trading Partner (\$mns.)

	$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
A	60	48	88	75	60
B	15	8	11	0	10
C	25	24	22	0	10
Total	100	80	121	75	80

Export Earnings from Each Trading Partner  
as Percentages of Total Export Earnings

	$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
A	60	60	72.7	100	75
B	15	10	9.1	0	12.5
C	25	30	18.2	0	12.5
Total	100	100	100.0	100	100.0

Coefficients of Geographic Concentration

$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
66.93	67.82	75.49	100.00	77.06

Deviations from the Trend of Total Export Earnings and of  
Export Earnings from Each Trading Partner (\$mns.)

	$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
A	-0.8	-15.5	21.8	6.1	-11.6
B	2.6	-2.6	2.2	-7.0	4.8
C	-2.0	2.4	5.8	-10.8	4.6
Total	-0.2	-15.7	29.8	-11.7	-2.2

Partial Correlation Coefficient between Deviations from  
the Trend of Export Earnings from Trading Partner A  
and Deviations from the Trend of Total Earnings

r	$r^2$	t-value	Significance Level %
0.8998	0.8096	3.5719	5.0



Example 2: Country YExport Earnings from Each Trading Partner (\$mns.)

	$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
A	15	24	88	75	10
B	60	8	11	0	10
C	25	48	22	0	60
Total	100	80	121	75	80

Export Earnings from Each Trading Partner  
as Percentages of Total Export Earnings

	$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
A	15	30	72.7	100	12.5
B	60	10	9.1	0	12.5
C	25	60	18.2	0	75.0
Total	100	100	100.0	100	100.0

Coefficients of Geographic Concentration

$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
66.93	67.82	75.49	100.0	77.06

Deviations from the Trend of Total Export Earnings and of  
Export Earnings from Each Trading Partner (\$mns.)

	$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
A	-19.2	-14.3	45.6	28.5	-40.6
B	20.6	-20.6	-6.8	-7.0	14.8
C	-1.6	19.2	-9.0	-33.2	24.6
Total	-0.2	-15.7	29.8	-11.7	-2.2

Partial Correlation Coefficient between Deviations from  
the Trend of Export Earnings from Trading Partner A  
and Deviations from the Trend of Total Earnings

r	$r^2$	t-value	Significance Level %
0.8612	0.7416	2.9343	i

i = insignificant at the 5% level

distribution of export proceeds among Countries A, B and C is such that the series of coefficients of geographic concentration are the same in each case. The differences in the relative importance of the trading partners do mean, however, that the deviations from the trend of export earnings from Countries A, B and C differ as between Example 1 and Example 2.

From this outline of the trading relations of Countries X and Y with Countries A, B and C one may now proceed to an evaluation of the basic assumption involved in the use of multiple regression analysis and two questions are of interest. Firstly, does a unique relationship exist between a given index of concentration and the degree of export instability and, secondly, does a higher concentration coefficient indicate a higher degree of export instability?

One may answer the first of these questions by relating the coefficient of geographic concentration in the first year of the period ( $t_1$ ) to the degree of export instability. For both Country X and Country Y the index in this year is 66.93 and, when considered with the fact that these countries experience the same degree of export fluctuations, this suggests that the nature of the relationship between geographic concentration and export instability is the same in both instances. This suggestion takes no account, however, of the differences in the relative importance of the trading partners in Examples 1 and 2 and the subsequent differences in the deviations from the trend of export earnings from each source, but these differences are important when one considers closely what is meant by geographic concentration.

MacBean discussed geographic concentration along the lines of

"placing too many eggs in one basket" with the attendant risk that fluctuations in earnings from one source will cause fluctuations in total earnings. As far as Examples 1 and 2 are concerned, the principal trading partner, when considered either in terms of the absolute or the percentage value of total trade over the period, is Country A and, thus, one may argue that changes in earnings from Country A give rise to export instability. More specifically, when one defines instability on the basis of deviations from the trend, one may contend that deviations from the trend of earnings from Country A produce similar deviations from the trend of total earnings. It seems likely, however, that the relationship between these variables will differ for Country X and Country Y, given the differences in the series of deviations from the trend of earnings from trading partner A in Examples 1 and 2 and this is confirmed by the relevant partial correlation coefficients. These coefficients show that there was a statistically significant result for the relationship between these variables in Example 1 but not in Example 2. The failure of the Gini-Hirschman index to detect differences in the relative importance of the trading partners means, therefore, that this coefficient does not differentiate between a situation in which there is a significant relationship between deviations from the trend of earnings from one market and deviations from the trend of total earnings and a situation in which there is no such relationship. Consequently, one may conclude that a given coefficient does not indicate a unique relationship between geographic concentration and export instability.

This problem with the use of the Gini-Hirschman index is akin to that referred to by P. P. Streeten in his "fallacy of misplaced

aggregation".<sup>1</sup> Streeten was concerned with the adoption of models of economic growth, based on the concept of the capital-output ratio, as the determinant of the structure of development plans in the developing countries. These models were designed originally as a theoretical tool for dealing with the problems of growth and stability in the industrial countries and Streeten argues that their use in the developing countries is highly spurious, since aggregates such as investment and output fail to describe the utterly different circumstances of the developing nations. Streeten points out, however, that "not all forms of aggregation are unjustifiable, but that the criterion of appropriate aggregation must be whether the differences between the items that are grouped together is relevant to the investigation."<sup>2</sup> This statement is appropriate in the context of Gini-Hirschman coefficients. Clearly, these coefficients mask differences in their composition which hinder examination of the underlying relationships and there is, therefore, a direct analogy with the "fallacy of misplaced aggregation".

The second question may be answered by considering the choice of year for which concentration coefficients are to be used in Example 1. Gini-Hirschman coefficients are calculated for each year from the data on the distribution of exports among trading partners and, as is clear from Example 1, they may change from year to year. On the other hand, instability is measured in terms of one index for a period of years and if, as above, one decides arbitrarily to employ

<sup>1</sup> P. P. Streeten, Economic Models and their Usefulness for Planning in South Asia, in G. Myrdal, Asian Drama, Penguin Books, 1968, Vol. 111, Appendix 3, pp.1941-2004.

<sup>2</sup> Ibid., p.1952.

the concentration coefficient in the first year, ( $t_1$ ), the assumption for Country X is that the degree of export instability experienced is associated with a coefficient of 66.93. Alternatively, if one chooses the coefficient in the fourth year, ( $t_4$ ), it is assumed that the degree of export instability is associated with a coefficient of 100.0. According to the assumption of multiple regression analysis, however, one would anticipate a coefficient of 100.0 to be associated with a higher degree of export instability than a coefficient of 66.93, but clearly, whichever of these indices one uses, the degree of export instability in this example remains constant. Higher coefficients, therefore, do not necessarily indicate higher degrees of export instability.

These two points show that a given value of the Gini-Hirschman coefficient may be associated with a significant relationship between geographic concentration and export fluctuations in one instance but not in another, due to differences in the relative importance of the trading partners and that higher coefficients do not necessarily indicate higher degrees of instability. Analyses, such as those of Massell and MacBean, which were founded on the requirement of a direct relationship between Gini-Hirschman coefficients and instability indices do not provide, therefore, a satisfactory approach to an investigation of the effects of geographic concentration on export fluctuations. Moreover, it follows that their approach may obscure significant relationships between these variables for individual countries in a sample of countries included in a multiple regression analysis.

The criticisms above refer directly to analyses employing data for a sample of exporting countries, but they apply equally well to

investigations of the association between geographic concentration and export fluctuations for individual commodities exported by one country. The temptation in the previous section to conclude that geographic concentration is not an important element in explaining the export fluctuations of individual commodities was based only on the observation that the evidence for Ethiopia is at odds with the intuitive judgement that higher coefficients might be expected to indicate higher fluctuations. The shortcomings of this judgement are now apparent, however, and the appeal of any such conclusion is correspondingly diminished. Consequently, the following section will approach the problem of determining the impact of geographic concentration on earnings from individual countries by means of an analysis based on deviations from the trend, rather than on Gini-Hirschman coefficients.

2d. The Relationship Between Geographic Concentration and Export Instability for Products Exported by Ethiopia.

In the previous section it was argued that one may interpret the problem of geographic concentration as being essentially one of determining whether deviations from the trend of export proceeds from one source lead to similar deviations from the trend of total proceeds. This interpretation is used here to establish whether or not relationships exist between geographic concentration and export instability for the individual products exported by Ethiopia and the partial correlation coefficients which proved to be significant are presented on the following page.<sup>1</sup>

<sup>1</sup>Data on deviations from the trend of export earnings from each trading partner and deviations from the trend of total export earnings are presented for individual products in the odd-numbered tables from Table 3 to Table 31 of the Statistical Appendix.

Commodity	F	F <sup>2</sup>	t-value	Significance Level %	Trading Partner
Coffee	0.9806	0.9615	13.2229	0.1	U.S.A.
Hides	0.9865	0.9731	15.9144	0.1	Italy
Lentils	0.7211	0.5199	2.7536	5.0	Ceylon
Chickpeas	0.9955	0.9910	27.7824	0.1	Ceylon
Linseed	0.8369	0.7004	5.0455	0.5	Yugoslavia
Sesame Seed	0.9318	0.8682	6.7912	0.1	Japan
Oilseed Cakes	0.9768	0.9541	12.0649	0.1	Netherlands

These results indicate that there was a statistically significant relationship between geographic concentration and export fluctuations for several commodities and, as a consequence of the inclusion of coffee in this group, these products represent approximately 70% on average of total export earnings. Moreover, these results lend support to the criticisms made above of the use of Gini-Hirschman coefficients. One can see the inadequacy of relating Gini-Hirschman coefficients in any one year to instability by comparing the evidence for hides and goatskins since, despite the similarity in Table 19 between the indices for these products in 1962, geographic concentration was related to export fluctuations for hides but not for groundnuts. Furthermore, the assumption of a direct relationship between Gini-Hirschman coefficients and export instability can be shown to be invalid. Although geographic concentration, measured using the Gini-Hirschman index, tended to be much lower for sesame seed than for cottonseed over the period, export earnings from one trading partner strongly influenced the export fluctuations experienced by the former product but not those experienced by the latter commodity.

It appears, therefore, that geographic concentration has been an important factor in causing export instability for several products and one may turn now to a consideration of the effects of the remaining form of concentration, the dependence of export earnings on a small number of commodities.

### 3. Commodity Concentration.

The argument that commodity concentration tends to produce instability in total export proceeds is premised on the assumption



that fluctuations in export earnings from a narrow range of commodities will be such that it is unlikely that fluctuations in export earnings from different commodities will offset one another.

Conventionally, commodity concentration, like geographic concentration, is measured using the Gini-Hirschman coefficient, but the shortcomings of this index discussed above apply also to its use in measuring this form of concentration.<sup>1</sup> The impact of commodity concentration on total export earnings will be examined, therefore, using partial correlation coefficients between deviations from the trends of export earnings from different commodities and deviations from the trend of total export earnings. Evidence is already available in Chapter Two, however, which permits one to arrive at certain preliminary conclusions concerning the effects of commodity concentration in the Ethiopian context. This evidence consists of data on the percentage distribution of export proceeds among the various export products given in Table 9a and of instability indices of export earnings from each commodity given in Table 10.

The percentage distribution of export proceeds clearly shows the dominance of export earnings from coffee in total export earnings and the discussion of the instability indices in Chapter Two lead to the conclusion that, although fluctuations in proceeds

<sup>1</sup>Michaely was concerned with the relationship between commodity concentration and price fluctuations rather than with the relationship between this form of concentration and fluctuations in export earnings. In calculating a partial correlation coefficient between indices of price fluctuations and Gini-Hirschman coefficients of commodity concentration he is assuming implicitly, however, a direct relationship between these variables. This assumption is the same in character as that made by Coppock, Massell and MacBean and his use of Gini-Hirschman coefficients is open, therefore, to the same criticisms. Michaely's analysis of the effects of commodity concentration is given in Concentration in International Trade, Chapter V and the results were mentioned in Chapter 1, Section 7.

from all other commodities tended to mitigate the effect on total export earnings of fluctuations in proceeds from coffee, changes in total export earnings were influenced strongly by changes in coffee earnings. A more precise indication as to the extent to which changes in total export earnings were associated with changes in coffee earnings may be obtained from the following partial correlation coefficient and the corresponding coefficient of determination.<sup>1</sup>

r	r <sup>2</sup>	t-value	Significance Level %
0.9599	0.9214	9.0601	0.1

This partial correlation coefficient of 0.9599 is statistically significant at the 0.1% level and the coefficient of determination of 0.9214 indicates that 92% of the deviations from the trend of total export earnings were associated with deviations from the trend of coffee earnings. Commodity concentration has had a significant bearing, therefore, on fluctuations in total earnings.

Juxtaposition of this conclusion concerning the influence of changes in coffee earnings on changes in total earnings and the evidence from the previous section about the dominance of the U.S. market in coffee exports suggests that there may be some interaction between geographic concentration and commodity concentration. Specifically, one might expect to find a relationship between changes in coffee earnings from the U.S. market and changes in total export earnings. In addition, the observation that non-coffee

<sup>1</sup>The deviations from the trend of total export earnings for the period 1962-1970 are as follows:

1962	1963	1964	1965	1966	1967	1968	1969	1970
-23333	-9618	20738	35007	11443	-17309	-18863	-6075	-1576

These deviations were calculated using the data on total export earnings in Table 9, Chapter Two.

exports tended to be concentrated on markets other than the U.S.A. suggests the further possibility that fluctuations in total export earnings may be associated with fluctuations in coffee plus non-coffee earnings from the U.S.A.<sup>1</sup> The following correlation coefficients may be used to determine how far such relationships do exist.

	r	r <sup>2</sup>	t-value	Significance Level %
a	0.9530	0.9082	8.3239	0.1
b	0.9420	0.8872	7.4238	0.1

"a" denotes the relationship between deviations from the trend of coffee exports to the U.S.A. and deviations from the trend of total export earnings

and "b" denotes the relationship between deviations from the trend of coffee plus non-coffee exports to the U.S.A. and deviations from the trend of total export earnings.

For both relationships the partial correlation coefficients are statistically significant at the 0.1% level and, consequently, these results verify the expectations above. The dependence on earnings from coffee and the concentration of coffee exports on the U.S. market mean, therefore, that changes in total Ethiopian export earnings are characterised by the effects of commodity and geographic concentration.

<sup>1</sup>The deviations from the trend of earnings from coffee plus non-coffee exports to the U.S.A. for the period 1962-1970 are as follows:

1962	1963	1964	1965	1966	1967	1968	1969	1970
-16916	-17245	16886	45553	2973	-14569	-16005	-9082	8441

These deviations were calculated from data in Table 9, Chapter Two and in Table 32 of the Statistical Appendix.

#### 4. Conclusions.

The purposes of this chapter were to examine the implications for export instability of concentration on the export of primary products, of geographic concentration and of commodity concentration. The analysis of these factors allows one to arrive at the following conclusions.

Firstly, given that only 0.1% on average of total Ethiopian export earnings derive from exports of non-primary products, Ethiopian exports are characterised by a very high primary-product ratio.

Secondly, the Gini-Hirschman coefficient was found to be an inadequate index for examining a possible association between geographic concentration and export instability and when this was replaced by a method involving the measurement of relationships between deviations from the trends of earnings from individual trading partners and deviations from the trend of total earnings, geographic concentration was found to be an important source of export fluctuations for several commodities. These commodities were coffee, hides, lentils, chickpeas, linseed, sesame seed and oilseed cakes.

Thirdly, although changes in earnings from non-coffee exports tended to mitigate the effect on total earnings of changes in proceeds from coffee, 92% of the deviations from the trend of total export earnings were associated with deviations from the trend of coffee earnings. There was, therefore, evidence of a causal relationship between geographic concentration and export fluctuations.

CHAPTER FOUR: APPENDIX

Data on the percentage distribution of export earnings among Ethiopia's trading partners for coffee, the commodities in the hides and skins group, the commodities in the pulse group and the commodities in the oilseeds and oilseed cakes group are presented in the even-numbered tables from Table 2 to Table 30 of the Statistical Appendix. The purpose here is to summarise these data in order to provide an indication of the major trading partners for each commodity.

Coffee (See Table 2 of the Statistical Appendix)

The regions to which coffee was exported during the period 1962-1970 were North America, Western Europe, Eastern Europe, the Middle East, Australia, Africa and Asia. The geographic concentration of Ethiopian coffee exports was characterised, however, by heavy dependence on those coffee importing countries which are members of the International Coffee Organisation. In each year of the nine year period over 90% of total coffee exports went to member countries of the I.C.O. Moreover, the distribution of Ethiopian export proceeds among these countries was marked by a heavy dependence on the United States market. The percentage share of total coffee proceeds arising from exports to the U.S.A. varied between the lowest level of 68.9% in 1969 and the highest level of 79.6% in 1965.

PulsesLentils (See Table 4 of the Statistical Appendix)

The major market for this product was Ceylon, although the percentage share of proceeds originating from this source varied

considerably over the period. The other important markets for this product were Sudan, the United Kingdom and the United Arab Republic and the percentage share of these three markets was inversely related to the Ceylonese percentage share.

Horsebeans (See Table 6 of the Statistical Appendix)

The principal markets for this product were Japan, Saudi Arabia and South Yemen, but the distribution of total export proceeds among these three countries varied from year to year. Moreover, in some years the position was complicated by the fact that the most important source of export earnings lay outwith the three markets mentioned. In 1962, 1963 and 1968 the highest percentage shares of total export proceeds were those of Israel, West Germany and Jordan respectively.

Haricotbeans (See Table 8 of the Statistical Appendix)

Although the number of countries to which haricotbeans were exported exceeded the number of countries to which any of the other commodities in the pulse group were exported, the distribution of export proceeds was such that one market, West Germany, was the source of the highest percentage share of proceeds in each year. The other countries of importance in Western Europe were the remaining countries of the Common Market and the United Kingdom. In each year over 70% of total export earnings came from Western Europe.

Chickpeas (See Table 10 of the Statistical Appendix)

Of the four commodities in the pulse group, the commodity with the greatest dependence on a single market, that of Ceylon, was chickpeas. Occasionally, other markets did represent important sources of export income, e.g. South Yemen in 1962 and 1963, Kenya in

1965 and Singapore in 1970, but earnings from these sources did not account for more than 30% of earnings in any year.

### Hides and Skins

#### Hides (See Table 12 of the Statistical Appendix)

The major markets for this product in terms of the percentage share of total export proceeds were Italy, the United Kingdom and Greece. These three markets accounted for over 65% of total export proceeds in each year of the nine year period. Occasionally markets in the Middle East, notably Syria, Iran and the United Arab Republic did represent important sources of income. The high percentage share of the Italian market, however, was the dominant characteristic of the distribution of export proceeds.

#### Goatskins (See Table 14 of the Statistical Appendix)

The percentage distribution of export proceeds from goatskins was such that one cannot identify a market which consistently provided the major source of export receipts. In different years the U.S.A., the U.S.S.R. and Italy had the largest percentage shares of total export proceeds and earnings from these three sources accounted for at least 40% of earnings in each year.

#### Sheepskins (See Table 16 of the Statistical Appendix)

The percentage distribution of export proceeds from this commodity was marked by almost total dependence on the markets of Western Europe and the U.S.A. although the share of the latter market was overshadowed by the share of the former. Of the Western European countries the U.K., France, West Germany and Italy were the more important markets with the percentage share of the U.K.

exceeding the percentage share of the three Common Market countries and of the U.S.A. in each year.

### Oilseeds and Oilseed Cakes

#### Groundnuts (See Table 18 of the Statistical Appendix)

The countries of Western Europe provided the main markets for exports of groundnuts. Italy, the U.K. and, to a lesser extent, the Netherlands dominated trade in this product, although Spain was an important market in 1964 and 1968. There was a clear inverse relationship between the percentage market shares of Italy and the U.K. While the percentage share of the former market showed a tendency to decline in importance over the period, the percentage share of the latter market expanded. In the first four years of the period, therefore, Italy had the largest percentage market share but during the remainder of the period, except in 1968, the U.K. was the major source of export income. In 1968 the major market was Spain.

#### Linseed (See Table 20 of the Statistical Appendix)

During the first four years of the period Yugoslavia was the primary source of export income for this commodity, with Greece being the only other market of note. In the last five years, however, the markets of Japan, China (M), Italy and Saudi Arabia, as well as those of Yugoslavia and Greece, were important sources of export income and once again one finds a situation in which the major market share changed among the trading partners.

#### Cottonseed (See Table 22 of the Statistical Appendix)

As with the previous two commodities in this group one finds that no market provided the largest percentage share of export



proceeds in each year. Greece, the U.K., Lebanon and Japan accounted for over 90% of total export proceeds in each year and the distribution of export proceeds among these countries changed from year to year.

Castorseed (See Table 24 of the Statistical Appendix)

The percentage distribution of export proceeds from castorseed was characterised by the dominance of the Italian market share in each year. Other markets such as those of France, the U.K., Yugoslavia and the French Territories of Afar and Issas were important in certain years, but in no year did the share of these countries in total earnings exceed 40%.

Sesame Seed (See Table 26 of the Statistical Appendix)

Exports of this product were characterised by a dependence on a greater number of trading partners than any other commodity in this group. Nevertheless, one country, Japan, represented the major source of export receipts in each year of the period. Of the other trading partners South Yemen was the most important market.

Niger Seeds (See Table 28 of the Statistical Appendix)

The distribution of export proceeds from niger seeds was marked by the dominance of four markets, West Germany, Italy, the Netherlands and Japan. Annual earnings from these sources comprised at least 60% of total earnings, but no one country had a major share in proceeds in each year of the period.

Oilseed Cakes (See Table 30 of the Statistical Appendix)

Two countries of the Common Market, West Germany and the Netherlands, dominated the market for oilseed cakes, with the

percentage market share of the former country increasing while that of the latter declined from its very high level of the first few years. The West German market share exceeded the market share of the Netherlands only in 1970.

From this outline of the major trading partners one can make two main observations. Firstly, although coffee exports are concentrated in the U.S. market, non-coffee exports are directed to countries other than the U.S.A. Secondly, the number of countries to which each commodity is exported and the relative importance of the trading partners differs among the various products.

CHAPTER FIVE

Projections of foreign trade and analyses of past trends in world trade have assumed customarily that changes in the export earnings of the developing countries are determined by world demand for primary products.<sup>1</sup> The purpose of this chapter is to establish whether this assumption of a large measure of demand determinism in world trade is valid for the products exported by Ethiopia. The chapter begins by extending the partial equilibrium analysis of Chapter Three to discuss the impact of changes in world demand conditions on world markets and on the exports of an individual trading country. The causes of demand changes are then discussed in the second section to see whether or not they account for the changes in average market prices and in total quantities imported from all sources in certain developed country markets. The third section examines the nature of the association between events in these markets and the Ethiopian export experience and, finally, the fourth section discusses the questions of competitiveness and impediments to trade.

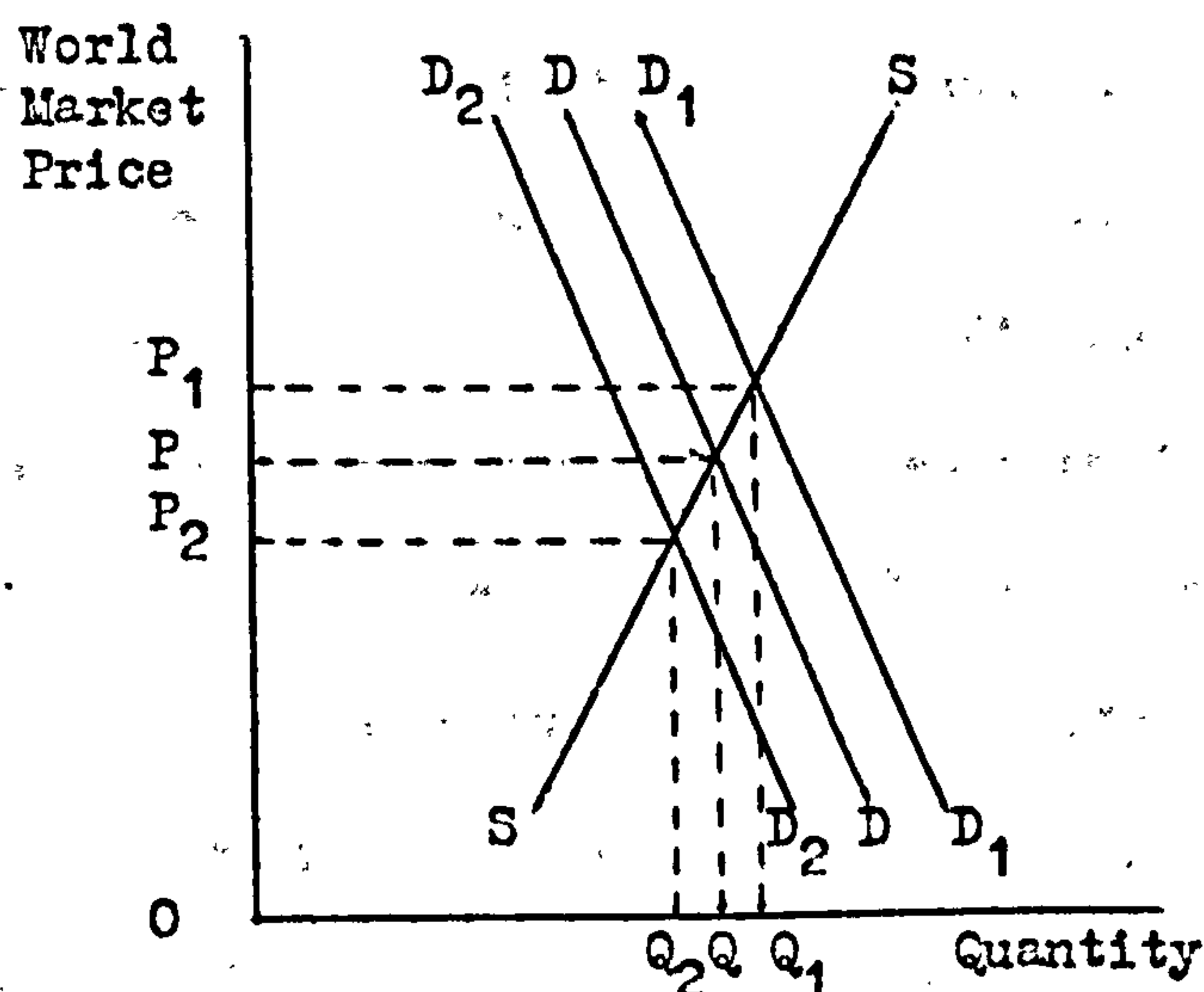
1. World Market Conditions and Changes in World Demand Conditions.

Partial equilibrium analysis was employed in Chapter Two to discuss the effects on world market prices and on the volume of trade of changes in world supply conditions, given unchanged world demand conditions. This type of analysis may be used here to analyse the implications for world market conditions of changes in demand conditions, where demand and not supply factors bring

<sup>1</sup>This assumption of the literature is discussed in GATT, International Trade, 1965, Geneva, 1966, p.23.

about changes in world trade. The following diagram, Diagram 4, illustrates the effects on prices and quantities traded of shifts in the world demand curve for a particular product, other things being equal.

Diagram 4



In Diagram 4 the world market demand curve and the world market supply curve are denoted by  $DD$  and  $SS$  respectively and equilibrium obtains at price  $OP$  and quantity  $OQ$ . A rightward shift of the demand curve to  $D_1D_1$  disturbs this equilibrium by increasing the market price from  $OP$  to  $OP_1$  and by increasing the quantity traded from  $OQ$  to  $OQ_1$ . On the other hand, a leftward shift of the demand curve from  $DD$  to  $D_2D_2$  reduces the market price from  $OP$  to  $OP_2$  and the volume of trade from  $OQ$  to  $OQ_2$ . Thus, the increase in export earnings as a result of the shift to the right of the demand curve is brought about by positive changes in both price and quantity and the decrease in export earnings, which results from the leftward shift of the demand

curve, is caused by negative changes in these variables. One finds, therefore, that the dominant role of demand conditions in determining changes in trade is reflected in the parallel movement of market prices and quantities traded.

This conclusion and the empirical observation that price and quantity changes contributed almost equally to the changes, whether positive or negative, in export proceeds from the leading primary products suggested to Nurkse that fluctuations in the export earnings of the developing countries originate in the developed countries.<sup>1</sup> As was the case with supply conditions in Chapter Two, the directions of price and quantity changes seem to have provided Nurkse with a key to the cause of export fluctuations. Once again, however, one must consider whether it is justifiable to accept as valid for the circumstances of one country trading in the world market a conclusion that holds for world market conditions. Consideration of the association between events in the world market and events in one trading partner brings one back to the question of a country's "share" in world trade and, if one assumes that a country's share of world trade in a particular product is so small that the foreign demand curve for its exports is perfectly elastic at the world market price, one may investigate whether parallel movements in prices received and quantities exported indicate invariably the dominance of foreign demand conditions in determining changes in that country's export earnings.

The world market demand curve and the world market supply

<sup>1</sup>R. Nurkse, Kyklos, 1958, p.141. The evidence which led to Nurkse's conclusion is that quoted in Chapter One from the United Nations publication, Instability in Export Markets of Under-Developed Countries.

curve are given by DD and SS respectively in Diagram 5 and the foreign demand curve for and the domestic supply curve of the individual country's exports are given by PD and  $S_1S_1$  respectively in Diagram 5a. Ceteris paribus, a rightward shift of the demand curve from DD to  $D_1D_1$  in Diagram 5 raises both the world market price and the quantity traded. The increase in the market price from OP to  $OP_1$  shifts the foreign demand curve for the individual country's exports upwards from PD to  $P_1D_1$  in Diagram 5a. Consequently, this country exports a greater quantity at a higher price. On the other hand, a shift to the left of the world market demand curve to  $D_2D_2$ , ceteris paribus, by lowering the world market price to  $OP_2$ , shifts the demand curve facing the individual country downwards from PD to  $P_2D_2$  and, thereby, reduces the volume and price of the country's exports. This analysis supports, therefore, the conclusion that price and quantity changes in the same direction denote the dominance of changes in foreign demand conditions. Simultaneous positive or simultaneous negative changes in prices and quantities for this country can be shown to result, however, not only from changes in world demand conditions but also from changes in world supply conditions. Although this was done in Chapter Two, it is useful at this stage to extend the analysis of that chapter by introducing a second trading nation.

Unlike the first country, the second trading nation is assumed to have a sufficiently large share of world trade in this product to influence the volume of world trade and the market price. The demand curve for this "major" country's exports,  $D_1D_1$  in Diagram 6, has a price elasticity which approaches the price elasticity of the world market demand curve, DD in Diagram 6a. The foreign demand curve for

Diagram 5

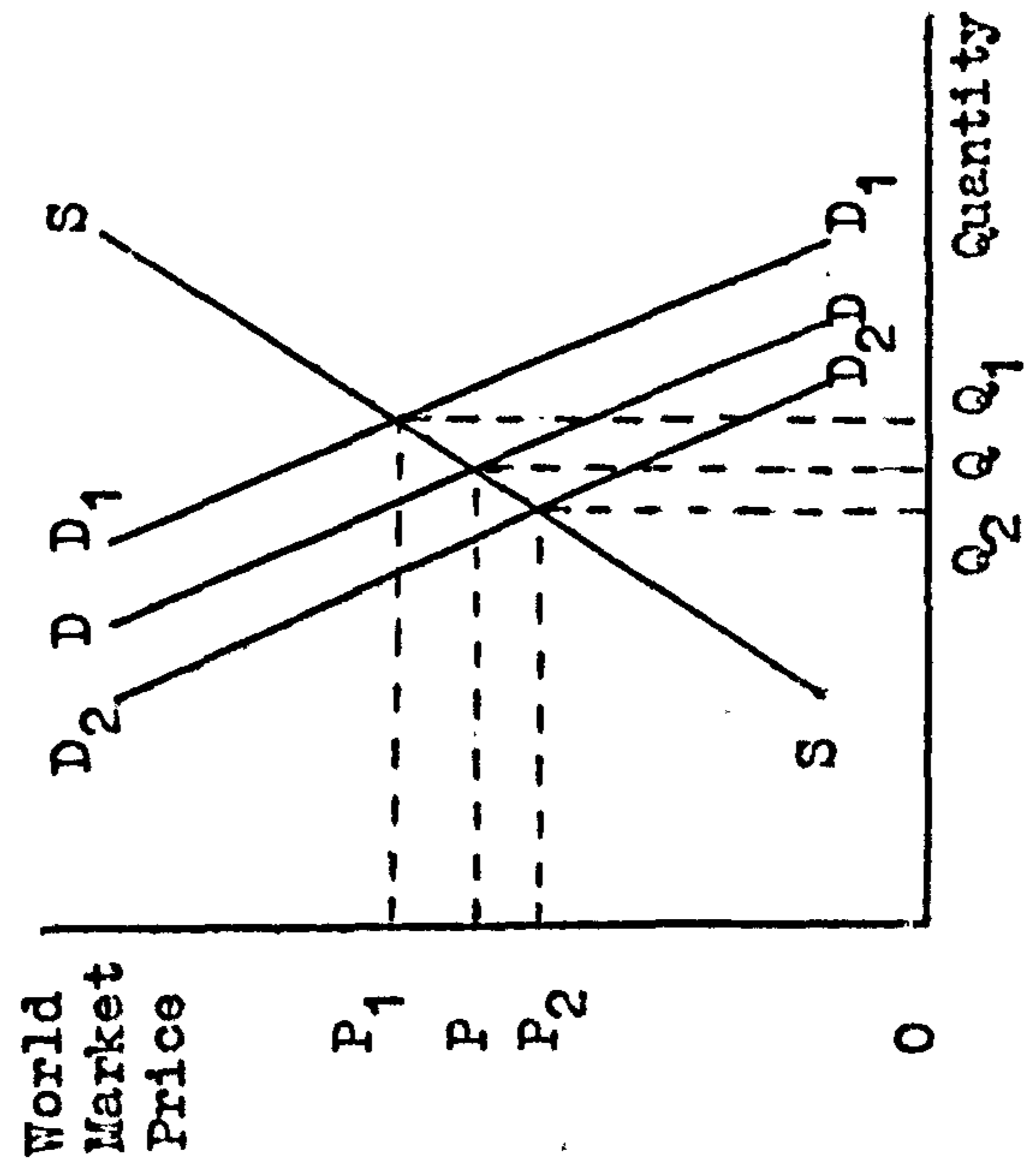


Diagram 5a

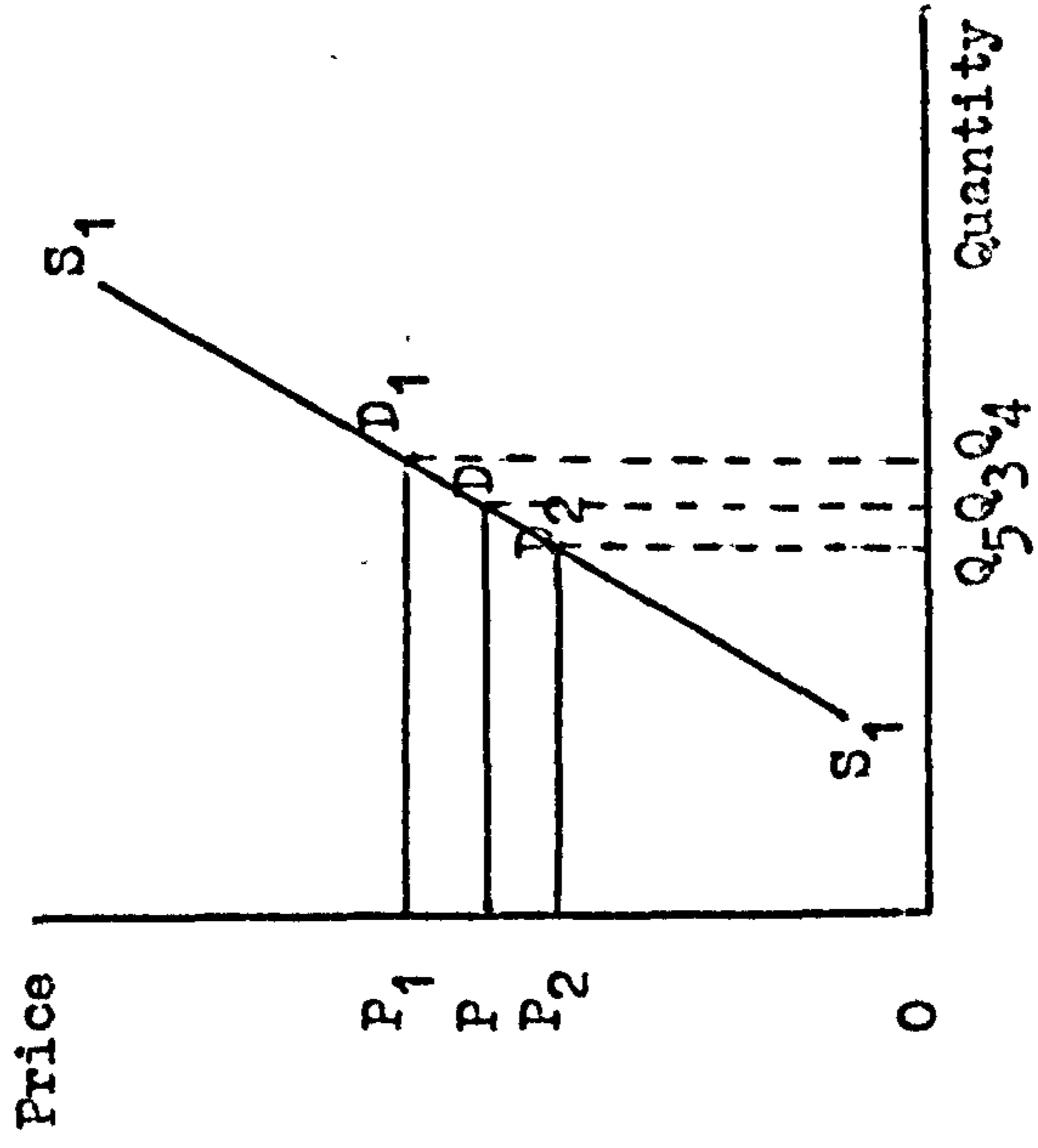


Diagram 6

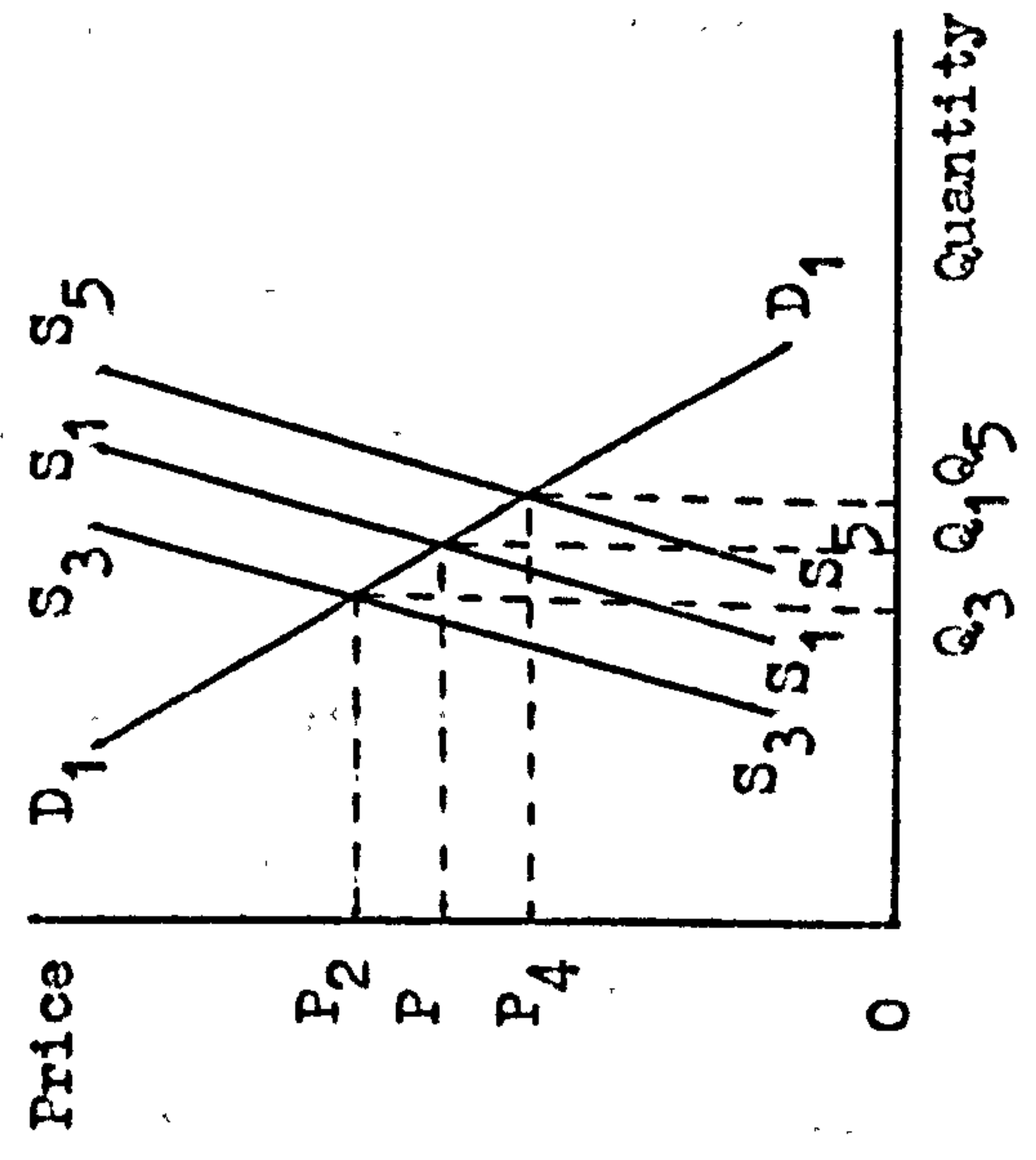


Diagram 6a

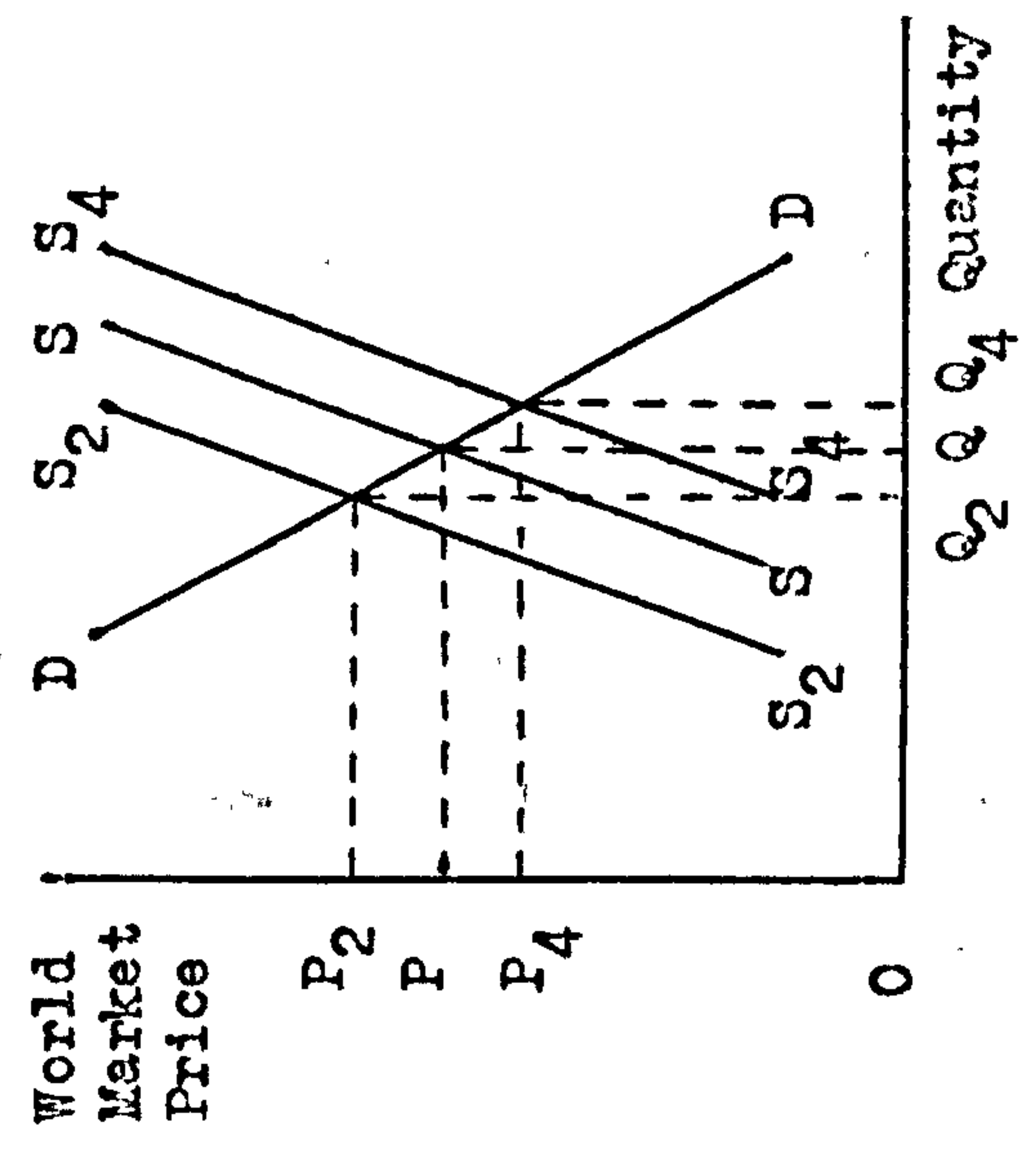
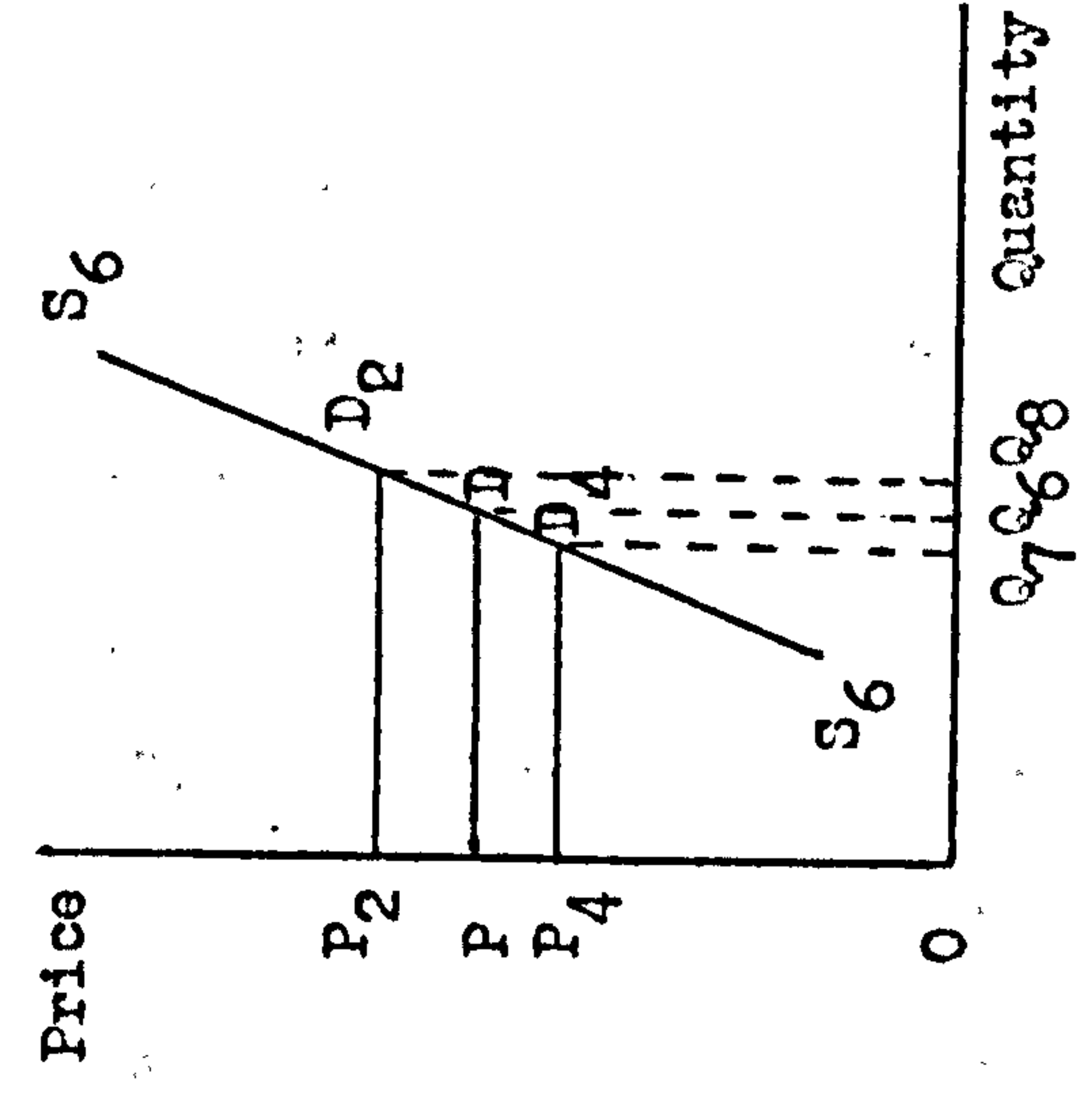


Diagram 6b





the exports of the "minor" country, PD in Diagram 6b, is perfectly elastic at the prevailing world market price OP.

Ceteris paribus, a leftward shift of the export supply curve in Diagram 6 from  $S_1S_1$  to  $S_3S_3$  means that the "major" country exports less at a higher price than previously and, as a consequence of this country's share in world trade, the aggregate supply curve in Diagram 6a shifts from SS to  $S_2S_2$ . World market equilibrium is restored at an increased price of  $OP_2$  and at a lower quantity traded of  $OQ_2$ . This supply-induced disturbance to the world market equilibrium position is transmitted to the "minor" trading partner, however, in the form of an upward shift in the foreign demand curve for her exports from PD to  $P_2D_2$ . Thus, the "minor" country experiences positive changes in both the quantities traded and the export price, whereas these variables are inversely related for the "major" trading nation and for the world market. Similarly, by moving the world market supply curve from SS to  $S_4S_4$ , a rightward shift in the "major" exporter's supply curve from  $S_1S_1$  to  $S_5S_5$  would produce inverse relationships between price and quantity changes in both the "major" market and the world market while the resulting downward shift in the demand curve for the "minor" country's exports from PD to  $P_4D_4$  gives rise to simultaneous negative changes in prices and quantities. Parallel movements in prices and quantities for the "minor" trading nation are caused here not by changes in world demand conditions but by changes in world supply conditions and Nurkse's key to the source of export fluctuations cannot be used, therefore, to distinguish between demand-induced and supply-induced world market changes in their effects on the "minor" country. Moreover, the introduction of the "major" trading nation into the analysis

highlights the fact that, through their impact on the world market situation, changes in supply conditions in the "major" trading nation may determine events within the "minor" exporting country. Thus, the export experience of the latter country may be dependent on the export performance of the former.

Despite their failure to identify unmistakably circumstances in which changes in demand conditions are the dominant element in producing changes in export earnings for the "minor" exporting country, parallel movements in prices and total quantities traded are indicative of demand-induced changes in world markets and, although the partial equilibrium analysis of this section reached this conclusion in terms of total world trade, this conclusion holds also if one considers market prices and total quantities imported from all sources in a particular country. The following section will use this conclusion, therefore, in conjunction with an analysis of the determinants of demand changes to establish how far demand factors account for market changes in certain importing countries.

## 2. Demand Factors, Market Prices and Quantities Imported.

The causes of fluctuations in demand for imports of primary products into the developed countries were discussed in Chapter One and one may separate the causes of such fluctuations into two categories, namely, income changes and those factors other than income changes which alter the import requirements of the developed countries.<sup>1</sup> Non-income-induced changes in import requirements may arise from changes in the domestic availability of products also

<sup>1</sup>As will become clear, the separation of factors operating on the demand side into these two categories anticipates the form of the analysis allowed by available data.

imported, from the development of synthetic substitutes for natural products and from new methods of production which cause economies in the use of raw materials. The extent to which these factors bring about changes in the quantities imported differs among products. Imports of foodstuffs, for instance, are much less affected than imports of raw materials by the production of synthetics and are unaffected by innovations which change the imported, raw material content of finished products. The quantities imported of both foodstuffs and raw materials may be influenced, however, by income changes and by changes in domestic production in the importing countries.

The arguments presented by Wallich, Nurkse and Bye concerning the dominance of demand factors in primary product trade concentrated on the causal influence of income changes. Changes in industrial activity, they argued, brought about changes in GDP, which, in turn, led to changes in imports. In subsequent discussions the strength of this emphasis on income changes has been diluted by increasing recognition of the importance of the other factors determining the demand for imports and these later studies have made reference to world trade in products exported by Ethiopia.

Among the factors other than income changes is the possibility that changes in domestic production may cause changes in the quantities imported. This proposition is not tenable for a tropical product such as coffee which is imported almost exclusively<sup>1</sup> into

<sup>1</sup>Imports of coffee into the developed countries account for approximately 95% of total world exports of coffee, whereas the only coffee grown in these countries is found in the U.S.A. and accounts for approximately 0.05% of total world production. The former figure was calculated from data in F.A.O., Trade Yearbook, 1970, F.A.O. 1971 and the latter from data in F.A.O., Production Yearbook, 1970, F.A.O., 1971, Vol. 24, Section IV.

countries with temperate climates. For some pulses and oilseeds, however, the importing countries of North America and Western Europe are themselves important producers<sup>1</sup> and a GATT study pointed out that world production of these products has been stimulated in the past by high prices for imports from the primary producing countries and that the expansion of production in response to price incentives took place mainly in the industrial importing countries.<sup>2</sup> Such developments represent a potential source of instability in the imports of pulses and oilseeds from the developing countries.

World production of hides and skins is concentrated in the countries of North America and Western Europe.<sup>3</sup> One finds, therefore, that the exports of these commodities from the developing to these developed countries may be "adversely affected by the substitution ... of home produced for imported hides and skins."<sup>4</sup> To a greater extent than imports of the other products considered here, however, imports of hides and skins into the developed countries face competition from synthetic products.

An F.A.O. study has indicated that the establishment of synthetic industries in the industrial countries, such as those manufacturing

<sup>1</sup>In North America and Western Europe aggregate production accounts for approximately 60% and approximately 30% of total world production of linseed and cottonseed respectively. For other products such as chickpeas and lentils combined production in these areas is exceeded only by production in the Far East. These data were obtained from F.A.O., Production Yearbook, 1970, Vol. 24, Section IV.

<sup>2</sup>G.A.T.T., International Trade, 1963, Geneva, 1964, p.11.

<sup>3</sup>The production of hides and skins in North America and Western Europe accounts for over 60% of total world production of hides and skins. See F.A.O., Production Yearbook, 1970, Section V.

<sup>4</sup>United Nations, Synthetics and their Effects on International Trade, Proceedings of the United Nations Conference on Trade and Development, Vol. 111, New York, 1964, p.398.

rubber substitutes for leather produced from hides and skins, has usually been inspired by technical and financial considerations and "much of the research work on synthetics has been concerned not so much with duplicating the natural product as with evolving entirely new products with enhanced capabilities in certain respects."<sup>1</sup> One of the main advantages claimed for synthetic products vis-a-vis natural products is that they may be "tailored" to meet the requirements of specific end-uses and a further advantage common to all synthetic products is that

the factory conditions of production permit a much greater degree of quality control than is possible with growth under natural conditions. This is manifest in such characteristics as purity and uniformity which, apart from other considerations, can produce substantial savings in processing costs.<sup>2</sup>

Moreover, synthetic products are characterised by their marked price stability in contrast to the wide fluctuations experienced in the prices of natural products.

The substitution of synthetics for hides and skins began on a large scale during the Second World War, when synthetic materials began to displace the natural product in many traditional end-uses. By the early sixties,

synthetics had invaded nearly every use to which leather had been put and in some uses, such as luggage, leather had been virtually completely replaced, while in others, such as the soles of children's shoes, the process was far advanced.<sup>3</sup>

Although from the consumers' viewpoint synthetic products are more durable than leather, there does seem to be some consumer resistance

<sup>1</sup>United Nations, Synthetics and their Effects on Agricultural Trade, p.350.

<sup>2</sup>Ibid., p.351.

<sup>3</sup>Ibid., p.393.

to the purchase of products in the more expensive ranges if they are not all-leather products and leather continues to be used extensively for clothing, upholstery and other industrial products such as belting and saddlery.<sup>1</sup> Where the market for hides and skins has been pre-empted by leather substitutes, primarily synthetic rubbers, the change has been caused by the technical superiority and cost advantages of the synthetic products. Synthetic production, together with changes in domestic availability, seems to account for demand-induced changes in the imports of hides and skins into the developed countries. There is no evidence to suggest that technical progress which reduces the raw material input has been an important factor in the markets for these products.<sup>2</sup>

On a much smaller scale than for hides and skins, substitutes for coffee have been marketed in some importing countries. The main spur to the production of coffee substitutes has been the cost advantage held by the substitute products over the natural product, although consumers' tastes have also been instrumental in bringing about this development. F.A.O. has pointed out that these substitutes, which include chicory, matted cereals and dried figs,

are generally considerably cheaper than coffee and this appears to be the major reason for the demand for them, although there is also no doubt a preference by some consumers for mixtures of coffee with chicory or other substitutes.<sup>3</sup>

In the European countries which are the major consumers of coffee substitutes a good part of the price advantage enjoyed by the substitute products over natural coffee is due to revenue and other

<sup>1</sup>Ibid., p.394.

<sup>2</sup>Ibid., p.398.

<sup>3</sup>F.A.O., The World Coffee Economy, Commodity Bulletin Series, 38, 1964, p.25.

taxes on imported coffee and it has been estimated that the retail price of substitutes averaged only 15-20% of the retail price of imported coffee in France, Italy, West Germany and Austria.<sup>1</sup>

Moreover, it has been estimated that substitutes account for as much as 66% of total consumption of coffee and substitutes in Austria and for 15-25% of total consumption in France, Italy, West Germany and Switzerland.<sup>2</sup> Changes in the production of substitutes have been an important element, therefore, in determining changes in the demand for imports of coffee into these countries.

The concern here is to establish whether income changes and changes in the other factors which alter import requirements have affected the quantities of primary products imported from all sources into selected developed countries.<sup>3</sup> Where both categories of factors are operative, they will combine to produce a "total demand effect" and one is faced with the difficulty of disentangling from this "total demand effect" the changes attributable to each factor. If one considers first, however, only income-induced changes, one may anticipate the nature of the relationships to be expected,

<sup>1</sup>Ibid., p.25.

<sup>2</sup>Ibid., p.26.

<sup>3</sup>Since the ultimate objective is to determine the causes of fluctuations in Ethiopian export earnings, the countries concerned are those to which Ethiopia exports. Data are not available, however, on imports into all of these countries for each of the commodities exported by Ethiopia. The available data give coverage of the following average percentages of Ethiopian export earnings from individual products

Coffee	- 85%	Groundnuts	- 84%
Hides	- 76%	Linseed	- 38%
Goatskins	- 68%	Castorseed	- 71%
Sheepskins	- 83%	Oilseed Cakes	- 86%

The data for these products cover approximately 55% on average of total Ethiopian export earnings.

ceteris paribus, between changes in the quantities imported and income changes. This may be done using income elasticities of demand which summarise the extent to which changes in GDP will produce changes in the quantities demanded. Estimates of the relevant income elasticities of demand and data on GDP in the importing countries are presented in Table 20 and Table 21 respectively.

The income elasticities of demand in Table 20 are positive in each case with the exceptions of the estimates for hides and skins in the West German and British markets which equal zero. The data in Table 21 show that GDP for each country has increased from year to year throughout the period. Thus, for the products other than hides and skins imported into West Germany and the United Kingdom, these observations lead one to expect that the quantities imported will have shown successive positive changes. For the two exceptions one would anticipate that the quantities imported will have remained constant over time. Indices of the quantities actually imported are given in Table 33 of the Statistical Appendix<sup>1</sup> and these indices show clearly the absence of any tendency for the quantities imported to increase or to remain constant over the period. This absence of a relationship between the quantities imported and GDP agrees with the conclusion reached by the F.A.O. that "the demand for agricultural products tended to be little affected by short-run variations in the level of economic activity."<sup>2</sup>

<sup>1</sup>Since prices "within coffee" may develop quite differently from Arabicas and Robustas the indices for coffee are those for Arabicas, the type exported by Ethiopia.

<sup>2</sup>F.A.O., The State of Food and Agriculture, 1968, Rome, 1969, p.22.



TABLE 20

## ESTIMATES OF INCOME ELASTICITIES OF DEMAND BY COUNTRY AND COMMODITY

	Coffee <sup>1</sup>	Hides and Skins <sup>2</sup>	Oilseeds and Oilseed Cakes <sup>1</sup>
U.S.A.	0.1	-	0.1
France	0.5	0.1	0.9
W. Germany	0.5	0.0	0.9
Italy	0.7	0.3	0.9
U.K.	0.8	0.0	1.8
Norway	0.2	-	-
Sweden	0.2	-	-
Switzerland	0.4	-	-
Greece	1.0	0.2	1.3
Netherlands	-	0.1	-

- indicates that data are not available on imports into these countries and, therefore, estimates of income elasticities of demand are not given.

Sources: <sup>1</sup>F.A.O., Agricultural Commodities, Projections for 1975 and 1985, Vol. 11, Methodological Notes, Statistical Appendix, Rome, 1967, pp.28-29.

<sup>2</sup>United Nations, Synthetics and their Effect on International Trade, p.399.

TABLE 21

## ESTIMATES OF GROSS DOMESTIC PRODUCT IN SELECTED DEVELOPED COUNTRIES, 1962-1970

	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A. (1,000 mn. U.S. \$)	572.4	596.3	626.1	667.9	715.6	733.4	769.0	786.8	804.5
France (1,000 mn. Francs)	390.8	411.4	440.2	460.8	485.5	510.2	530.7	571.8	608.9
W. Germany (1,000 mn. D.M.)	373.3	384.8	411.7	435.8	447.4	451.2	438.3	476.7	503.7
Italy (1,000 mn. Lira)	30984.3	31140.0	31233.4	31326.8	31544.8	31762.8	32011.9	32229.9	32479.0
U.K. (mn. £)	29064.7	30077.0	30869.3	31771.6	32374.1	32673.9	34177.8	34779.3	35681.6
Norway (mn. Kroner)	39454.5	41531.0	43607.6	46099.4	48126.0	50617.8	52685.4	55168.2	57235.8
Sweden (1,000 mn. Kroner)	86.6	91.2	97.6	101.6	104.4	107.1	111.7	117.1	122.6
Switzerland (mn. Francs)	47823.4	49815.0	52305.8	54298.4	55792.8	56789.1	58283.6	61272.6	-
Greece (1,000 mn. Drachmas)	129.0	137.2	149.5	163.3	174.3	185.3	197.6	216.8	233.4
Netherlands (mn. Guilders)	50664.1	52231.0	56931.2	57975.9	59542.8	63198.9	67899.2	71555.4	76255.6

- indicates not available.

Source: United Nations, Yearbook of National Accounts Statistics, 1971, Vol. 111, International Comparisons, New York, 1973, pp.114-131.

A detailed analysis of the relationship between those factors in the second category and the quantities imported into the developed countries would require estimates of cost and price structures by commodity and country. Such estimates are not available and, consequently, one cannot isolate directly the effects of this group of factors from the "total demand effect". This is not to say, however, that one cannot establish any conclusions concerning this relationship since Nurkse's analysis of the circumstances under which one may conclude that demand changes are the principal cause of changes in trade and the lack of association between GDP and the quantities imported allow one to adopt an indirect approach to the problem. Following Nurkse, the dominance of the "total demand effect" is indicated by simultaneous positive or simultaneous negative changes in prices and quantities traded. If it can be shown, therefore, that import prices and the quantities imported have tended to fluctuate in the same direction, then, given that changes in GDP do not appear to have affected imports, it may be concluded that the factors in the second category have determined the changes in the quantities imported.

Correlation coefficients between average world prices and total quantities traded and between average import prices and the quantities imported into various markets are presented on the following page for certain products.<sup>1</sup> Without exception these coefficients are negative, indicating that decreases in the quantities traded were associated with price increases and that increases in the quantities traded were associated with price decreases. This evidence suggests

<sup>1</sup>These correlation coefficients were calculated from data in Table 33 and Table 34 of the Statistical Appendix.

**CORRELATION COEFFICIENTS BETWEEN QUANTITIES TRADED  
AND AVERAGE PRICES IN VARIOUS MARKETS, 1962-1970**

Commodity	Trading Area <sup>1</sup>	Correlation Coefficient	t-value	Significance Level (%)
Hides	World	-0.5789	1.8826	i
	France	-0.2681	0.7274	i
	Italy	-0.4031	1.1377	i
	U.K.	-0.5523	1.4867	i
	Greece	-0.0047	0.0129	i
Goatskins	World	-0.5893	1.8987	i
	U.S.A.	-0.7074	2.6460	5.0
	France	-0.7706	3.1752	2.5
	W. Germany	-0.3386	0.9525	i
	Italy	-0.6632	1.8884	i
	Greece	-0.2856	1.6463	i
Sheepskins	World	-0.4369	1.3494	i
	France	-0.5749	2.1168	i
	W. Germany	-0.5114	1.5613	i
	Italy	-0.5751	1.8522	i
	U.K.	-0.3599	1.0054	i
Linseed	World	-0.4701	1.4060	i
	Italy	-0.5976	1.8122	i
	Greece	-0.7252	2.3478	i
Castorseed	World	-0.2262	0.6291	i
	France	-0.4647	0.9006	i
	Italy	-0.0857	0.2116	i
Oilseed Cakes	World	-0.3326	0.9308	i
	W. Germany	-0.2187	0.6708	i
	Netherlands	-0.6668	2.3549	i

i = insignificant at the 5% level.

<sup>1</sup>In the absence of data on world trade in hides, goatskins and sheepskins data on total imports into Ethiopia's trading partners were used to obtain the results given as holding for "world".

not that demand factors, but that supply factors, were responsible for the fluctuations in trade and there are no grounds, therefore, for arguing that fluctuations in imports were determined by the effect of the second category of demand factors on total import demand.

In terms of partial equilibrium analysis the situation for these products is similar to that of Diagram 6a where changes in supply conditions were responsible for the changes in trade. Unlike the situation in Diagram 6a, however, changes in market supply conditions do not result from changes in supply conditions in one exporting country, rather they result from the effect of changes in supply conditions in the exporting countries as a group. Evidence has not been presented so far on trade in those products for which it is possible to identify a country which can influence market changes as in Diagrams 6 and 6a. It can be shown, however, that trade in these products, coffee and groundnuts<sup>1</sup>, is characterised also by the dominance of supply factors and, consequently, that the second category of demand factors cannot account for import fluctuations.

The impact on world markets of changes in the quantities of coffee exported by Brazil and of the changes in the quantities of groundnuts exported by Nigeria may be ascertained by an examination of the correlation coefficients on the following page. Several

<sup>1</sup>Brazil accounted for approximately 45% on average of total world exports of Arabicas coffee during the period 1962-1970 and Nigeria accounted for approximately 38% of total world exports of groundnuts during this period. These averages were calculated from F.A.O., Trade Yearbook, 1971, F.A.O., 1972 and from F.A.O., Trade Yearbook, 1966, F.A.O., 1967. The breakdown of coffee exporters into those exporting Arabicas and those exporting Robustas was provided by the National Coffee Board of Ethiopia.

**CORRELATION COEFFICIENTS BETWEEN MARKET VARIABLES AND EXPORTS  
OF THE MAJOR SUPPLIERS OF COFFEE AND GROUNDNUTS, 1962-1970**

Commodity	Trading Area	Correlation Coefficient	t-value	Significance Level (%)	
Coffee	World	PQ	-0.2695	0.7403	i
		P	0.9539	8.4105	0.1
		Q	0.8439	4.1618	0.5
	USA	P	0.9580	8.8384	0.1
		Q	0.9375	7.1301	0.1
	France	P	0.8838	4.9988	0.5
		Q	0.7445	2.9505	2.5
	W. Germany	P	0.8950	5.3073	0.5
		Q	0.7316	2.8394	5.0
	Italy	P	0.9094	5.7854	0.1
		Q	0.9828	14.0642	0.1
	U.K.	P	0.8908	5.1869	0.5
		Q	0.6909	2.5287	5.0
	Norway	P	0.9981	42.8728	0.1
		Q	0.9732	11.1960	0.1
	Sweden	P	0.9951	26.6229	0.1
		Q	0.8209	4.3968	0.5
	Switzerland	P	0.9735	11.2679	0.1
		Q	0.9026	5.5476	0.1
	Greece	P	0.9876	16.6338	0.1
		Q	0.8169	3.7472	1.0
Groundnuts	World	PQ	-0.8197	3.7864	1.0
		P	0.9581	8.8484	0.1
		Q	0.9569	8.7156	0.1
	Italy	P	0.8870	5.0821	0.5
		Q	0.8764	4.8149	0.5
	U.K.	P	0.9381	7.1656	0.1
		Q	0.9926	21.5987	0.1

"PQ" indicates the correlation coefficient between the average world market price and total world exports.

"P" indicates the correlation coefficient between the average market price and the price paid for the exports of the major supplying country.

"Q" indicates the correlation coefficient between total quantities imported and the quantities imported from the major supplying country.

i = insignificant at the 5% level.

points arise from these correlation coefficients.<sup>1</sup> Firstly, average world prices and total world imports of both coffee and groundnuts are negatively related, indicating that world trade in these products is influenced more by supply factors than by demand factors. Secondly, total world exports of coffee and groundnuts are significantly related to the quantities exported by Brazil and Nigeria respectively. Thirdly, average world prices are significantly related to the average prices paid for the Brazilian and Nigerian products. Fourthly, at the level of individual country markets, the quantities imported from all sources of these commodities are significantly related to the quantities imported from Brazil and Nigeria and, finally, the average market prices in the individual markets are significantly related to the prices of imports from Brazil and Nigeria.<sup>2</sup> Thus, for these two commodities fluctuations in world supply conditions, brought about by fluctuations in the quantities exported by the major suppliers, led to changes in average world prices and these changes in prices and quantities were reflected in events at the level of the individual importing countries.

One finds, therefore, that, whether or not it is possible to identify a country whose exports can influence world market conditions, fluctuations in imports were determined by supply

<sup>1</sup>These correlation coefficients were calculated from data in Table 33 and Table 34 of the Statistical Appendix.

<sup>2</sup>It is recognised that, given the weight of the Brazilian exports of coffee and of the Nigerian exports of groundnuts in world trade of these products, the last four of the five results would tend to hold whether the dominant factor in world trade was demand or supply factors. The significance of the results here is that supply conditions were the dominant factor in trade and that changes in these conditions arose from changes in the quantities supplied by Brazil and Nigeria.

conditions and neither income changes nor non-income-induced demand changes explain events in the markets for the products considered here. The partial equilibrium analysis of the previous section specified the manner in which supply-induced market changes are transmitted to the "minor" trading country and one may turn now to a consideration of the nature of the association between market events and the Ethiopian export experience.

### 3. Foreign Market Changes and the Ethiopian Export Experience.

The degree to which Ethiopian export earnings are affected by changes in the markets for her export products depends upon the way in which the prices received and the quantities exported by Ethiopia are altered by changes in these markets. The implications of Ethiopia's "shares" in world trade and the sensitivity of the quantities exported to external stimuli were discussed in Chapter Three. These issues have a direct bearing on the question of the association between changes in foreign market conditions and fluctuations in export prices and in quantities exported. The conclusions reached in Chapter Three concerning these issues are, therefore, of relevance at this juncture.

The discussion of Ethiopia's "shares" in world trade led to the conclusion that Ethiopia is a price-taker on the markets for her exports. One would anticipate, therefore, a high degree of correspondence between market prices and the prices paid for Ethiopian products. The correlation coefficients between average import prices and the prices paid for imports from Ethiopia are presented on the following page,<sup>1</sup> and each of these coefficients is

<sup>1</sup>These coefficients were calculated from data in Table 34 of the Statistical Appendix.



**CORRELATION COEFFICIENTS BETWEEN PRICES PAID FOR ETHIOPIAN  
PRODUCTS AND AVERAGE IMPORT PRICES, 1962-1970**

Commodity	Trading Partner	Correlation Coefficient	t-value	Significance Level (%)
Coffee	U.S.A.	0.9054	5.6359	0.1
	France	0.8987	5.3977	0.5
	W. Germany	0.8475	4.2071	0.5
	Italy	0.9174	6.0858	0.1
	U.K.	0.9329	6.8268	0.1
	Norway	0.9471	7.7792	0.1
	Sweden	0.8948	5.2920	0.5
	Switzerland	0.9271	6.7737	0.1
	Greece	0.8264	3.8531	1.0
Hides	France	0.6939	2.5401	5.0
	Italy	0.8378	4.0483	0.5
	U.K.	0.8750	4.0248	1.0
	Greece	0.8526	4.3129	0.5
Goatskins	U.S.A.	0.8049	3.5720	1.0
	France	0.7038	2.5932	5.0
	W. Germany	0.7253	2.7783	5.0
	Italy	0.7095	2.6460	5.0
	Greece	0.8880	5.0803	2.5
Sheepskins	France	0.7450	2.9370	2.5
	W. Germany	0.7315	2.8312	5.0
	Italy	0.6933	2.5401	5.0
	U.K.	0.7718	3.2016	2.5
Groundnuts	Italy	0.7985	3.2326	2.5
	U.K.	0.7379	2.8576	2.5
Linseed	Italy	0.7306	2.6204	5.0
	Greece	0.9245	5.4111	0.5
Castorseed	France	0.7440	2.2200	5.0
	Italy	0.7813	3.3070	2.5
Oilseed Cakes	W. Germany	0.7659	2.6608	5.0
	Netherlands	0.7040	2.6337	5.0

statistically significant at the 5% level or better. The statistical significance of these correlation coefficients means that changes in the prices paid for Ethiopian exports are closely associated with changes in the average market prices. Thus, through their effects on world market prices, changes in world supply conditions influence the prices of Ethiopian exports.

The partial equilibrium analysis of the first section indicates that not only export prices but also the quantities exported by the "minor" exporting nation are determined by changes in world supply conditions. More specifically, this analysis postulates that when the total quantities traded decrease, the quantities exported by the "minor" trading country increase and that an increase in the total quantities traded causes the "minor" trading country to reduce the quantities exported. This inverse relationship is arrived at by means of the assumption that the "minor" exporter exhibits a positive, unlagged response to changes in export prices.

The analysis of quantity response to export prices in Chapter Three showed that among Ethiopian exports hides had a statistically significant unlagged response. That the prescriptions of the partial equilibrium analysis apply, therefore, to the quantities exported of this product is substantiated by the correlation coefficients between the quantities of hides imported from Ethiopia and the quantities imported from all sources into Ethiopia's trading partners. These coefficients are presented on the following page<sup>1</sup> along with the corresponding coefficients for the other products under consideration, and they indicate the negative relationship between these variables in

<sup>1</sup>These coefficients were calculated from data in Table 33 of the Statistical Appendix.

**CORRELATION COEFFICIENTS BETWEEN QUANTITIES IMPORTED FROM ETHIOPIA  
AND QUANTITIES IMPORTED FROM ALL SOURCES, 1962-1970**

Commodity	Trading Partner	Correlation Coefficient	t-value	Significance Level (%)
Coffee	U.S.A.	-0.6278	2.1697	1
	France	-0.4257	1.2436	1
	W. Germany	0.6061	2.0109	1
	Italy	-0.6625	2.3020	1
	U.K.	-0.4096	1.1642	1
	Norway	-0.5019	1.5346	1
	Sweden	-0.6612	2.3020	1
	Switzerland	-0.3721	1.0584	1
	Greece	-0.2401	0.6350	1
Hides	France	-0.2267	0.6085	1
	Italy	-0.1417	0.3704	1
	U.K.	-0.4841	1.2298	1
	Greece	-0.1564	0.4179	1
Goatskins	U.S.A.	0.8861	5.0538	0.5
	France	0.5793	1.8786	1
	W. Germany	-0.2885	0.8522	1
	Italy	0.7105	2.8841	2.5
	Greece	-0.5210	1.6152	1
Sheepskins	France	0.0264	0.0529	1
	W. Germany	0.7591	3.0593	2.5
	Italy	0.8935	5.2390	0.5
	U.K.	0.6976	2.5666	5.0
Groundnuts	Italy	-0.0257	0.0489	1
	U.K.	0.1958	0.6615	1
Linseed	Italy	0.0036	0.0001	1
	Greece	-0.4992	1.2745	1
Castorseed	France	0.4872	1.1946	1
	Italy	-0.0296	0.0498	1
Oilseed Cakes	W. Germany	0.5920	1.9051	1
	Netherlands	-0.6668	2.3284	1

1 = insignificant at the 5% level.

each market. Similarly, with the exception of the West German market, these coefficients are negative for coffee and, although the quantities exported by Ethiopia were not found to have a statistically significant unlagged response to price, the negative signs of these coefficients may be explained also by world supply conditions.

The mechanism through which world supply conditions affected the volume of Ethiopian coffee exports was the annual coffee quota allocated to Ethiopia by the International Coffee Organisation. The coffee quota system was aimed at equating the quantities supplied by the exporting countries with expected demand in the importing countries and provided for the readjustment of countries' annual quotas in response to market signals.<sup>1</sup> A shortfall, for instance, in the quantities supplied by Brazil in any given year, which reduced total world exports and increased world prices, resulted in upward adjustments of the quotas assigned to other exporters such as Ethiopia.<sup>2</sup> The association between supply-induced market changes

<sup>1</sup>The International Coffee Agreement operated by means of basic quotas and annual quotas. The former quotas were calculated on the basis of each country's estimated share in total world production and, accordingly, the Ethiopian basic quota was approximately 2% of the total basic quota. Before the beginning of the coffee year the International Coffee Council estimated total world imports for that year and this estimate was then multiplied by each country's basic quota in percentage terms to determine the amount of coffee each country was entitled to export in that year. This is discussed at length in The International Coffee Agreement of 1962 - And the Special Case of Ethiopia, Ethiopian Economic Review, No. 8, April 1964. Issued by the Ministry of Commerce and Industry of the Imperial Ethiopian Government.

<sup>2</sup>For detailed discussion of coffee quota adjustments in response to changes in the quantities exported by Brazil see the G.A.T.T. publication, International Trade, Geneva, and the F.A.O. publication, Monthly Bulletin of Agricultural Economics and Statistics, Rome, for the period 1962 to 1970.

and the quantities exported by Brazil and the conclusion reached in Chapter Three that the volume of Ethiopian exports was significantly related to the size of the export quota mean, therefore, that the quantities exported by Ethiopia were related inversely to the total quantities traded. Thus, world market conditions affected the quantities of coffee exported by Ethiopia and this is reflected in the correlation coefficients, except that for the West German market which accounted for only 4.5% on average of Ethiopian export earnings from coffee.

In the absence of significant quantity responses and regulated markets, one cannot conclude that world market conditions influenced the quantities exported of the remaining products. Indeed, for four of these products, goatskins, sheepskins, linseed and castorseed, domestic supply factors were shown in Chapter Three to determine the quantities made available for export. The correlation coefficients for the other products, groundnuts and oilseed cakes, are negative in one market and positive in a second market and, although not by themselves indicative of insensitivity of exports to external factors<sup>1</sup>, these coefficients, together with the absence of significant quantity responses, suggest that the quantities exported of these products were not affected by world market conditions.

The analysis of this section has shown that supply-induced market changes have been transmitted to each of the various Ethiopian export products by way of price changes and that the

<sup>1</sup>For instance, a statistically significant negative coefficient in a market accounting for 95% of the quantities exported of a particular product may produce a significant relationship between the average price received for this product and the quantities offered for sale, even although the correlation coefficient in the second market, which accounts for the remaining 5% of exports is of opposite sign.

quantities exported of different products did not respond in the same way to changes in market conditions. Only the quantities exported of hides and coffee were related to these changes, but, unlike the exports of hides, coffee exports were dependent on events in one major trading nation, Brazil. The analysis of Diagrams 6 and 6b applies, therefore, to coffee, but, given the lack of responsiveness of quantities exported to market changes, this analysis is inapplicable to groundnuts, the other commodity for which a major supplier, Nigeria, influenced market conditions.

These results contradict the conventional wisdom that world demand factors account for changes in export earnings and they may now be compared with the results obtained by a G.A.T.T. study, the conclusions of which also refute the assumed dominance of demand conditions.

#### 4. Price Competitiveness, Impediments to Trade and Export Performance.

A G.A.T.T. study attempted to explain the export performances of individual developing countries in terms of world market conditions and this study is of interest for two reasons. Firstly, because it reaches certain conclusions concerning the factors influencing Ethiopian export earnings, and, secondly, because the methodology differs from that employed in the previous section. The G.A.T.T. study, however, in examining the question of export performance fails to raise an important issue, namely the policy impediments to imports from the primary producing countries in the industrial countries. This section will consider first the G.A.T.T. study in the light of the conclusions reached above and will then discuss the implications for the export trade of the developing

countries of trade barriers in the developed-country markets.

4a. Competitiveness and Export Performance.

The starting point for the G.A.T.T. study<sup>1</sup> was the conventional assumption that fluctuations in export earnings of the less-developed countries are determined by world demand for their traditional exports. According to G.A.T.T., the assertions that "each less-developed country would maintain its share in total world exports ... and that there would be no additions to its export list"<sup>2</sup> are implicit in this assumption and, thereby, the impression is conveyed "that to each given set of projections in world trade corresponds a certain rate of increase in the export earnings of each individual country."<sup>3</sup> Feeling that analyses along such restrictive lines provide inadequate bases for discussions of trade in primary products, G.A.T.T. devised a method of introducing factors other than demand changes into an analysis of trade.

The purpose of the G.A.T.T. study was threefold. Firstly, it attempted to establish the changes in export earnings from the traditional exports of each country which would have resulted from changes in demand factors alone. Secondly, it tried to ascertain to what extent the differential changes in export earnings in various less-developed countries could be explained by the improvement or deterioration of the competitive position of each country in its traditional export markets. Finally, an attempt was made to evaluate the significance of diversification in the commodity composition of

<sup>1</sup>G.A.T.T., International Trade, 1965, Geneva, 1966, pp.23-31.

<sup>2</sup>Ibid., p.23.

<sup>3</sup>Ibid., p.23.

exports in determining the actual performance of individual countries.

Corresponding to these objectives, G.A.T.T. constructed indices for the three factors which, it alleged, affected the export earnings of the developing countries and, following Kravis<sup>1</sup>, one may call these factors "the world market factor", "the competitiveness factor", and "the diversification factor". Indices for the world market factor were calculated by assuming that each country maintained a constant share in the world market for the commodities in which it was a traditional exporter at the beginning of the period and that exports changed only in response to changes in world demand. G.A.T.T. calculated the indices for the competitiveness factor by estimating the difference between the growth of traditional exports that would have been achieved if the first factor alone operated (i.e. on the basis of the constant share principle) and the actual increase of the same exports. The diversification factor indices were measured by the difference between the actual changes in export earnings from traditional commodities and the changes in total export earnings.

For the purpose of interpreting the indices obtained, it is useful to adopt the classification of countries given by Kravis. The developing countries were divided by Kravis into the "successful" exporters, the "unsuccessful" exporters and those countries with middle positions with respect to export performance<sup>2</sup> and Kravis

<sup>1</sup>Kravis, Economic Journal, 1970, pp.867-868.

<sup>2</sup>The "successful" exporters were those with greater increases in export proceeds between 1959-1961 and 1964-1965 than the industrial countries as a group, the "unsuccessful" exporters were those with increases less than the average for all developing countries and those with middle positions with respect to export performance were the remaining developing countries. See Ibid., p.868.



summarised the results of the G.A.T.T. study as follows:

Export success did not depend primarily on the world market factor. The largest difference among the groups is in the competitiveness factor; that is, the successful performers among the L.D.C.s were differentiated from the less successful primarily by increases in their shares in world markets for their traditional exports rather than by good fortune in world demand for their particular exports. The successful exporters tended to have done better at diversification, but the margins of superiority on this account were much smaller.

Ethiopia was in the "successful" group of exporters and G.A.T.T. explained the importance of the competitiveness factor in determining changes in Ethiopian export earnings in terms of events in the world coffee market.

By and large, countries which have been marginal suppliers of a traditional commodity improved their position, whereas the share in the world market of the main suppliers of the same products declined. Thus, factor 2 (the competitiveness factor) is very high in Angola, Ethiopia, Ivory Coast, Kenya, El Salvador and low for Brazil ... on account of large shifts in market shares of coffee.<sup>2</sup>

The basis of this conclusion for Ethiopia is given below in results extracted from the G.A.T.T. study. These results are the indices calculated for each factor for Ethiopia and Brazil.

TABLE 22

EXPORT PERFORMANCE OF ETHIOPIA AND BRAZIL  
(Index numbers 1964-65, 1959-61 = 100)

	Total Export Earnings	Factor 1	Factor 2	Factor 3
Ethiopia	155	118	161	82
Brazil	115	117	91	108

Source: G.A.T.T., International Trade, 1965, Table 5, p.27.

<sup>1</sup>Ibid., p.868.

<sup>2</sup>G.A.T.T., International Trade, 1965, p.30.

Despite the similarity in the Ethiopian and Brazilian world market factor indices and the relative deterioration of Ethiopia's position with regard to product diversification, the Ethiopian index for total export earnings rose much further than the corresponding Brazilian index and these changes seem to be associated with the differences between the competitiveness indices for the two countries. The usual approach to the question of competitiveness is to use price as a proximate variable and the G.A.T.T. conclusion may then be interpreted as saying that Ethiopia was able to improve her export performance at the expense of Brazil by gaining a price advantage in world markets for coffee.

The importance of changes in competitiveness in explaining changes in export performance is well recognised in the literature on international trade. A formidable array of evidence exists which suggests that competitiveness has a significant effect on the exports of the developed countries<sup>1</sup> and, at first sight, the G.A.T.T. study would appear to lend some empirical support to the assertion that changes in competitiveness lead to changes in the export earnings of the developing countries. On closer inspection, however, it becomes apparent that, at least for "minor" exporting countries such as Ethiopia, this study cannot be used for that purpose. The fault with the G.A.T.T. study lies in the basic contradiction between the observation that Ethiopia is a price-taker in world markets and the conclusion that changes in Ethiopian export earnings are caused by

<sup>1</sup>See, for example, J. M. McGeehan, Competitiveness: A Survey of Recent Literature, Economic Journal, Vol. LXXV111, 1968, pp.243-262 and H. B. Junz and R. R. Rhomberg, Prices and Export Performance of Industrial Countries, 1953-63, International Monetary Fund, Staff Papers, Vol. X11, 1965, pp.224-271.

changes in her competitive position. That a country cannot be simultaneously both a price-taker and a competitor in world markets was overlooked by G.A.T.T. and this oversight has implications for the methodology used and the conclusions derived therefrom.

The method employed by G.A.T.T. assumed that changes in export earnings of an individual trading country were the result of changes in three factors only, foreign demand, competitiveness and commodity diversification. Thus, as for Ethiopia, changes in export earnings which did not appear to result either from changes in demand factors or from changes in commodity concentration were automatically ascribed to changes in competitiveness. The onus of explaining changes in export earnings fell, therefore, on internal factors which affect the cost and price structures of export products. In the case of a price-taker in world markets, however, world market conditions and not internal supply factors fix the prices at which products are sold. Consequently, not only is one unable to assign changes in export earnings to external demand factors or to export diversification, but one cannot attribute these changes to the competitiveness factor and this calls into question the strength of the initial assumptions.

The restrictive nature of the assumptions made by G.A.T.T. meant that no account was taken of the potential role of changes in world supply conditions. As has been shown, however, world supply factors have played a crucial part in determining world market prices for certain products and, hence, given the position of Ethiopia as a price-taker in world markets, the prices received for Ethiopian exports. Moreover, in the case of coffee, the commodity specifically mentioned by G.A.T.T. in the context of Ethiopian competitiveness,

world supply conditions, through international arrangements, affected also the quantities exported by Ethiopia. An element indispensable in explaining the Ethiopian export performance was omitted, therefore, from the G.A.T.T. analysis.

The implication of the G.A.T.T. conclusion concerning the improvement of Ethiopia's competitive position in the coffee market is that Ethiopia, by her own efforts, was able to secure away from Brazil a larger share of the market. The introduction of world supply conditions suggests, however, that the direction of causation ran from quantity changes in Brazilian exports through changes in world market conditions to changes in the Ethiopian export performance. Although the period covered by the G.A.T.T. study and the period covered by the present study differ, there is an overlap of four years and during these four years, 1962 to 1965, the International Coffee Agreement was operative.<sup>1</sup> As pointed out in the previous section, the operation of the quota system meant that negative changes in the quantities exported by Brazil led to positive changes in the prices and volume of Ethiopian coffee exports. The evidence presented in this study indicates that from 1962 to 1965 the volume of Brazilian exports did tend to decrease and, thus, the prices and quantities of Ethiopian exports tended to increase.<sup>2</sup> At the same time, changes in the prices of Brazilian exports were not sufficient to prevent a fall in her share of world

<sup>1</sup>It may be recalled from Chapter Three that, although Ethiopia did not accept full membership of the International Coffee Agreement until 1964, Ethiopian exports corresponded closely to the quantities which would have been permitted under the Agreement.

<sup>2</sup>See the data in Table 33 and Table 34 of the Statistical Appendix.

trade in coffee while Ethiopia's market share increased in response to market changes. In addition, although not subject to the Coffee Agreement, market prices, quantities exported and market shares behaved in similar fashion during the first years of the G.A.T.T. study, 1959-61, as may be seen from the data in Table 23.

This evidence does indicate that an explanation of changes in coffee market shares based on world market conditions is more plausible than one based on changes in price competitiveness and this conclusion highlights the inadequacy of the approach used by G.A.T.T. Although the G.A.T.T. analysis concluded that factors other than demand conditions affected exports, the limitations imposed on the methodology by the failure to see the consequences for the individual country of being a price-taker in world markets and by the failure to incorporate into its assumptions the possibility that world supply conditions might affect exports caused G.A.T.T. to attribute the changes in the Ethiopian export performance to the wrong factor.

In the G.A.T.T. study no mention was made of policy measures in the developed countries which have a bearing on imports from the developing countries. Through their impact on import prices and quantities imported these measures may affect, however, the export performance of the developing countries and this possibility is the subject matter of the following section.

#### 4b. Impediments to Trade in the Developed Countries.

Imports of primary products from the developing countries are subject to a wide spectrum of policy arrangements in the industrial importing countries. These arrangements include customs duties or tariff restrictions, quantitative controls or non-tariff restrictions and fiscal charges or other taxes. The nature and severity of these

TABLE 23

PRICES, QUANTITIES AND MARKET SHARES OF BRAZILIAN  
AND ETHIOPIAN COFFEE EXPORTS, 1959-65

1962 = 100

	1959	1960	1961	1962	1963	1964	1965
Brazilian Price Index	86	78	87	100	96	130	133
Brazilian Quantity Index	107	104	103	100	107	97	91
Brazilian Market Share	46%	44%	45%	45%	49%	42%	40%
Ethiopian Price Index	84	79	86	100	97	131	125
Ethiopian Quantity Index	50	81	89	100	106	112	140
Ethiopian Market Share	1%	2%	2%	2%	1%	3%	4%

Source: Calculated from data in United Nations, Trade Yearbook, 1966, New York, 1967.

restraints on trade differ among countries but "the general economic consequences of these barriers to trade is the disintegration of the world market".<sup>1</sup> From the viewpoint of the developing countries, this disintegration manifests itself in the restriction of access to markets in the industrial countries since

whatever the precise nature of the obstacles, they have the common effect ... of reducing the import content of domestic consumption in the importing countries, either by direct physical limitation or by raising the relative price of the import component.

The rationale behind the creation of barriers to trade in the industrial countries is not easily susceptible to generalisation. It reflects the interplay of

a large number of influences, most notably the cost structure of domestic production of each commodity, official policy in respect of incomes in the primary sector and the administrative expression of that policy. The fiscal structure of the country is also reflected in the import tariff and the associated complex of commodity taxes. Nor is it only the current situation that determines the tariff: in many respects it is a carry-over from the past, the existence and the rate of particular duties being related more closely to an historical situation than to the current distribution of production and trade.<sup>3</sup>

Despite this complexity, certain common features can be seen in the systems of tariffs and quantitative restrictions imposed by the major importing countries. The items that are free or virtually free of these impediments are, for the most part, raw materials for industry. Since these items represent manufacturing inputs, there is a tendency to avoid cost-raising obstacles to trade. Imports of those commodities, whether agricultural or manufactured, which do not

<sup>1</sup>United Nations, International Commodity Problems, Proceedings of the United Nations Conference on Trade and Development, Vol. 111, Commodity Trade, New York, 1964, p.16.

<sup>2</sup>Ibid., p.18.

<sup>3</sup>Ibid., p.18.

compete with domestic production, although frequently subject to revenue-raising tariffs, tend to have less restricted access to the markets of the advanced countries than those commodities which supplement domestic output and this reflects the high degree of protection afforded to domestic production in many industrial countries.

The tendency to admit inputs and semi-finished goods at lower nominal tariff rates than finished goods has given rise to a relatively new concept in economic literature, that of effective protection. By way of distinguishing between nominal and effective protection, B. Balassa has the following to say of these concepts:

The nominal rate of protection of a particular commodity is defined as the percentage excess of the domestic price over the world market price, resulting from the application of protective measures ... The effective rate of protection expresses the margin of protection on value added in the production process rather than on the product price. It is defined as the percentage excess of domestic value added, obtainable by reason of the imposition of tariffs and other protective measures on the product and its inputs, over foreign or world market value added.

The significance of effective protection may be seen from an example prepared by H. G. Johnson.<sup>2</sup> He assumes that a certain product is subject to a 20% duty and that half of the foreign price is the cost of raw materials and half is value added in manufacture (the cost of labour and capital used in the manufacturing process). Further he supposes that these materials are admitted free of duty for use in domestic production. The domestic producer can charge \$1.20 for a product that would cost a dollar to import; but since he gets his materials free of duty he can charge 70 cents for value

<sup>1</sup>B. Balassa, The Structure of Protection in Developing Countries, The John Hopkins Press, Baltimore, 1971, p.4.

<sup>2</sup>H. G. Johnson, The World Economy at the Crossroads, Oxford University Press, New York, 1965, pp.85-87.



added, which would be supplied by the foreign producer for 50 cents; thus the domestic producer enjoys effective protection at the rate of 40% as contrasted with the nominal rate of 20%. Such a situation where the processing of primary products enjoys heavy effective protection militates against the establishment and development of facilities for processing exports in the developing countries.

The incidence of restrictions on trade is modified to some degree by systems of preferential treatment given to certain developing countries. Usually, these arrangements reflect the historical ties between a one-time colonial power and its former colonies. The Commonwealth preference system, for example, has involved entry into the United Kingdom of primary commodities from the countries of the Commonwealth on more favourable terms than those imposed on imports from other sources. Similarly, through the concessions granted to the countries associated with the European Community under the Yaounde Conventions imports from some developing countries have obtained less restricted access to the Common Market than imports from competing countries.<sup>1</sup>

During the 1960s there was a movement towards the removal of restrictions on trade, as witnessed by the reductions in tariffs and quantitative controls achieved under the Kennedy Round. The implication for the developing countries of such trade liberalisation is that they may be able to expand their export earnings by taking advantage of increased market opportunities. In general, the potential benefits to the developing countries are likely to be much

<sup>1</sup>The countries associated with the European Community under the terms of the Yaounde Conventions are Burundi, Cameroon, Central African Republic, Chad, Congo Brazzaville, Dahomey, Gabon, Ivory Coast, Malagasy Republic, Mauritania, Mali, Niger, Rwanda, Senegal, Somalia, Togo, Upper Volta, Zaire.

less where the restrictions removed are of a revenue-raising rather than of a protective nature. Tariffs imposed on imports for fiscal purposes

are generally a small proportion of c.i.f. cost and an even smaller proportion of the price paid by the final consumer. And for most commodities the response of the consumer to a small change in price is itself likely to be still smaller.<sup>1</sup>

Thus, the increase in export earnings is not likely to be significant. On the other hand, the existence of protective measures suggests that lower-cost imports may be substituted for domestic production and the extent to which imports pose a threat to domestic production depends on the spread between domestic prices and external prices free of restrictions. The weaker the position of agriculture in the importing country, the larger is this spread likely to be and, hence, the more substantial the protective measures. It follows, therefore, that restriction-free imports will tend to expose domestic producers to more severe competition and to present the developing countries with greater opportunities to expand their export earnings the higher are the initial barriers to trade. In the extreme, imports may replace completely domestic production.

In the markets to which Ethiopia exports one finds, as may be seen from Table 24, examples of different types of barriers to trade and evidence of some liberalisation of these restrictions.<sup>2</sup> In the

<sup>1</sup>United Nations, International Commodity Problems, p.25.

<sup>2</sup>The markets given in this table account for the following percentages of Ethiopian exports of the products subject to tariffs:

Coffee	- 86%	Sheepskins	- 91%
Hides	- 68%	Groundnuts	- 75%
Goatskins	- 75%		

Products for which data on imports into the developed country markets are not available and which are not subject to tariff barriers are omitted.

TABLE 24

IMPEDIMENTS TO TRADE IN SELECTED DEVELOPED COUNTRIES, 1962-1970<sup>a</sup>

	U.S.A.		France		W. Germany		Italy		Netherlands		U.K.	
	Pre KR	Post KR	Pre 1964	Post 1964	Pre 1964	Post 1964	Pre 1964	Post 1964	Pre 1964	Post 1964	Pre KR	Post KR
Coffee	0	0	16 <sup>b</sup> <sub>q</sub>	9.6 <sup>b</sup>	16 <sup>b</sup>	9.6 <sup>b</sup>	16 <sup>b</sup>	9.6 <sup>b</sup>	16 <sup>b</sup>	9.6 <sup>b</sup>	12s6d <sup>c</sup>	6s3.6d
Hides and Skins	0	0	0	0	0	0	0	0	0	0	10	0
Groundnuts	32.8	32.8	--	--	--	--	--	--	--	--	10	10

## KR -- Kennedy Round

a -- with the exception of the rates for coffee imported into the United Kingdom, the data on tariffs in this table give ad valorem rates.

b -- duty free if product of Associate members.

c -- Commonwealth rate 9s4d per cwt.

q -- quota restriction removed in 1964.

-- indicates that the product is not imported into this market from Ethiopia and the nature of impediments are not given.

Source: United Nations, Economic Bulletin for Africa, Vol. 1X, No. 1, New York, June 1969.

U.S.A., for instance, one finds a tariff on imports of groundnuts designed to protect domestic production, while the United Kingdom imposed tariffs on coffee as a fiscal measure. Like the Common Market countries, however, the United Kingdom also used tariffs on coffee to discriminate among importers in favour of those countries receiving preferential treatment. Before the Kennedy Round reductions, imports of coffee into the United Kingdom from Commonwealth countries faced an import tariff of only 9s4d per cwt. as compared with a tariff of 12s6d per cwt. on imports from other sources. Similarly, the zero tariff rate on imports from Associate Members of the European Community compared favourably with the 16% ad valorem tariff rate prior to 1964 and the subsequent 9.6% tariff rate on imports from non-associated members. In addition to the Community's common external tariff, imports of coffee into France were subject to quantitative restrictions until 1964.

Impediments to trade were reduced or eliminated in some of the markets to which Ethiopia exports. The tariff on imports of hides into the United Kingdom was removed under the Kennedy Round adjustments and there were widespread reductions in tariffs on imports of coffee. The changes in tariffs on coffee imports affected the preferences accorded to the countries of the Commonwealth and to the countries associated with the European Community differently, however. The former countries found that the margin of preference given to them by the United Kingdom disappeared after the Kennedy Round, whereas the latter group of countries found that, although they continued to receive a margin of preference, this margin was reduced by Community tariff changes in 1964. The tariffs on the remaining products were unaltered.

The Kennedy Round negotiations were concluded in May 1967 and the resulting removal of the British tariff on hides was associated with increased imports of hides in following years. Undue significance should not be attached, however, to this tariff reduction as the increases in imports represented a continuation of the trend in previous years.<sup>1</sup> The partial erosion of the favoured position of imports from the Associate Members might have been expected to result in reduced market shares for these countries after 1964 but, given that they still enjoyed more favourable terms of entry than imports from non-associated states, these countries' market shares would be expected not to fall further after the initial downward adjustment. The quantity market shares in Italy, France, West Germany and the Netherlands of imports from the Associated States are given in Table 25, both for total imports of coffee and imports of Arabicas, the type of coffee exported by Ethiopia. The evidence on these market shares indicates that changes in the quantities imported from different sources cannot be predicated upon the alterations in the tariff structure since neither set of market shares behaved in the manner anticipated. Likewise, the expectation that the removal in 1967 of the tariff advantage held by the Commonwealth countries in the United Kingdom might reduce these countries' market shares is not supported by the evidence in Table 25.

The reduction of the nominal tariff rate on coffee imported from all sources in the United Kingdom and from the non-Associated States into the Common Market would be expected, *ceteris paribus*, to reduce

<sup>1</sup>See Table 33 of the Statistical Appendix.

TABLE 25

PERCENTAGE QUANTITY MARKET SHARES OF COFFEE IMPORTS FROM ASSOCIATED COUNTRIES  
AFFECTED BY CHANGES IN DISCRIMINATORY IMPORT RESTRICTIONS, 1962-1970

	1962	1963	1964	1965	1966	1967	1968	1969	1970
France									
Imports of Arabicas + Robustas	59	60	43	58	39	54	60	59	53
Imports of Arabicas	12	10	17	11	13	13	10	10	13
W. Germany									
Imports of Arabicas + Robustas	4	4	4	4	4	3	8	7	10
Imports of Arabicas	1	1	1	1	1	1	1	1	1
Netherlands									
Imports of Arabicas + Robustas	1	1	2	1	2	1	2	1	1
Imports of Arabicas	2	1	1	2	2	1	1	2	1
Italy									
Imports of Arabicas + Robustas	24	23	25	31	22	18	15	17	16
Imports of Arabicas	0	1	1	1	2	1	2	1	1
United Kingdom									
Imports of Arabicas + Robustas	56	63	56	62	56	66	53	39	52
Imports of Arabicas	43	55	46	38	27	35	29	25	32

These market shares were calculated from data in United Nations, Commodity Trade Statistics, Series D, 1962-1970.

the degree of effective protection afforded to coffee processors in the importing countries and, thus, to help stimulate the creation and expansion of processing facilities in the exporting countries. There were, however, no noticeable changes in processing activities in Ethiopia. Processing was confined to the "wet processing" of coffee in certain localities in Limu and Sidamo and there was no evidence to suggest that the number of farmers using this process changed during the period. Teshome Mulat identifies two obstacles which prevent more widespread adoption of this process.<sup>1</sup> Firstly, wet processing requires that pulping plants be close to the source of the product, but the inadequate road system does not permit this in many areas and, secondly, the heterogeneity of coffee production does not ensure that the type of coffee bean most suitable for wet processing is always available. Thus, regardless of changes in effective protection, these factors represent a constraint on the expansion of this type of processing. Work has only recently begun on the feasibility of establishing plants to produce soluble coffees.<sup>2</sup>

The absence of any causal relationship between changes in tariff measures and quantities imported and the domestic bottlenecks on the expansion of processing activities suggest that the absence of this element in both the G.A.T.T. study and in Sections 2 and 3 above makes no difference to the analysis and the conclusions reached.

## 5. Conclusions.

This chapter was aimed at establishing the causes of changes in world market conditions and the nature of the association between

<sup>1</sup>Teshome Mulat, Coffee Export, pp.40-41.

<sup>2</sup>Ibid., p.44.

events in world markets and the Ethiopian export experience. Several conclusions arise from the analysis of these issues.

Firstly, events in the markets for Ethiopian export products were determined by changes in supply conditions rather than by changes in demand conditions and this was found to be true both at the level of total world trade in these products and at the level of the individual markets to which Ethiopia exports.

Secondly, changes in supply conditions in each importing country were transmitted to Ethiopia in the form of price changes, given her position as a price-taker in world markets, and also in the form of quantity changes for hides and skins.

Thirdly, in the case of coffee changes in world supply conditions resulted from changes in the quantities exported by Brazil and, thus, the Ethiopian export performance with respect to this product was dependent on Brazilian exports.

Fourthly, the results of this chapter and of a G.A.T.T. study agreed in their rejection of the customary assumption that changes in market conditions are determined by demand factors but they disagreed on the actual cause of market changes. The G.A.T.T. study did not consider the possibility that supply conditions might be the principal cause of trade changes and attributed these changes to the improvement or deterioration in countries' competitive positions. A "minor" exporting country, however, cannot be both a price-taker and a price competitor and changes in supply conditions seem to provide a more plausible explanation of export performance for such a country than changes in price competitiveness.

Fifthly, there is no evidence to suggest that export performance has been affected by changes in trade restrictions.



## CHAPTER SIX

The consequences and causes of fluctuations in Ethiopian export earnings have been examined in previous chapters and this chapter is concerned with the types of policies which may be implemented to ameliorate the effects of export instability. The first section summarises briefly the findings of the previous chapters and from these findings it indicates the problems which policy measures would be required to tackle. This is followed by a discussion of various policy measures forwarded by different authors and, finally, the applicability of these measures to the Ethiopian situation is considered.

### 1. Summary of Findings and the Need for Government Intervention.

Government intervention to soften the impact of export instability<sup>1</sup> is frequently justified on the grounds that export producers ought to receive a steady income to avoid the hardships which accompany a fall in export earnings. This humanitarian view evolves from the judgement that income changes, arising from export fluctuations, lead to changes in consumption and that producers suffer reductions in their living standards in years in which export earnings decrease. Although data are not available on incomes, the Ethiopian experience conforms to the pattern of a relationship between exports and consumption since domestic consumption did fluctuate in sympathy with export earnings on a year-to-year basis. The nature of the production and consumption pattern within Ethiopia is such that farmers retain some part of their output for their own use and sell the remainder. The amount they hold back for their own consumption is determined not so much by their physical needs as by

<sup>1</sup>Government action to stabilise proceeds at the possible cost of lower average earnings over time is discussed in Section 2c below.

their ability to keep food supplies without storage facilities. The cash income received from the sale of the remainder is used to satisfy consumption needs in the period after the retained food supplies have been consumed and before the harvest. Any reductions in incomes resulting from decreases in export earnings will force farmers to rely on loans from money lenders at rates of interest of up to 200%. Where farmers are already pitiably poor, the reduction in living standards and the reliance on loans from money lenders at usurious rates of interest give much support to government action to stabilise producers' incomes.

In addition to humanitarian concern, growth considerations provide another defensible basis for government intervention. Economic growth in Ethiopia is dependent on imports of capital goods for investment and both changes in total imports and changes in imports of capital goods were associated with changes in total export earnings. Thus, fluctuations in export proceeds, by causing instability in the wherewithal to purchase capital goods from abroad, adversely affected the investment programmes of local entrepreneurs, whether private or public, which are essential to the acceleration of economic growth.

The lack of data on prices and employment does not allow one to build a case for government action premised on the argument that these variables are affected by export instability. Nor can the evidence concerning government revenues be called upon to support government intervention. The inadequate coverage of the tax system and the low percentage of government revenue arising from taxes on foreign trade meant that government revenues and, hence, government expenditures were not destabilised by export fluctuations.

Nevertheless, the hardships imposed on producers and the uncertainties introduced into investment by fluctuations in foreign exchange earnings provide sufficient justification for some form of intervention.

The characteristics of Ethiopia's exports are such that, to some extent, the causes of export instability correspond to the assumptions implicit in most discussions of instability. Fluctuations in total export earnings were related to the concentration of exports on one product, coffee, and that geographic concentration of exports on one market, the United States, also had a significant bearing on export fluctuations. The Ethiopian experience does not support, however, the customary assumption that changes in foreign demand conditions are responsible for export fluctuations. Supply, rather than demand, factors accounted for the changes in prices and quantities traded in the markets to which Ethiopia exports and, given Ethiopia's position as a price-taker in world markets, these supply-induced market changes were reflected in the prices received for each of her exports. The impact of market changes on the quantities exported varied, however, among the commodities.

The quota system operated under the International Coffee Agreement meant that, although normal price incentives were replaced by institutional arrangements, changes in the quantities exported and in export prices reflected changes in world market conditions. Among the other products, the market-orientation of a large proportion of the production of haricotbeans, the production of lentils within the more commercialised sector of the economy and the reservoir of hides available in the rural areas allowed producers to respond to changes in export prices. No such response was evident, however, for any

other products and this appears to be the result of imperfections in the marketing system which, by undermining the bargaining position of producers, depress the prices paid to farmers and, thereby, weaken the incentive for farmers to react to price changes.

These findings allow one to identify the factors giving rise to export instability and the areas in which government intervention is required to tackle the problems following from such instability. One may turn now to a consideration of the devices which have been mooted or which have been put into practice in other developing countries to determine whether they hold any lessons or guidelines for the Ethiopian authorities.

## 2. National Stabilisation Measures.

In the inter-war and post-war periods the principal objective of intervention in trade at the international level has been the minimisation of short-term fluctuations in commodity prices and/or in export proceeds from primary products. Unilateral action in those countries whose shares in world trade of primary commodities are so small that they have no influence over world market conditions must be confined, however, to attempts to lessen the impact of short-run fluctuations on the domestic economy and national measures designed to ameliorate the internal effects of export fluctuations may be separated into three groups; buffer fund policies, income stabilisation policies based on the use of monetary and fiscal devices and diversification policies. This section will look at these policies in turn.

## 2a. Buffer Fund Policies.<sup>1</sup>

Within the category of buffer fund policies one may distinguish various schemes, namely marketing boards, caisses de stabilisation de prix, variable export taxes and subsidies and multiple exchange rates. Despite differences in the method of operation, each of these schemes is intended to stabilise the prices and incomes received by producers for primary commodity exports.

Central marketing boards, usually established with the sole right to purchase commodities for export, attempt to achieve this end by offering a guaranteed price to domestic producers and selling the products abroad at prevailing market prices. In those years in which world prices exceed the guaranteed domestic price this scheme amounts to a tax on domestic producers and the reserves accumulated in this way may be used to subsidise the prices paid to producers when prices abroad fall below the guaranteed price. Thus, over time, this device may smooth out the effects on the prices received by producers of peaks and troughs in world market prices.

The caisses de stabilisation de prix in French-speaking Africa are the counterpart of the marketing boards found in English-speaking areas of Africa. Unlike the marketing boards, these stabilisation funds function without monopoly powers and without the use of fixed guaranteed prices. They operate instead by means of legally-fixed minimum prices for exports, levies on exports and controls over private sales contracts. These levies and controls are used in years of high world market prices to accumulate a reserve fund which is drawn upon to support the prices paid to domestic producers when

<sup>1</sup>Buffer fund policies are discussed at length in F.A.O., An Enquiry into the Problems of Agricultural Price Stabilisation and Support Policies, Rome, 1960.

world prices fall below the minimum price. Agricultural producers obtain insurance against low prices, therefore, but, as distinct from a system under which a central marketing agency undertakes to buy all supplies offered at a fixed price, they are not precluded from benefiting from periods of high world market prices.

The third approach to the moderation of price fluctuations involves the use of charges on exports without guaranteed or minimum prices and takes the form of variable export taxes and export subsidies. Under such a system export taxes are imposed, either automatically or at the discretion of the government, whenever world market prices exceed the accepted price norm and the higher the departure from the norm, the greater is the proportion of the price increase siphoned off in taxation. The reserves created by these tax measures in favourable periods may then be used to subsidise prices in less favourable periods.

Finally, an exchange control agency can stabilise the prices received by exporters by varying the official buying rates at which it purchases foreign exchange proceeds from particular commodities. When, for instance, world market prices for a particular commodity increase, this agency can devalue the exchange rate at which it takes over the foreign exchange proceeds from transactions in this product. Exporters, faced with a new exchange rate, find that they now receive less in terms of domestic currency than they would have received with the old exchange rate and the new market prices. The "losses" to the exporters, however, enable the exchange control agency to build up "profits" which may be used in years of adverse price changes to support the revaluation of the exchange rate.

Despite variations in approach there is a large measure of

ground common to these devices. They are available to any single country and are not dependent on international agreement. In addition, the principle central to each device is the need to sever the connection between fluctuations in world market prices and the prices received by exporters. This is done through the creation of a buffer fund of foreign currency, which is added to when world market prices are high and is used to subsidise the prices paid to exporters when world market prices are low. Buffer funds "interpose, as it were, a variable transmission mechanism that can, at least in theory, be used for cyclical stabilisation purposes in primary producing countries."<sup>1</sup>

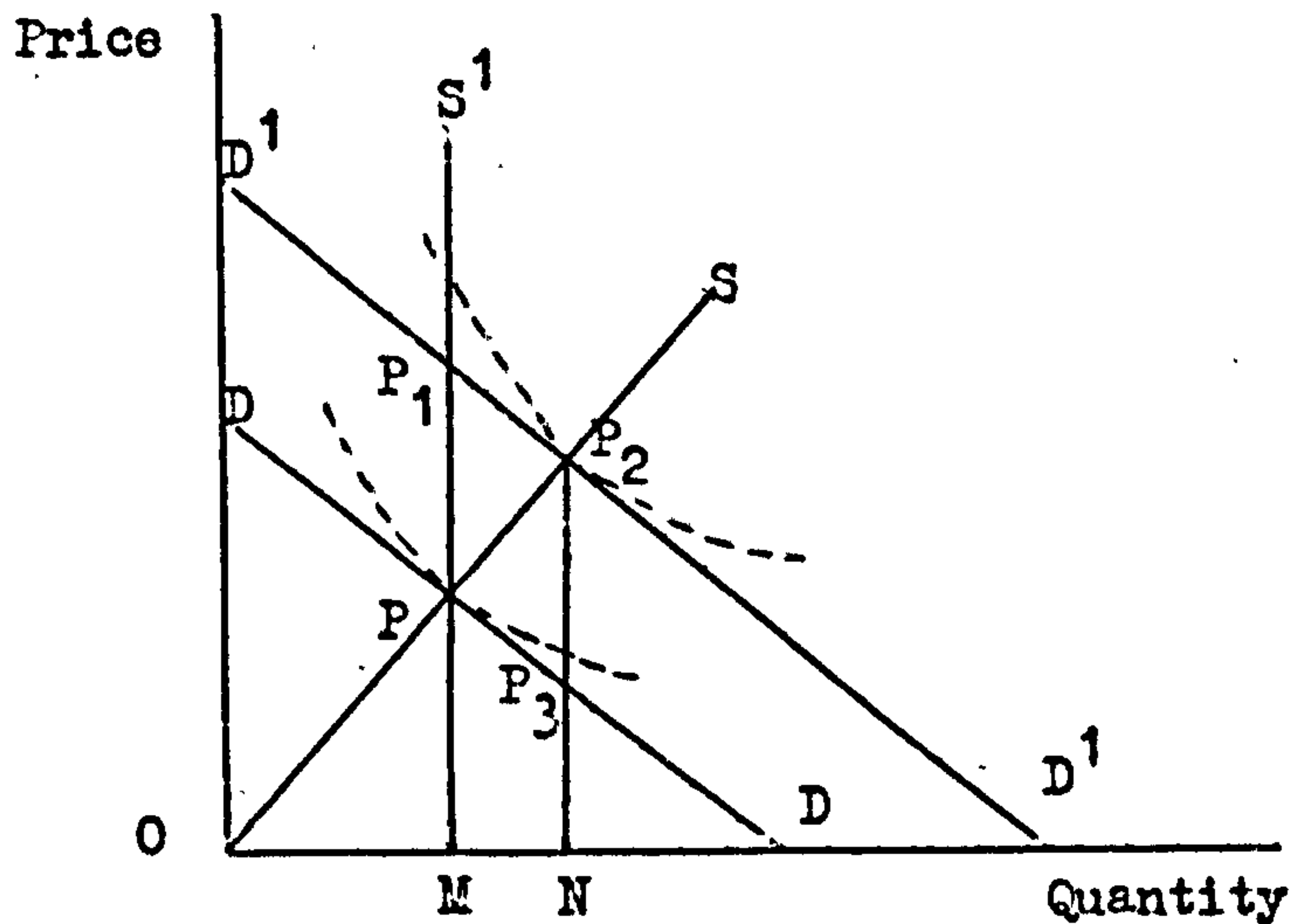
Nurkse has argued against the adoption of price stabilisation devices as a legitimate policy aim on the grounds that schemes based on the taxation and subsidisation of the export sector will eliminate the supply response of export producers to world market prices and, thus, will reduce the country's foreign exchange earnings over time. The following diagram, Diagram 7, illustrates the basis for this contention.<sup>2</sup> In Diagram 7 the supply curve OS has a price elasticity greater than zero and less than infinity and the dotted lines are equal revenue curves. Equilibrium obtains at price MP and quantity OM. In the absence of intervention to stabilise prices, a shift in the demand curve from DD to  $D^1D^1$  will cause an increase in price from MP to  $NP_2$  and will induce an increase in the quantities exported from OM to ON. Total export proceeds are given by the rectangle ON. $NP_2$ . On the other hand, if a buffer fund scheme meant that the quantity exported was not responsive to the shift in the demand curve, a new

<sup>1</sup>Nurkse, Kyklos, 1958, p.147.

<sup>2</sup>Nurkse, Epilogue, Kyklos, Vol. 11, 1958, p.249.

equilibrium would be arrived at where price is  $MP_1$  and export proceeds are shown by the rectangle  $OM.MP_1$ . The equal revenue curve on which  $P_2$  is situated passes above  $P_1$ , however, and it follows that stabilisation measures lead to a smaller increase in export earnings.

Diagram 7



It can be shown also that beginning from an equilibrium position at  $P_2$  a downward shift in the demand curve will result in lower export proceeds where a price stabilisation scheme is in operation. A shift in the demand curve from  $D^1D^1$  to  $DD$  leads to export earnings of  $OM.MP$  where supply adjusts to the lower price  $MP$ . With a fixed supply,  $ON$ , export earnings are  $ON.NP_3$  but  $P_3$  lies below the revenue curve passing through  $P$ , indicating that export earnings are less under stabilisation.

MacBean points out that four assumptions are crucial to Nurkse's analysis.<sup>1</sup> Firstly, demand must be elastic above the intersection of

<sup>1</sup>MacBean, Export Instability and Economic Development, p.220.



the demand curve with the supply schedule and inelastic below it. Secondly, demand changes must be the principal cause of fluctuations. Thirdly, price elasticities of supply must be greater than zero and, finally, lagged supply responses must not exist or must be amenable to controls. The validity of these assumptions is an empirical question to which the answer will probably differ among countries and commodities. It is worth noting, with regard to the first assumption, however, that

for many countries the demand facing their commodity exports is almost certain to be highly elastic simply because they supply such a small share of a relatively homogeneous market. But if demand is elastic, a downward or leftward shift of the  $D'D'$  curve to  $DD$  would yield higher foreign-exchange earnings to a policy which fixed supply at  $N$  than to one which allowed supply to adjust back to  $M$ .

This is a correct observation but it should not be construed as suggesting that a country facing, say, a perfectly elastic demand curve will enjoy increased export earnings under a buffer fund policy. Given such a demand curve this gain will be offset by the loss in export earnings when supply is fixed at  $OM$  and price changes from  $P$  to  $P_2$ . Moreover, with regard to the final assumption, one may note that, where they exist, supply responses are almost inevitably lagged, given the time required to alter production levels and to move output into export channels.

An issue over which there has been considerable debate is the question of the objective of stabilisation schemes. Where export instability results from fluctuations in both prices and quantities, price stabilisation schemes may not stabilise, and may destabilise, producers' incomes and it has been suggested, therefore, that the aim of intervention should be the stabilisation of incomes and not

<sup>1</sup>Ibid., pp.220-221.

of prices. A simple arithmetic example constructed by MacBean illustrates the way in which intervention to stabilise prices may accentuate fluctuations in income.

If the volume of the exported commodity this year were 10 million tons and the price were \$10 per ton, income received would be \$100 millions. If the next year the crop were a bad one and exports fell to 8 million tons, price could rise to, say, \$11 a ton, giving an income of \$88 million. But if the price had been fixed by policy at \$10.50 per ton, the incomes received would have been \$105 million and \$84 million in each year.

The change in income under the price stabilisation scheme is greater, therefore, than the free-market change in income.

The preference for measures consciously aimed at stabilising incomes is the consequence of several factors. Foremost among these is the paternalistic view that governments or government agencies should act to regulate producers' incomes in order to avoid the hardships caused to this group by downward changes in income. Although "producers should recognise that the swollen earnings from an export boom should not all be treated as currently spendable income, but should be kept in reserve against the inevitable reversal of their fortunes"<sup>2</sup>, they do not in fact behave like this and from this lack of self-restraint and foresight on the part of producers arises the need for government intervention.

A second argument in favour of income stabilisation has been put forward by P. T. Bauer and F. W. Paish. They argue that in many developing countries "the strain of rapid transition from a subsistence to a money economy is greatly enhanced by violent fluctuations in money incomes, the reasons for which are quite outside

<sup>1</sup>Ibid., p.211.

<sup>2</sup>Nurkse, Kyklos, 1958, p.148.

the grasp of the population."<sup>1</sup> Experience of unstable cash incomes may make farmers apprehensive, therefore, about venturing further into the monetised sector of the economy and, thus, may hold back a change indispensable to economic growth.

Bauer and Paish point out also that producers may be prevented from accumulating reserves in years of high income for use in less favourable years by "social customs and obligations". The extended family system, they argue, will tend to deprive producers of the full benefits of high incomes and will over time lower the benefits of production for cash income.<sup>2</sup> This line of reasoning involves, however, a debatable concept of the extended family system. MacBean contends that "power and prestige depend on status within the society and status depends not on control over material wealth but in claims against persons" and that "a windfall profit may draw more kin closer around the successful farmer, but this may enable the group to expand its farming activities."<sup>3</sup> If this is the case, income-stabilisation schemes will not necessarily contribute to the average prosperity of agricultural producers.

A final argument for income-smoothing schemes concerns the behaviour of domestic prices and costs during periods of high and low incomes. In boom periods the increase in disposable incomes will tend to exert inflationary pressures in the face of an inelastic supply of consumption goods, whether domestically produced or

<sup>1</sup>P. T. Bauer and F. W. Paish, The Reduction of Fluctuations in the Incomes of Primary Producers, Economic Journal, Vol. 62, December 1952, p.766.

<sup>2</sup>Ibid., p.766.

<sup>3</sup>MacBean, Export Instability and Economic Development, p.217.

imported. These price increases will give rise in turn to increases in the costs of labour and other inputs. Where a "ratchet economy" has developed a fall in producers' incomes will not bring about a symmetrical fall in prices and costs, however, and this may "force governments, in order to avoid unemployment, to adopt deficit-finance measures which may tend to sustain the inflation."<sup>1</sup>

As with the conditions crucial to Nurkse's objections to price stabilisation measures, the diversity of economic conditions make it unlikely that these arguments are capable of generalisation to all countries. But, where the principle of income stabilisation is adopted on pragmatic grounds, the government may achieve this objective by taking steps to regulate exporters' sales receipts. The first stage in this process is the determination of the norm for export earnings. Bauer and Paish advocate that this norm should be calculated with reference to export proceeds in previous years in order to retain contact with the trend in export earnings<sup>2</sup> and they have constructed a general formula which may be used for this purpose.<sup>3</sup> The government then collects in taxation the amount by which current receipts are in excess of the norm or pays out in subsidies an amount equal to the shortfall of current earnings below

<sup>1</sup>Ibid., p.214.

<sup>2</sup>Bauer and Paish, Economic Journal, 1952, p.769.

<sup>3</sup>The general formula constructed by Bauer and Paish is

$$I_t = \frac{Y_t}{x} + \frac{I}{n} \left[ (Y_{t-1} + Y_{t-2} + \dots + Y_{t-n}) \times \frac{x-1}{x} \right]$$

where  $I_t$  = total amount distributed to producers in current year  $t$ ;

$Y_t$  = proceeds of crop for current year;

$\frac{I}{x}$  = fraction of proceeds for current year paid to producer;

and  $n$  = number of previous years over which proceeds are averaged.

the norm.<sup>1</sup> Bauer and Paish recognise that it would not be convenient in practice to wait until the final receipts from the sale of the crop were known before making payments to producers. This difficulty may be overcome, however, by making a payment at the beginning of the selling season of the part carried forward from past years, and at the end of the season of the part earned in the current year.<sup>2</sup>

A scheme of this type will lead to stable incomes for producers where the domestic marketing system contains an element of competition.

If there should be a poor crop, dealers, knowing that their total receipts will not fluctuate very much from year to year, know that they will receive a high unit price. They therefore have a strong incentive to bid up their buying prices to get hold of as much of the crop as they can handle in order to raise their profits. They have an incentive to go on buying until the price paid for the last units they buy, plus the marginal cost of handling them, is equal to the unit value they expect to receive from the central bank. If the crop is large, they know that the price they receive from the bank is likely to be low, and thus that they cannot afford to pay high prices to the producers.<sup>3</sup>

Competition within the marketing system means that changes in the quantities sold for export are compensated by price changes to ensure relatively stable incomes for both producers and those

<sup>1</sup>Where the amount paid out to dealers is determined by estimating an unweighted average of this year's receipts and receipts in the three previous years, the formula for the amount collected in taxation or paid out in subsidies is as follows;

$$T = X_t - \frac{1}{4}(X_t + X_{t-1} + X_{t-2} + X_{t-3})$$

where T = tax or subsidy;

X = export receipts from the crop;

and t, t-1, etc. indicate this year, previous year, etc.

See MacBean, Export Instability and Economic Development, p.233.

<sup>2</sup>Bauer and Paish, Economic Journal, pp.769-770.

<sup>3</sup>MacBean, Export Instability and Economic Development, p.223.

involved in the marketing chain.

In the absence of competition, the full benefits of an income-smoothing scheme might not be transmitted to producers as a result of exploitation by monopolistic dealers. Measures are required, therefore, to "strengthen the bargaining position of farmers in relation to merchants and distributors, who commonly possess much greater resources than do individual farmers"<sup>1</sup> and F.A.O. maintains that this is best achieved by measures which advertise widely the range within which export prices are expected to move.<sup>2</sup> MacBean argues that, quite apart from stabilisation policies, there may be a case for government-controlled minimum and maximum prices to weaken the power of the dealers and that the relevant price range be derived from a Bauer-Paish formula.<sup>3</sup> As a word of caution, however, he adds that "given the background of illiteracy, ignorance and political weakness of most of the peasant population in underdeveloped

<sup>1</sup>F.A.O., An Enquiry into the Problems of Agricultural Price Stabilisation and Support Policies, p.22.

<sup>2</sup>United Nations, Trade and Development, p.201.

<sup>3</sup>The general formula for this type of scheme is as follows:

$$S_t = \frac{P_t}{X} +$$

$$\frac{\frac{1}{n}[P_{t-1}Q_{t-1} + P_{t-2}Q_{t-2} + \dots + P_{t-n}Q_{t-n}] - \frac{(\bar{P}_{t-1}Q_{t-1} + \bar{P}_{t-2}Q_{t-2} + \dots + \bar{P}_{t-n}Q_{t-n})}{X}}{\bar{Q}_t}$$

where  $S_t$  = producer price;

$P$  = market price (net proceeds per ton);

$\bar{P}$  = expected market price (net proceeds per ton);

$Q$  = volume of crop;

$\bar{Q}$  = expected volume of crop;

$\frac{1}{X}$  = fraction of expected proceeds of current year paid out;

and  $n$  = number of year over which proceeds are averaged for smoothing fluctuations.

See Bauer and Paish, Economic Journal, 1952, p.771.

countries, many abuses would continue, but it is difficult to think of any scheme which would avoid these and remain practical."<sup>1</sup>

The schemes for the stabilisation of prices and incomes outlined above focus on controls over the export sector, but it is theoretically possible that general fiscal and monetary policies may be used in their place to moderate the effects of export instability and the use of such policies will be discussed in the following section.

## 2b. Fiscal and Monetary Policies.

In principle fiscal and monetary policies may be employed by the governments of developing countries to smooth out the effects on their economies of short-term fluctuations in the same way as these techniques are employed in developed countries. The practical difficulties of doing so are considerable, however, in countries which do not have advanced administrative systems and which lack experience of these policies and one must examine the effectiveness of fiscal and monetary policies in the light of these limitations.

### (i) Fiscal Policies.

Nurkse's concern with the effect of price controls on supply response caused him to advocate general taxation aimed at influencing aggregate disposable income, rather than a form of taxation restricted in its application to the export sector.<sup>2</sup> A budget surplus could be accumulated in boom periods, he contends, to check the growth of disposable income and expenditure and to provide funds for expenditure in depression years. Bauer and Paish feel that

<sup>1</sup>MacBean, Export Instability and Economic Development, p.236.

<sup>2</sup>Nurkse, Kyklos, 1958, p.150.

this is an attractive policy on the grounds of equity.<sup>1</sup> A government determined to offset the effect on national income of an increase in export proceeds would be required to raise in additional taxation an amount equal to the change in foreign exchange holdings. Increased taxation would mean that exporters return to the government part of their increased incomes, but to stabilise national income, the incomes of the rest of the community would have to fall after tax by an amount equivalent to the after tax increase in exporters' incomes. Appealing though this course of action is where export producers have lower incomes, even after the increase, than other sections of the community, it suffers from major drawbacks.

The first drawback is that this approach does not differentiate among different groups of export producers. A country, largely dependent for its export earnings on one major export product, may find that export earnings from this commodity tend to move in the opposite direction from proceeds from minor export commodities. Consequently, fiscal measures to offset the effects of an increase in proceeds from the major product may inflict further hardships on the producers of the minor products and, conversely, the relaxation of measures in years when earnings from the major product decrease and proceeds from other products rise would increase the incomes of minor producers still further. General fiscal action might exacerbate, therefore, the instability in the incomes of some producers within the export sector.

Secondly, it has been pointed out by W. W. Heller that the conditions under which the equitable and flexible instruments of

<sup>1</sup>P. T. Bauer and F. W. Paish, Comments on Professor Nurkse's Paper, Kyklos, Vol. 11, 1958, p.175.



taxation thrive do not yet prevail in the developing countries<sup>1</sup> and the possibilities of conducting a general fiscal policy of the type suggested by Nurkse are, therefore, extremely limited.<sup>2</sup> A recitation of factors such as the low levels of literacy, the lack of honest administrators, the failure of businessmen to keep honest and reliable accounting methods and the failure of the tax systems to reach the predominantly subsistence farmers producing a surplus for sale underscores the absence of those elements essential to the operation of an effective general fiscal policy.

Even where these prerequisites exist, it is possible that the objective of distributing the burden of taxation equitably among the different sections of the community may conflict with other principles underlying the tax structure. An important principle of a tax structure is the canon of income elasticity of taxation, which requires that the share of taxation in total incomes must rise as incomes increase. Critics of the adoption of progressive taxation on incomes and profits based on this canon warn, however, "that it will absorb private savings, dull initiative and enterprise, and perhaps stimulate capital flight. They assert also that high income taxes will discourage foreign investment."<sup>3</sup> R. Goode contends that

<sup>1</sup>W. W. Heller, Fiscal Policies for Underdeveloped Economies, in Conference on Agricultural Taxation and Economic Development, edited by H. P. Wald, International Program in Taxation, Harvard Law School, Cambridge, 1954, reprinted in part in G. M. Meier, Leading Issues in Development Economics, Oxford University Press, New York, 1964, pp.115-119.

<sup>2</sup>Nurkse himself did recognise that the use of general taxation would probably involve insuperable difficulties. See Nurkse, Kyklos, 1958, p.151.

<sup>3</sup>R. Goode, Reconstruction of Foreign Tax Systems, in Proceedings of the Forty-fourth Annual Conference of the National Tax Association, 1951, reprinted in part in Meier, Leading Issues in Development Economics, pp.122-127.

these criticisms, which allege that progressive taxation will have adverse effects on economic growth, should be looked at in the light of some opposing considerations. Firstly, the tendency towards lavish consumption and the absence of efficient capital markets frequently impede the channelling of savings into productive domestic investment. Secondly, although high tax rates may discourage investment, the low social evaluation of business usually provides a more adequate explanation of the absence of enterprise. Thirdly, capital flight tends to be motivated more often by fears of nationalisation, political instability and currency devaluation than by tax avoidance and, finally, high tax rates in his home country may prepare the foreign capitalist for considerably more severe income taxation than exists in many developing countries. One may also add the point that progressive taxation may be essential to avoid the disruptive social strains which arise when income inequalities are allowed to persist or widen. These considerations clearly weaken the force of any argument against the adoption of progressive taxation.

Another aspect of the canon of income elasticity of taxation concerns indirect taxation. Tax systems in developing countries lay heavy emphasis on commodity taxation and R. J. Chelliah has indicated that, in addition to the progressive taxation of incomes and profits, it is desirable to tax also goods with a high income elasticity of demand.<sup>1</sup> Such taxation might lead once more, however, to the contention that it conflicts with the principle that the tax structure should be geared to achieving economic growth. MacBean

<sup>1</sup>R. J. Chelliah, Fiscal Policy in Underdeveloped Countries, George Allen and Unwin, London, 1960. Reprinted in part in Meier, Leading Issues in Development Economics, pp.119-122.

argues that:

just because they are goods for which demand is highly income elastic, these are generally the main incentive goods in the economy. If taxation makes them too expensive for large groups of people, the goods lose their role as targets which can be attained by a fair amount of work and thrift. Such an effect could form a serious brake on economic growth.<sup>1</sup>

MacBean's argument should not be accepted without question, however. Certain commodities, the demand for which is income elastic, do not fall into the category of incentive goods for large groups of people. Regardless of the degree of progressivity in the tax structure, products such as automobiles are unattainable by the bulk of the population in developing countries, given their low income levels, and the existence of these goods, one may argue, has a demoralising effect rather than acting as a stimulus to greater effort.

MacBean may have in mind those sections of the community whose incomes do enable them to purchase such goods. But the extent of the income inequalities and the meagre degree of progressivity in the tax structure in most developing countries may place one in favour of greater progressivity. A priori one may argue, for instance, that where high incomes are largely attributable to monopoly or quasi-rent elements, progressive taxation will have little effect on the supply of effort or that the degree of progressivity tends to be insufficient to ensure that the prices paid by the consumers of imported luxuries reflect the full opportunity cost of the foreign exchange necessary to obtain the goods from abroad.

On the other hand, MacBean may be referring to much less expensive consumer goods which can be purchased by the poorer sections of the community. It still remains to be shown, however, that

<sup>1</sup>MacBean, Export Instability and Economic Development, p.243.

progressive taxation will remove the desire to obtain these goods. One may argue, a priori, that measures which reduce incomes will force individuals to work harder in order to restore their incomes to the original level. This may apply also to the supply of effort of the richer members of the community. The arguments for greater progressivity seem at least as sound, therefore, as those against.

K. Knorr and H. W. Singer both raise a further issue concerning the viability of policies based on fiscal measures. According to Knorr<sup>1</sup>, a major difficulty arises with respect to the financial discipline required of governments, if fiscal devices are to be put to good use. The question of financial discipline relates to the use which the authorities make of revenues raised by taxation and arises because, as Singer maintains<sup>2</sup>, the concepts of "stabilisation and development are not always kept tidily apart" in practice. In view of the pressure to finance development projects, the major determinant of government expenditure in developing countries is usually available revenue and, thus, governments may find that they cannot achieve a budget surplus in favourable years. Where the revenues raised through taxation are used to finance government expenditures, domestic incomes will increase and the original purpose of the measures, national income stabilisation, will be defeated.

The possibility that government expenditures might be staged in such a way that they provide another measure for dealing with short-term instability may be discounted on several grounds. As in

<sup>1</sup>K. Knorr, Comments on Professor Nurkse's Paper, Kyklos, Vol. 11, 1958, p.227.

<sup>2</sup>H. W. Singer, Stabilisation and Development of Primary Producing Countries, Introductory Statement, Kyklos, 1959, vol. 12, p.279.

developed countries, the use of expenditure policy is characterised by a series of lags, which limit the flexibility of this measure. There may be a lag between the need for changes in expenditure and the recognition of this need by the government and further delays may occur as a result of the time period required for the government to formulate and implement appropriate policies. "In the best possible circumstances the government has a list of relatively small-scale projects which can be put into operation and which reach completion at fairly frequent intervals."<sup>1</sup> G. Patterson has pointed out<sup>2</sup>, however, that, even where such projects are immediately available, skilled labour of all kinds is almost always scarce and that severe limitations are placed on the use of unskilled workers by the shortage of managerial and technical personnel. Such projects, therefore, will probably be inefficient and costly.

The most important objection to the countercyclical use of government expenditures arises, however, from the opportunity cost of employing these resources to achieve stability. According to MacBean:

Most underdeveloped countries would benefit more by maintaining a steady trend in government expenditure, especially expenditure on development projects. This should aid planning, increase confidence and lower costs ... Anticyclical timing of public developmental expenditure is seldom likely to be a worthwhile objective of government planning where growth is just beginning.<sup>3</sup>

The use of government resources to achieve stability is, therefore,

<sup>1</sup> MacBean, Export Instability and Economic Development, p.246.

<sup>2</sup> G. Patterson, Impact of Deficit Financing in Underdeveloped Countries: Some Neglected Aspects, Journal of Finance, Vol. XI, No. 2, May 1957, p.179. Reprinted in part in Meier, Leading Issues in Development Economics, pp.174-179.

<sup>3</sup> MacBean, Export Instability and Economic Development, p.247.

of less importance than their use for the promotion of economic growth.

This summary of the problems confronting governments seeking to sterilise the effects on their economies of export instability through taxation and expenditure policies suggests that the opportunities for the successful implementation of these policies are likely to be very limited and one may turn now to a consideration of the probable effectiveness of monetary policies.

(ii) Monetary Policies.

Central banks in the developing countries have at their disposal various instruments of monetary policy. The instruments of general monetary policy are the discount rate, open market operations and variable reserve requirements and these controls are aimed at altering the overall volume of credit available to the economy without influencing the allocation of credit among alternative uses. Selective or direct controls, such as credit ceilings and advance deposits on imports, are also available to control specific types of credit. The question of the efficiency of these measures in the context of the developing countries has attracted much attention and one may proceed, therefore, by examining these techniques and the conditions required for their effective operation to counteract the effects on the domestic economy of export fluctuations.

The use of general monetary measures by a central bank to reduce export-induced cyclical changes in national income is focussed on the moderation of the multiple expansion or contraction of credit arising from a change in export earnings. Changes in the central bank discount rate are designed to influence credit expansion by altering the interest rate at which commercial banks may borrow from the

central bank and, thereby, affecting the terms on which commercial banks lend to their customers. The second device, open market operations, functions by means of the purchase or sale of government securities to the commercial banks, which cause withdrawals from or additions to the cash reserves of these banks, and the resulting changes in the banks' liabilities bring about changes in the money supply. The remaining instrument of general monetary policy, the use of variable reserve requirements, is intended to neutralise the effect on the money supply of changes in exporters' cash holdings by varying the legal reserve ratio of the commercial banks.

MacBean has enumerated the conditions essential for the effective implementation of policies based on the use of changes in the discount rate and open market operations. They include

a commercial banking system which is in the habit of rediscounting bills at the central bank, a reasonably wide market for government securities (including non-official buyers), banks which operate at or close to fairly rigid reserve requirements and without possibilities of resort to external sources of extra cash, and, finally, a substantial amount of local investment and consumption financed by commercial banks.

Corresponding to these prerequisites, MacBean then adduces a list of arguments to suggest that the capital and money markets in the developing countries have not yet reached a sufficient degree of sophistication to enable the central banks to influence the level of demand through their discounting and borrowing relationships with commercial banks. Commercial banks are not in the habit of discounting or borrowing from the central banks to any great extent. The market for government securities is usually so small that any sales sufficient to absorb bank liquidity would send security

<sup>1</sup>Ibid., p.248.

prices plunging down, inflict serious damage on investors' confidence, and probably postpone prospects of creating a capital market for local funds indefinitely.

In addition, commercial banks frequently hold reserves in excess of the legal reserve requirements and the central bank may, therefore, be unable to enforce a credit contraction. Finally, the proportion of total credit originating in the commercial banking system may be quite small, since credit in the agricultural sector tends to come from money-lenders, traders or cooperatives.

Khatkhate argues that this lack of sophistication makes the use of variable reserve requirements a more attractive proposition than the use of discount rate and open market operations policies, because this instrument "can work, and quite effectively, even where the financial mechanism is rudimentary."<sup>2</sup> Moreover, Khatkhate points out that:

monetary policy instruments, ... if vigorously and purposively adapted to the conditions in the developing countries, can themselves become the agent to promote the money and capital markets, which, in turn, create further favourable conditions for the effective exercise of a broader range of instruments of monetary policy.<sup>3</sup>

MacBean, realising the importance of such interdependence among monetary instruments, suggests that the use of variable reserve requirements may increase the effectiveness of other measures.

If the commercial banks possess excessive reserves and have no need to rediscount at the central bank, a large increase in the requirement can force them "into the bank", They may have to rediscount some of their assets to obtain the cash to deposit with the central bank. Similarly, raising reserve requirements

<sup>1</sup>Ibid., p.248.

<sup>2</sup>D. R. Khatkhate, Analytic Basis of the Working of Monetary Policies in Less Developed Countries, Portfolio, International Economic Perspectives, Vol. 1, No. 4, p.555.

<sup>3</sup>Ibid., p.555.



makes open-market operations more feasible, since excess reserves can be eliminated by the more direct measure.

The major constraint on the effectiveness of variations in reserve requirements in controlling the money supply is the characteristic tendency of the commercial banks to hold reserves well in excess of legal requirements. As Khatkhate indicates, a consequence of this tendency is that "reserve requirements, if they are to affect banks' lending policies, must have a wider range of variations than in the developed economies."<sup>2</sup> Even if the variation is sufficient to prevent credit expansion by domestic banks, the presence of expatriate banking institutions may render this policy measure ineffective, however, since these banks may react to high reserve requirements by obtaining extra cash from abroad to support their lending activities. Moreover, if generally applied, a sharp increase in the ratio of reserves to assets will have a more damaging effect on those commercial banks with the lower cash ratios and such an outcome may not be satisfactory, because low cash ratios may indicate that these banks are the "more active forces for development."<sup>3</sup> In addition, the influence on credit expansion of variations in the reserve requirements of commercial banks may be counterbalanced by the lending activities of financial intermediaries such as mortgage companies and savings banks, whose activities are not covered by this policy measure. Thus, although it probably constitutes a more powerful monetary instrument than the other general controls, the use of variable reserve requirements is not without constraints on its

<sup>1</sup> MacBean, Export Instability and Economic Development, p.250.

<sup>2</sup> Khatkhate, International Economic Perspectives, 1973, p.556.

<sup>3</sup> MacBean, Export Instability and Economic Development, p.251.

effectiveness.

As well as these general controls, central banks may impose ceilings on the volume of credit made available to the private sector. To restrict the secondary expansion of private sector credit resulting from an increase in foreign exchange earnings, these ceilings may be imposed either on total private credit or on private credit for specific uses. A. I. Bloomfield indicates that a central bank using such controls may channel resources in desired directions, "both between the public and the private sector, on the one hand, and within the private sector on the other."<sup>1</sup>

In view of the fear held by central banks that restrictive monetary measures, such as ceilings on total private credit, might hamper the progress of economic development, the tendency has been towards the use of ceilings on loans for particular purposes. Several factors, however, mitigate against the successful use of these measures. As in developed countries, ceilings on credit offered by the commercial banks for specific purposes will divert customers to other sources of loanable funds and/or will cause the banking system to channel its loanable funds into uses free from restrictions. In addition, where borrowers are entrepreneurs engaged in several forms of commercial activity, it may be possible for them to shift loans from one use to another and, finally, the "more specific the controls, the more administration is required to make them work."<sup>2</sup>

A second form of selective control available to the monetary

<sup>1</sup>A. I. Bloomfield, Monetary Policy in Underdeveloped Countries, in Public Policy, Vol. VII, edited by C. J. Friedrich and S. E. Harris, Harvard University Press, 1956. Reprinted in part in Meier, Leading Issues in Development Economics, pp.189-193.

<sup>2</sup>MacBean, Export Instability and Economic Development, p.256.

authorities to reduce the secondary expansion of credit by the commercial banks is the use of advance deposits on imports. This measure requires importers to make a cash deposit with the central bank in advance of receiving exchange permission to buy products from abroad. The commercial banks' reserves are reduced by an amount equivalent to that deposited by importers with the central bank and this may check credit expansion, but, as with other measures, the extent to which this instrument will effectively restrain inflationary pressure is open to doubt.

The use of advance deposits as a countercyclical weapon in a period of inflation, consequent upon an export expansion, will have no effect where the commercial banking system possesses excess reserves large enough to cover the amounts required by importers. Nor is it likely that these deposits will specifically reduce imports as the interest cost on loans will not tend to act as a disincentive to importers in an inflationary period. Indeed, where advance deposits have no influence on the expansion of credit by the commercial banks, the desirability of reducing imports is highly dubious. Cut-backs in imports will probably lead to an increase in the demand for domestically produced goods, which are generally inelastic with respect to price, and, thus, will aggravate the inflationary situation. Where the banks are operating without excess reserves, "the likelihood that the effect will be general rather than fall specifically on imports depends mainly on the ability of the commercial banks to discriminate between loans for import financing and loans for other purposes."<sup>1</sup> Given this ability, the granting of loans to importers for prior deposits will draw down the banks' reserves and restrict credit expansion, but

<sup>1</sup>Ibid., p.254.

the operation of this measure is then identical with the operation of variable reserve requirements and holds no special advantage over the latter instrument.

The constraints on the usefulness of monetary policy outlined above lead one to agree with Bloomfield that monetary instruments, "despite the intentions of the drafters of the statutes, are not too well adapted to the financial structures and administrative capacities" of the developing countries and that "the overall potentialities of many of these instruments are narrowly limited."<sup>1</sup> Consequently, one is justified in being sceptical about the usefulness of these measures in counteracting export-induced fluctuations in the domestic economy.

#### 2c. Diversification Policies.

The final measures available to a single developing country involve the diversification of exports. Unlike the previous policy instruments which concentrate on ameliorating the effects of export instability, these measures, commodity and geographic diversification, are concerned with attempting to eliminate causal factors and, thereby, prevent or reduce fluctuations in proceeds. The premise on which these measures are founded is that where export fluctuations are caused by concentration on primary products, on a narrow range of commodities or on a limited number of markets it follows that pursuing the appropriate form of export diversification will contribute to greater stability.

The case for commodity diversification is that the factors influencing proceeds will vary among commodities and that,

<sup>1</sup>Bloomfield, Public Policy, Vol. X11, p.272.

consequently, the time patterns of earnings from individual commodities will differ. Thus, the larger the number of commodities exported and the more evenly earnings are distributed among these commodities, the greater is the likelihood that fluctuations in earnings from individual products will offset one another. When the dependence on earnings from one or a few primary commodities is reduced by introducing or expanding exports of different types of manufactured goods, the problems of commodity concentration and the dependence on primary products are resolved simultaneously. The arguments for geographic diversification are analagous to those for product diversification.

Deliberate policy measures to diversify exports may result, however, in more stable earnings only at the cost of lower aggregate receipts over time. Commodity diversification, for instance, may mean that the developing countries forfeit some of the gains from specialising according to comparative advantage. Similarly, efforts to direct exports away from particular markets and towards others may reduce aggregate earnings. Consequently, the issue becomes one of whether governments seek to pursue a policy of diversification involving the cost of lower earnings or whether they accept that export instability must be tackled by other means in order to obtain relatively higher receipts. In view of the foreign exchange constraints facing many developing countries, the latter course of action seems more warranted.

Having discussed the problems connected with the use of policy devices in the developing countries in general, one may turn now to a consideration of the constraints on the effectiveness of these

measures in Ethiopia with a view to determining which of these policies is best suited to solving the problems experienced as a result of export instability.

### 3. Stabilisation Policies in the Ethiopian Context.

The discussion in the previous section outlined the various limitations on the use of fiscal and monetary policies in the developing countries as means of counteracting the effects of export instability. An examination of the Ethiopian situation indicates that the conditions giving rise to these limitations are present in such force that the adoption of fiscal and monetary devices to offset the problems associated with export fluctuations is not feasible. Moreover, even if the adoption of these measures were feasible, the precise objective of government action narrows the range of devices which may be used.

The main features of the Ethiopian tax system are its inadequate coverage, the underassessment of taxation and high tax delinquency rates. While the latter two features are clearly impediments to the effective functioning of fiscal policies, the major drawback to the use of tax measures is the failure of the system to cover the basically subsistence farmers producing a surplus for sale. This problem of coverage rules out government action based on tax devices where the particular aim of such action is the stabilisation of producers' incomes.

The probable effectiveness of monetary measures may be gauged from the conclusions reached by E. L. Furness concerning the determinants of the money supply in Ethiopia. He found that "of the basic determinants of money volume ... neither the attitudes of the

non-bank private sector towards accumulating debt nor the rate of interest have been able to play a significant role because of the present narrowness of capital markets" and that "there is no evidence from the statistics that the state of bank liquidity exerted a dominant or controlling influence on money creation."<sup>1</sup> The existence of excess reserves and the ineffectiveness of the interest rate eliminate the use of either the general or the specific measures discussed in the previous section. The growth of the demand for credit has meant, however, that the commercial banks have become increasingly illiquid and this factor, along with the banks' increasing indebtedness to the National Bank, may strengthen the position of the National Bank with regard to the use of monetary policies. Nevertheless, even should monetary measures be capable of regulating credit expansion, such measures will be of no benefit to agricultural producers. As a result of their inability to provide the necessary collateral, small farmers cannot offset downward changes in their income by borrowing from the commercial banks and the indications are that the banking system will not be in a position to extend credit to the basically subsistence farmers within the next decade. Thus, monetary policies, like fiscal policies, do not offer any solution to the hardships suffered by producers.

Buffer fund policies may aim at the moderation of fluctuations either in prices or in incomes. The moderation of fluctuations in producers' incomes does not necessarily follow, however, from the reduction of price fluctuations and in the Ethiopian context it would

<sup>1</sup>E. L. Furness, The Determination of the Volume of Money in Ethiopia, p.35.

<sup>2</sup>IBRD IDA, Agricultural Sector Survey, Ethiopia, Annex 14, p.1.

be more appropriate to focus directly on income-smoothing schemes, as the evidence in Chapter Two shows that for the products exported, apart from coffee, goatskins and oilseed cakes, the fluctuations in the quantities exported exceeded the fluctuations in prices. Of the schemes discussed in the previous section the most relevant is, therefore, that requiring the holding of blocked accounts at the central bank and the calculation of the amounts of foreign exchange to be cashed in the current year along the lines suggested by Bauer and Paish. In addition, since producers are under considerable pressure to sell their commodities after the harvest and are in a weak position when they arrive at the market, there is a good case for supplementing this income-stabilisation scheme with the creation of a system directed towards strengthening the hand of producers.

Market information may be collected and disseminated by the staff of the organisations concerned with the export of the various commodities. Price quotations, estimated from a Bauer-Paish formula, as suggested by MacBean in the previous section, may be included in this information. The wide publication in the market areas of these price quotations, along with estimates of transport costs, will provide farmers with some idea of the prices they ought to receive and, where it is felt that competition among dealers is not sufficient to prevent the exploitation of producers, several steps may be taken. Licences may be withdrawn from or fines imposed upon dealers taking advantage of a local monopoly; the number of dealers licensed to trade in given areas may be increased; or the relevant organisations may stand ready to act as dealers themselves.

These various tasks and the manipulation of the blocked accounts may be undertaken by organisations which are already in existence;



the National Coffee Board, the Grain Board and the Meat and Livestock Board.<sup>1</sup> It may be objected that the shortage of appropriate manpower would impose a serious constraint on these organisations' abilities to accept further responsibilities. The need to increase the supply of suitably trained manpower is well recognised in Ethiopia, however, and efforts are currently under way to remedy the problem.<sup>2</sup> In the immediate future the problem may be overcome, at least partially, by the more efficient use of present staff, since there is substantial evidence that existing manpower is grossly underutilised.<sup>3</sup>

Moreover, the proposed activities would complement and reinforce the activities of other organisations. The Ethiopian Standards Institute is currently attempting to standardise the weights and measures in use at village markets, while farmers' cooperatives are now being established with the aim, inter alia, of providing storage facilities and both central government and local communities are actively interested in building feeder roads to help reduce farmers' marketing costs.<sup>4</sup>

The schemes discussed above have different objectives but each may contribute to solving the problems attendant on export fluctuations. The stabilisation of producers' incomes by means of controlling the amounts of foreign exchange earnings cashed in each

<sup>1</sup>The present powers of the National Coffee Board, the Meat and Livestock Board and the Grain Board are discussed in *Ibid.*, Annexes 3, 5 and 16 respectively.

<sup>2</sup>These efforts are reflected in the increases in the number of students entering the College of Agriculture in Alemaya.

<sup>3</sup>See IBRD IDA, Agricultural Survey, Ethiopia, Vol. 111, Annex 3, p.6, Annex 5, p.22, Annex 18, p.14 and Annex 19, pp.6-7.

<sup>4</sup>The activities of these organisations and groups are discussed in *Ibid.*, Vol. 111, Annex 16.

year will ameliorate the hardships suffered by agricultural producers in those years in which export earnings decrease and the publication of information on prices will strengthen the producers' bargaining position by eliminating the opportunities for dealers to spread dubious market information. The latter measure is concerned with raising, rather than stabilising, producers' incomes, but the benefits derived from both schemes may have the common effect of making farmers less apprehensive about the production of crops for sale. By providing what Bauer and Paish have described as "a sense of continuity in economic affairs"<sup>1</sup> these measures may encourage farmers to become more market-oriented and to expand their surplus production.

The type of measures suggested here concentrate on ameliorating the internal effects of export instability rather than on approaching the problem by means of diversification policies, which attempt to reduce or eliminate the fluctuations in export proceeds. Advocacy of measures which improve producers' market orientation is not necessarily inconsistent, however, with the diversification of exports, both in terms of commodity and market composition.

At present Ethiopian exports are characterised by a double dependence on coffee, which is reflected in the importance of commodity and geographic concentration as factors explaining the instability of total proceeds. Attempts at diversification policies alone are unlikely to be appealing, since any reduction of aggregate earnings over time would involve a diminished ability to purchase "input imports" and would damage efforts to achieve growth.<sup>2</sup>

<sup>1</sup>Bauer and Paish, Economic Journal, 1952, pp.777-778.

<sup>2</sup>The importance of the foreign exchange constraint was discussed in Chapter Two, Section 2b.

Improved market-orientation might bring about, however, changes in the commodity concentration of exports and the prospects are that these changes would be achieved by altering the distribution of earnings among commodities and not by adding to the number of commodities on the export list. The latter possibility is ruled out by the absence of alternative products which might be exported.

The IBRD has indicated that the chances of exploiting resources of potash, the only mineral known to be available in commercial quantities for export, are modest and that exports from any other non-agricultural source cannot be reasonably anticipated. Moreover, within agriculture the products with the brighter prospects for development are those already exported.<sup>1</sup> There is, the IBRD argues, "considerable scope" for expanded production of selected pulses, while "the potential for expanding oilseeds is very great".<sup>2</sup> The latter group of products can be grown in areas where there is suitable unused land and, hence, is free of competition with other products.<sup>3</sup> Coffee production could be stepped up by simple improvements in harvesting practices.<sup>4</sup>

The commodity concentration of exports would be altered, however, only if earnings from non-coffee exports grew more rapidly than proceeds from coffee. Changes in coffee exports are determined by institutional arrangements and the current discussions on the renegotiation of the International Coffee Agreement must be concerned

<sup>1</sup>IBRD IDA, Recent Economic Performance and Future Prospects in Ethiopia, 1972, Vol. 1, Main Report, pp.11-16.

<sup>2</sup>Ibid., Vol. 11, Annex 4, p.6.

<sup>3</sup>Ibid., Vol. 11, Annex 4, pp.6-7.

<sup>4</sup>Ibid., Vol. 11, Annex 3, p.5.

with the question of a more satisfactory allocation of quotas among exporting countries to lend stability to world trade in coffee by avoiding the effects on world markets of fluctuations in Brazilian exports. Subject to their ability to increase exports, any such reallocation would involve the upward adjustment of the quotas of minor exporters such as Ethiopia. Should the proposals above cause export earnings from other products to expand more rapidly than earnings from coffee, even after a quota readjustment, this will make some contribution to reducing the dependence on coffee.

Given the close association between commodity concentration and geographic concentration, diversification of the commodity composition of exports will tend to lead simultaneously to a reduction in the degree of geographic concentration. In contrast to the concentration of coffee exports on the United States market, the major markets for the other export products are the countries of Western Europe. These differences in the direction of trade mean that any expansion of non-coffee exports would direct a larger proportion of Ethiopian trade towards Western Europe. This would make total export earnings less susceptible to the effects of changes in export earnings from the United States by increasing the likelihood that fluctuations in proceeds from this market will be offset by fluctuations in earnings from other trading partners.

Measures designed to improve the lot of agricultural producers may help also, therefore, to solve the problems associated with fluctuations in total export earnings.

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STATISTICAL APPENDIX

The sources of the data in Table 1 are given at the foot of that table.

The percentage distributions of export proceeds from individual commodities and of total export earnings by country of destination presented in the even-numbered tables from 2 to 32 were calculated from data in the Annual External Trade Statistics published by the Central Statistical Office of the Imperial Ethiopian Government for the period 1962-1970.

The absolute deviations from the trend of export earnings from each trading partner presented in the odd-numbered tables from 3 to 31 were calculated using data from the same source.

The indices in Tables 33 and 34 were calculated from information in the United Nations, Commodity Trade Statistics, Series D, for the period 1962-1970.

TABLE 1

## EXPORT EARNINGS FOR SELECTED AFRICAN COUNTRIES, 1962-1970

(Mns. U.S.\$)

	1962	1963	1964	1965	1966	1967	1968	1969	1970
Niger	20	22	21	25	35	26	38	24	32
Ghana	291	273	292	291	244	278	307	327	433
Sierra Leone	57	81	95	89	83	71	96	108	103
Gabon	59	72	90	96	104	120	124	142	121
Togo	17	18	30	27	36	32	39	45	55
Sudan	228	227	198	196	204	214	223	248	293
Uganda	115	153	186	179	188	184	186	198	246
Chad	17	23	27	27	24	31	31	31	30
Madagascar	94	82	92	92	98	104	116	112	145
Reunion	33	38	37	34	39	36	46	44	51
Tanzania	159	193	208	187	249	237	227	236	238
Senegal	124	111	123	128	149	137	151	125	152
U.A.R.	399	522	539	605	605	566	622	746	762
Liberia	68	81	126	135	150	159	169	196	213
Nigeria	472	531	601	751	792	677	591	905	1240
Kenya	126	142	150	145	174	166	175	191	217
Tunisia	116	126	127	120	140	149	158	166	181
Angola	148	163	204	200	221	238	271	328	423
Libya	141	336	620	797	995	1178	1876	2166	2366
Total Dev. Africa	5540	6230	7240	7650	8230	8390	9810	11480	12520

Sources: U.N., Statistical Yearbook, 1970, Part 2, Foreign Trade, E.C.A., 1971, and U.N., Monthly Bulletin of Statistics, September 1972, New York, 1973.

TABLE 2

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
COFFEE AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	69.0	70.5	76.7	79.6	72.8	73.2	70.4	68.9	73.0
W. Europe	16.4	17.1	13.8	11.1	15.6	14.1	16.8	18.9	14.9
Comm. Market	9.4	9.0	8.7	7.0	10.0	8.9	13.3	15.2	6.9
Belgium	0.1	-	-	0.1	-	-	-	0.1	0.1
France	1.2	1.4	1.3	1.5	1.8	2.3	2.2	1.9	1.1
W. Germany	1.4	2.7	2.6	2.6	4.3	3.5	8.0	9.8	4.4
Italy	6.6	4.9	4.2	2.5	3.6	2.9	2.9	3.2	1.2
Netherlands	0.1	-	0.6	0.3	0.3	0.2	0.2	0.2	0.1
Efta	6.2	5.3	3.6	3.0	4.1	3.8	3.1	2.3	3.1
U.K.	1.7	1.2	1.4	0.8	1.4	0.5	0.3	0.3	0.1
Denmark	-	-	-	-	-	0.1	0.1	-	-
Norway	2.1	2.4	1.0	1.2	1.8	1.3	1.1	0.9	0.6
Sweden	1.2	1.2	0.8	0.9	0.7	1.2	0.6	0.5	1.8
Switzerland	1.2	0.5	0.4	0.1	0.2	0.7	1.0	0.6	0.6
Other W. Europe	0.8	2.8	1.5	1.1	1.5	2.4	0.4	1.4	1.9
Greece	0.2	0.3	0.1	0.2	0.3	0.2	0.1	-	-
Spain	-	-	-	0.5	0.6	1.6	-	-	-
Finland	0.1	1.7	-	-	0.2	0.5	0.3	0.6	1.2
Yugoslavia	0.5	0.8	1.4	0.4	0.4	0.1	-	0.8	0.7
E. Europe	1.7	-	0.4	0.6	0.3	3.0	2.2	1.3	-
U.S.S.R.	1.7	-	0.4	0.6	0.2	2.5	2.2	1.3	-
Hungary	-	-	-	-	0.1	0.5	-	-	-
Mid. East	11.2	8.9	5.4	4.6	4.1	2.6	4.0	3.0	3.7
S. Yemen	4.6	3.5	2.7	2.2	1.1	0.7	0.3	0.1	-
Jordan	0.1	0.1	-	0.1	-	-	-	-	-
Israel	0.4	0.5	0.6	0.4	0.6	0.6	0.4	0.4	0.4
Iraq	0.4	0.3	0.2	0.1	-	-	-	-	-
S. Arabia	4.6	4.5	1.8	1.8	2.4	1.3	3.3	2.5	3.2
Lebanon	0.1	-	0.1	-	-	-	-	-	0.1
Aus NZ SAf	0.1	-	-	-	-	-	-	-	-
Australia	0.1	-	-	-	-	-	-	-	-
Africa	0.9	1.3	2.5	1.8	3.1	0.8	1.7	3.8	2.6
Sudan	-	1.1	0.3	0.6	0.6	0.3	0.2	-	-
Fr. Terr. of A + I	0.9	0.2	2.2	1.2	2.5	0.5	1.5	3.8	2.6
Asia	0.9	1.5	0.8	1.4	0.4	4.4	3.9	2.8	2.0
China (M)	-	-	-	-	0.1	1.1	0.8	0.5	0.5
Japan	0.9	1.5	0.8	1.4	0.3	3.1	3.1	2.3	1.5

TABLE 3

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM COFFEE BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-17232.6	-17380.1	20809.2	42349.6	1421.1	-14574.4	-15262.0	-8518.5	8387.8
W. Europe	-1157.8	-1082.6	714.2	-1795.3	906.7	-3689.2	-63.7	6544.1	-5534.1
Comm. Market	-37.5	-1237.4	1299.7	-871.1	711.1	-3806.8	3150.3	7997.5	-7568.4
Belgium	15.0	11.0	-69.0	111.0	-48.9	-24.9	-43.9	40.2	16.2
France	-362.6	-353.9	-20.2	146.5	404.2	543.8	618.5	283.2	-1259.1
W. Germany	194.9	219.7	18.4	-421.8	-350.1	-3540.3	2433.4	6057.2	-4611.1
Italy	402.2	-845.0	748.8	-826.4	647.4	-688.8	99.0	1617.8	-1554.4
Netherlands	-287.0	-269.2	621.7	119.6	58.5	-96.6	43.3	-0.9	-160.0
Efta	358.8	-259.7	-275.5	-135.9	781.2	-107.4	-725.5	-1085.6	1793.4
U.K.	-282.4	-530.5	563.5	113.5	894.4	-282.7	-340.7	-61.8	-82.8
Denmark	17.8	-8.2	-44.3	-68.3	-2.4	143.5	55.5	-8.6	-84.7
Norway	-217.8	243.9	-600.5	107.2	795.8	-102.5	-171.9	-28.2	425.6
Sweden	133.9	161.9	-15.2	396.8	-442.3	80.7	-786.8	-996.3	1465.2
Switzerland	707.3	-126.8	-179.0	-685.1	-464.3	53.6	518.4	9.3	70.1
Other W. Europe	-1479.1	414.5	-310.0	-788.3	-585.6	225.0	-2488.5	-367.8	240.9
Greece	-787.0	-586.3	-708.7	-525.9	-307.3	-517.6	-591.0	-501.2	-614.5
Spain	-379.1	-400.2	-421.4	525.5	505.4	1751.3	-505.9	-527.0	-548.1
Finland	-141.6	1508.2	-505.0	-561.2	-516.3	-191.5	-502.7	56.1	853.9
Yugoslavia	-171.4	-107.2	1325.1	-226.7	-267.4	-817.2	-888.9	604.3	549.6
E. Europe	784.5	-1121.8	-574.1	-231.3	-825.6	1918.9	1656.0	413.7	-2019.6
U.S.S.R.	860.9	-1035.6	-538.1	-125.6	-984.1	1338.4	1790.9	558.4	-1865.1
Hungary	-76.4	-86.2	-36.0	-105.7	158.5	580.5	-134.9	-144.7	-154.5
Mid. East	-729.3	403.3	-1473.5	711.6	-639.7	-3095.1	205.7	-230.7	1956.9



TABLE 3 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
S. Yemen	-146.2	-485.9	-605.4	975.6	-525.0	-588.7	-493.4	-87.1	545.2
Jordan	2.0	7.1	-45.9	117.1	-56.8	-41.8	-15.8	6.2	26.2
Israel	-252.4	-177.5	196.7	195.2	353.0	64.8	-198.3	-96.4	-99.6
Iraq	27.0	23.3	9.5	21.8	-40.0	-106.7	-41.4	22.7	87.0
S. Arabia	1125.9	1099.4	-1081.2	-639.8	-405.4	-2446.0	982.4	-20.1	1385.3
Lebanon	-27.0	-63.1	52.8	41.7	34.5	23.3	-27.8	-56.0	12.8
Aus NZ SAF	48.5	-35.2	-33.8	3.5	-39.2	-2.8	115.5	-20.2	-35.8
Australia	48.5	-35.2	-33.8	3.5	-39.2	-2.8	115.5	-20.2	-35.8
Africa	103.0	1195.8	1155.3	406.6	1477.9	-2723.0	-1493.8	2215.3	91.2
Sudan	-116.5	171.5	-450.6	455.5	329.5	-61.6	-6.6	-173.6	-49.6
Fr. Terr. of A + I	219.5	1024.3	1605.9	-48.9	1148.4	-2661.4	-1487.2	2388.9	140.8
Asia	-312.9	-161.1	-1057.5	-200.9	850.8	1780.4	1224.0	-209.3	-1912.7
China (M)	175.7	-5.3	-186.5	-367.6	-282.7	808.1	212.0	-128.1	-225.3
Japan	-488.6	-155.8	-871.0	166.7	1133.5	972.3	1012.0	-81.2	-1687.4
Total	-16563.6	-19865.6	21008.4	42161.4	2669.4	-20906.4	-14216.6	-311.6	-74.6

TABLE 4

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
LENTILS AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-	-	-	-	0.2	-	-	0.5	-
W. Europe	19.6	12.6	14.7	3.4	13.4	31.9	6.2	12.2	5.8
Comm. Market	4.7	0.4	0.5	1.0	2.3	2.9	0.3	0.1	-
Belgium	-	-	0.5	-	-	-	-	-	-
France	0.2	-	-	-	2.1	2.9	0.1	-	-
W. Germany	2.9	-	-	-	-	-	-	-	-
Italy	-	0.2	-	-	-	-	-	-	-
Netherlands	1.6	0.2	-	1.0	0.2	-	0.2	0.1	-
Efta	13.8	12.2	14.2	1.0	10.5	29.0	5.9	11.8	5.8
U.K.	13.3	12.2	5.1	1.0	10.5	26.3	5.9	11.8	5.8
Switzerland	0.5	-	9.1	-	-	2.7	-	-	-
Other W. Europe	1.1	-	-	1.4	0.6	-	-	0.3	-
Greece	-	-	-	-	0.6	-	-	-	-
Yugoslavia	1.1	-	-	1.4	-	-	-	0.3	-
E. Europe	-	-	-	5.8	-	-	-	-	-
Czechoslovakia	-	-	-	5.8	-	-	-	-	-
Mid. East	12.1	9.0	10.1	47.6	24.4	23.6	13.7	23.9	2.2
S. Yemen	0.6	0.1	0.1	0.1	0.1	0.4	-	0.1	-
Israel	-	3.4	1.6	3.4	5.1	5.6	1.3	0.2	-
S. Arabia	3.3	5.5	8.1	11.1	5.3	4.4	1.6	6.3	2.2
Lebanon	4.0	-	-	-	2.4	1.5	-	-	-
U.A.R.	4.2	-	0.3	33.0	11.5	11.7	10.8	17.3	-
Africa	13.7	38.7	49.8	19.1	35.1	24.7	19.6	30.3	14.6
Kenya	0.1	-	0.1	-	-	0.4	-	-	-
Mauritius	3.2	11.3	16.7	-	7.7	7.6	7.6	6.3	9.3
Somalia	-	-	-	-	-	-	-	1.1	-
Sudan	9.2	26.8	33.0	19.1	27.4	16.7	11.9	22.9	5.3
Comoro Isles	-	0.4	-	-	-	-	-	-	-
Fr. Terr. of A + I	1.2	0.2	-	-	-	-	0.1	-	-
Asia	52.9	39.1	24.4	21.5	24.2	19.3	59.6	32.4	77.0
Japan	-	-	-	-	0.1	-	2.6	-	-
Ceylon	52.9	39.1	24.4	21.5	23.6	19.3	57.0	32.4	76.7
Singapore	-	-	-	-	0.5	-	-	-	0.3

TABLE 5

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM LICENSES BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	3.0	1.5	-2.0	-4.5	4.0	-9.5	-12.0	36.5	-17.0
W. Europe	596.0	-198.2	-330.0	1429.7	53.2	886.0	-200.2	467.9	-376.5
Comm. Market	171.3	-128.6	-111.5	-903.0	35.0	-12.1	-22.1	-21.0	-11.1
Belgium	-3.1	-2.7	11.6	-2.1	-1.7	-1.4	-1.1	-0.7	-0.4
France	-9.6	-27.4	-29.2	-30.9	74.3	18.5	-27.3	-38.1	-39.9
W. Germany	119.5	-69.7	-56.9	-44.1	-31.1	-18.5	-5.7	7.0	19.8
Italy	-2.6	5.7	-1.9	-1.5	-1.2	2.2	-0.5	-0.1	0.1
Netherlands	67.1	-34.5	-35.1	-11.7	-5.3	-12.9	12.5	10.9	9.3
Efta	387.8	-38.5	-191.3	-539.5	0.5	913.4	-166.7	467.3	-361.8
U.K.	426.0	27.3	-352.8	-488.3	44.3	809.9	-137.5	489.1	-347.3
Switzerland	-38.2	-65.8	161.5	-51.2	-43.8	103.5	-29.2	-21.8	-14.5
Other W. Europe	36.9	-31.1	-27.2	12.8	17.7	-15.3	-11.4	21.6	-3.6
Greece	-4.1	-4.1	-4.1	-4.1	32.9	-4.1	-4.1	-4.1	-4.1
Yugoslavia	41.0	-27.0	-23.1	16.9	-15.2	-11.2	-7.3	25.7	0.5
E. Europe	-15.1	-13.6	-12.2	74.2	-9.4	-8.0	-6.6	-5.1	-3.7
Czechoslovakia	-15.1	-13.6	-12.2	74.2	-9.4	-8.0	-6.6	-5.1	-3.7
Mid. East	277.1	-310.3	-495.5	-127.7	425.9	255.7	-26.5	1103.3	772.1
S. Yemen	23.1	-10.8	-11.6	-11.4	-6.3	16.9	-6.0	12.2	-1.6
Israel	-48.1	8.7	-80.4	-70.5	157.3	189.2	-1.9	-73.0	-91.2
S. Arabia	16.0	10.6	-17.9	-64.3	51.3	-15.2	-135.6	319.0	170.5
Lebanon	142.4	-99.8	-83.9	-68.0	79.8	43.7	-20.4	-4.6	11.2
U.A.R.	143.7	-219.0	-301.7	86.5	143.8	21.1	137.4	849.7	-861.0
Africa	-112.9	387.9	80.5	-917.1	740.9	-70.6	53.5	1320.9	-860.5

TABLE 5 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Kenya	2.1	-3.0	-2.2	-5.4	-6.5	15.3	-4.5	-4.7	-4.9
Mauritius	1.0	146.0	73.9	-362.5	26.7	-33.4	117.6	97.5	-65.6
Somalia	9.6	4.3	-0.9	-6.2	-11.5	-16.8	-19.1	73.6	-32.7
Sudan	-165.5	244.6	34.5	-524.4	744.6	-29.4	-39.4	1148.6	-769.4
Comoro Islands	-5.2	12.6	-3.5	-2.7	-1.8	-1.0	-0.1	0.6	1.5
Fr. Terr. of A + I	45.1	-16.6	-21.3	-15.9	-10.6	-5.3	9.0	5.3	10.6
Asia	2129.5	131.0	-1063.7	-1572.4	-829.0	1397.7	1848.6	110.0	637.3
Japan	3.6	-3.0	-9.7	-16.4	-16.1	-29.8	164.5	-43.2	-49.9
Ceylon	2126.5	135.6	-1051.3	-1555.2	-836.1	-1362.0	1691.1	161.2	680.3
Singapore	-0.6	-1.6	-2.7	-3.8	23.2	-5.9	-7.0	-8.0	6.9
Total	2829.6	-44.8	-1959.3	-3303.8	272.7	-381.8	1548.8	2910.3	-1871.2

TABLE 6

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
HORSEBEANS AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	1.0	-	-	-	0.2	0.1	0.1	0.2	0.5
W. Europe	17.0	36.7	22.5	24.4	12.7	4.1	2.9	2.3	4.8
Comm. Market	12.2	32.7	21.5	24.2	10.3	4.1	2.7	1.8	4.8
Belgium	-	0.6	1.2	-	-	-	-	0.5	-
France	-	-	-	-	-	0.2	-	1.0	2.9
W. Germany	5.9	22.3	8.3	6.8	1.0	-	1.6	-	1.9
Italy	6.3	7.9	5.8	13.8	4.2	3.9	0.4	0.3	-
Netherlands	-	1.9	6.2	3.6	5.1	-	0.7	-	-
Efta	4.1	2.4	0.6	-	1.6	-	0.2	0.5	-
U.K.	-	-	0.6	-	1.6	-	0.2	0.5	-
Switzerland	4.1	2.4	-	-	-	-	-	-	-
Other W. Europe	0.7	1.6	0.4	0.2	0.8	-	-	-	-
Greece	0.7	1.5	0.4	0.2	0.8	-	-	-	-
Yugoslavia	-	0.1	-	-	-	-	-	-	-
E. Europe	-	-	0.7	-	-	-	-	-	-
Czechoslovakia	-	-	0.7	-	-	-	-	-	-
Mid. East	62.9	47.9	47.5	47.5	59.3	65.1	70.1	45.0	56.5
S. Yemen	14.7	7.9	10.6	7.2	8.4	9.6	2.5	7.1	6.1
Kuwait	0.4	0.1	1.3	0.6	0.6	0.7	0.1	-	-
Jordan	-	3.0	0.7	0.2	7.5	19.0	27.3	8.6	2.6
Cyprus	0.2	-	-	-	-	-	-	-	-
Israel	21.9	1.4	2.5	2.4	2.2	4.4	1.0	1.2	2.1
Iran	0.5	-	-	-	-	-	-	-	-
S. Arabia	16.0	13.2	21.7	29.7	24.2	18.7	25.7	24.7	40.1
Lebanon	-	19.8	9.2	7.4	10.6	9.3	2.7	2.8	5.6
U.A.R.	9.2	2.4	1.5	-	5.8	3.3	-	-	-
Yemen	-	0.1	-	-	-	0.1	0.8	0.6	-
Africa	5.9	1.1	1.5	2.3	3.5	3.0	1.0	3.0	4.1
Sudan	1.4	-	-	-	-	1.1	0.3	-	-
Fr. Terr. of A + I	4.5	1.1	1.5	2.3	3.5	1.9	0.7	3.0	4.1
Asia	8.8	11.8	26.5	25.7	26.8	24.0	14.1	48.7	32.8
Japan	6.6	11.3	26.5	23.8	26.8	24.0	14.0	46.6	27.9
Ceylon	2.2	0.5	-	1.9	-	-	0.1	2.1	4.9

TABLE 7

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM HORSEBEANS BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	28.2	-12.2	-11.6	-11.1	-1.5	-2.9	-0.4	2.2	9.8
W. Europe	-475.1	782.0	-134.6	30.9	-3.9	-222.4	-156.0	-5.3	189.3
Comm. Market	-530.5	721.7	-47.9	118.7	-61.1	-176.6	-144.2	-36.2	159.4
Belgium	-17.0	14.3	38.7	-12.9	-11.5	-10.1	-8.7	23.6	-6.0
France	20.5	10.5	0.6	-9.2	-19.2	-16.1	-39.0	8.0	44.1
W. Germany	-307.6	655.5	-97.5	-74.4	-175.4	-149.3	-9.3	7.7	153.7
Italy	-99.5	71.3	-101.9	214.9	-41.3	62.5	-71.7	-29.1	-2.1
Netherlands	-126.9	-19.9	112.2	0.3	186.3	-63.6	-15.5	-42.4	-30.3
Efta	71.1	18.3	-67.5	-69.3	33.9	-32.8	-5.7	30.5	21.7
U.K.	-9.8	-13.6	5.6	-15.2	69.0	-16.7	-8.5	8.7	-19.1
Switzerland	80.9	31.9	-73.1	-54.1	-35.1	-16.1	2.8	21.8	40.8
Other W. Europe	-15.7	42.0	-19.2	-18.5	23.3	-13.0	-6.1	0.4	8.2
Greece	-14.2	38.3	-18.2	-17.7	23.8	-12.7	-6.1	0.3	7.8
Yugoslavia	-1.5	3.7	-1.0	-0.8	-0.5	-0.3	-	0.1	0.4
E. Europe	-29.8	-25.7	100.4	-17.6	-13.5	-9.4	-5.4	-1.3	-2.7
Czechoslovakia	-29.8	-25.7	100.4	-17.6	-13.5	-9.4	-5.4	-1.3	-2.7
Mid. East	220.7	109.0	-719.8	-781.7	622.3	919.6	214.5	-110.4	-488.4
S. Yemen	104.1	-52.1	-49.4	-145.7	75.0	164.8	-168.5	101.2	-29.0
Kuwait	-30.9	24.5	9.9	-7.6	5.8	20.2	-8.4	-8.9	-3.5
Jordan	-59.2	19.8	-178.2	-267.2	43.8	560.8	496.9	-109.1	-507.1
Cyprus	5.0	-1.3	-2.6	-1.9	-1.2	-0.5	0.1	0.8	1.5
Israel	-4.8	-19.9	-2.1	-8.2	-15.4	133.5	-38.7	-27.8	-16.0
Iran	13.1	-6.5	-5.1	-3.7	-2.3	-0.9	0.4	1.8	3.2
S. Arabia	6.2	-62.8	-77.7	72.3	219.4	-171.6	88.5	-39.5	-33.5

TABLE 7 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Lebanon	70.8	276.2	-295.5	-274.2	114.1	129.5	-121.2	-23.9	105.4
U.A.R.	134.7	-74.1	-115.8	-139.5	191.7	89.0	-51.8	-21.5	7.7
Yemen	1.7	5.2	-3.4	-6.0	-8.6	-5.2	17.2	16.5	-17.1
Africa	119.6	-55.4	-63.3	-38.3	-3.3	37.8	-72.2	28.8	31.9
Sudan	31.9	-21.1	-19.1	-17.1	-15.1	46.9	2.9	-13.1	-11.1
Fr. Terr. of A + I	87.7	-34.3	-44.2	-21.2	11.8	-9.1	-75.1	41.9	43.0
Asia	-140.4	-247.9	-80.5	-277.3	87.2	-87.4	-878.0	807.5	-782.1
Japan	-209.2	-246.8	-44.5	-301.2	134.2	-30.5	-817.2	765.2	-849.5
Ceylon	68.8	-1.1	-36.0	23.9	-47.0	-56.9	-60.8	42.3	67.4
Total	-156.7	-687.0	823.7	-856.6	892.0	832.7	-752.6	844.1	-939.2

TABLE 8

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
HARICOTBEANS AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-	0.3	-	0.5	-	0.1	0.8	-	-
W. Europe	78.8	76.1	73.6	78.4	77.3	87.4	85.2	88.1	97.4
Comm. Market	59.9	62.0	51.1	60.3	70.4	76.7	75.4	75.8	95.6
Belgium	7.6	10.1	10.2	7.2	6.4	3.8	4.5	3.6	6.5
France	-	-	-	12.9	12.2	8.9	14.6	12.9	12.3
W. Germany	34.1	35.8	32.8	28.7	44.6	57.5	52.3	54.5	67.3
Italy	4.9	8.1	0.4	5.9	0.5	1.3	0.4	1.7	0.9
Netherlands	13.3	8.0	7.7	5.6	6.7	5.2	3.6	3.1	8.6
Efta	16.9	5.5	19.6	12.7	9.8	10.7	9.2	12.1	1.8
U.K.	16.9	5.2	19.6	12.7	9.8	10.7	9.2	12.1	1.8
Switzerland	-	0.3	-	-	-	-	-	-	-
Other W. Europe	2.0	8.6	2.9	5.4	7.1	-	0.6	0.2	-
Greece	2.0	8.6	2.9	5.4	-	-	0.1	-	-
Spain	-	-	-	-	0.9	-	-	-	-
Yugoslavia	-	-	-	-	6.2	-	0.5	0.2	-
E. Europe	-	-	0.1	0.1	-	-	-	-	-
Czechoslovakia	-	-	0.1	0.1	-	-	-	-	-
Mid. East	10.0	6.3	10.1	3.7	4.3	9.1	6.1	6.6	2.7
S. Yemen	3.6	4.4	3.4	1.9	2.3	2.7	2.9	2.7	1.8
Kuwait	-	-	-	-	-	-	-	0.1	-
Jordan	-	-	-	0.3	-	-	-	-	0.6
Israel	1.8	0.5	5.3	1.4	1.6	2.7	0.8	1.9	0.3
Iraq	-	0.8	1.4	-	0.2	-	-	-	-
S. Arabia	-	0.2	-	0.1	-	0.4	-	1.5	-
Lebanon	4.1	0.4	-	-	0.2	2.1	-	-	-
Syria	0.5	-	-	-	-	-	-	-	-
U.A.R.	-	-	-	-	-	1.2	-	-	-
Yemen	-	-	-	-	-	-	2.4	0.4	-
Aus NZ Saf	4.8	3.1	0.7	1.5	1.6	-	2.3	-	-
Australia	-	0.2	-	0.2	-	-	-	-	-
N. Zealand	4.8	2.9	0.7	1.3	1.6	-	2.3	-	-
Africa	5.4	12.8	15.0	13.9	5.9	1.4	1.7	1.9	3.5
Kenya	-	-	-	-	0.2	-	-	0.1	-
Sudan	0.3	-	-	-	-	0.2	-	-	-
Fr. Terr. of A + I	5.1	12.8	15.0	13.9	5.7	1.2	1.7	1.8	3.5
Asia	-	0.7	-	0.8	3.5	1.3	2.0	2.3	-
China (M)	-	-	-	-	1.0	-	-	-	-
Japan	-	-	-	-	2.5	1.3	-	1.6	-
Ceylon	-	0.7	-	-	-	-	-	-	-
Malaysia	-	-	-	0.8	-	-	2.0	0.7	-



TABLE 9

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM HARIOTBEANS BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-6.0	4.0	-4.0	32.1	-1.9	7.1	58.2	1.2	2.2
W. Europe	307.3	-1009.7	-1071.0	1111.8	929.5	371.3	414.5	-1395.5	128.8
Comm. Market	404.4	-619.4	-1130.6	621.5	1027.8	355.1	315.6	-1484.2	481.2
Belgium	-56.8	-28.1	28.6	133.4	89.2	-109.2	-34.4	-147.7	125.0
France	-69.8	-175.8	-291.8	492.2	325.2	-85.8	249.2	-219.8	-152.8
W. Germany	357.8	-363.9	-600.1	-259.1	616.2	618.6	262.0	-960.7	229.7
Italy	-16.5	72.1	-174.3	250.4	-102.0	-30.4	-53.7	27.9	26.5
Netherlands	189.7	-123.7	-93.0	4.6	99.2	-38.1	-107.5	-183.9	252.8
Efta	47.1	-488.4	121.2	261.8	94.5	106.1	101.7	106.2	-350.2
U.K.	50.1	-494.8	122.3	263.4	95.6	106.7	101.8	105.9	-351.0
Switzerland	-3.0	6.4	-1.1	-1.6	-1.1	-0.6	-0.1	0.3	0.8
Other W. Europe	-144.2	98.1	-61.6	228.5	-3.8	-89.9	-2.8	-17.5	-2.2
Greece	-132.8	111.4	-46.4	245.7	-100.1	-68.9	-26.8	-6.6	24.6
Spain	-7.6	-7.6	-7.6	-7.6	62.4	-7.6	-7.6	-7.6	-7.6
Yugoslavia	-3.8	-5.7	-7.6	-9.6	41.5	-13.4	31.6	-3.3	-19.2
E. Europe	-2.3	-2.1	2.2	6.5	-1.3	-1.0	-0.8	-0.5	-0.2
Czechoslovakia	-2.3	-2.1	2.2	6.5	-1.3	-1.0	-0.8	-0.5	-0.2
Mid. East	62.5	-153.6	19.5	-102.6	-53.8	112.2	93.0	-14.6	-146.0
S. Yemen	5.7	1.0	-20.8	-17.5	6.8	17.0	47.3	-13.4	-26.2
Kuwait	0.7	0.2	-0.3	-0.9	-1.5	-2.0	3.5	3.9	-3.6
Jordan	3.9	0.6	-2.6	12.0	-9.3	-12.6	7.0	-19.3	21.4
Israel	-32.0	-89.2	104.5	-2.7	24.1	76.9	-35.3	10.5	-56.8
Iraq	-25.5	7.8	36.3	-11.3	6.1	-8.5	-5.1	-1.7	-1.7
S. Arabia	4.2	4.5	-7.2	1.1	-14.7	6.6	-20.1	52.2	-26.5

TABLE 9 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Lebanon	101.7	-55.5	-60.7	-49.8	-22.0	5.8	-17.3	-6.5	4.3
Syria	12.5	-6.2	-4.8	-3.5	-2.2	-0.8	0.4	1.7	3.1
U.A.R.	-3.5	-4.8	-6.1	-7.4	-8.7	69.0	-11.4	-12.7	-14.0
Yemen	-5.2	-12.0	-18.8	-22.6	-32.4	-39.2	124.0	-29.3	-46.0
Aus NZ SAF	67.9	-24.8	-90.6	5.7	43.0	-65.8	116.5	-28.1	-14.9
Australia	-1.6	0.9	-4.7	11.7	2.1	-2.5	3.9	1.4	-2.2
N. Zealand	69.5	-25.7	-85.9	-6.0	40.9	-63.3	112.6	-29.5	-12.7
Africa	-310.6	-51.1	135.3	563.0	61.4	-214.0	-138.5	-107.0	62.4
Kenya	-1.2	-1.4	-1.7	-1.9	12.8	-2.4	-2.7	2.1	-3.2
Sudan	8.7	-5.6	-4.9	-4.1	-3.4	13.3	-1.9	-1.2	-0.5
Fr. Terr. of A + I	-318.1	-44.1	141.9	569.0	52.0	-224.9	-133.9	-107.9	66.1
Asia	-35.7	-21.4	-56.3	-14.0	170.2	-6.5	92.6	2.9	-129.9
China (M)	-8.0	-8.0	-8.0	-8.0	64.0	-8.0	-8.0	-8.0	-8.0
Japan	-16.0	-23.1	-27.2	-33.2	131.7	31.7	-8.4	18.5	-72.5
Ceylon	-8.4	18.7	-6.3	-5.3	-0.2	-3.2	5.8	-1.1	-0.1
Malaysia	-3.3	-9.0	-14.8	32.5	-25.3	-27.0	103.2	-6.5	-49.3
Total	89.3	-1245.6	-1173.5	1595.5	1344.6	279.7	600.7	-967.2	-141.1

TABLE 10

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
CHICKPEAS AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-	-	-	-	0.2	0.2	-	-	-
W. Europe	14.0	2.0	12.2	0.5	0.7	1.3	-	-	-
Comm. Market	14.0	2.0	12.2	0.4	0.7	1.3	-	-	-
Belgium	-	-	8.2	-	-	0.9	-	-	-
W. Germany	2.2	-	-	-	-	-	-	-	-
Italy	4.1	0.8	3.8	-	0.7	-	-	-	-
Netherlands	7.7	1.2	0.2	0.4	-	0.4	-	-	-
Efta	-	-	-	0.1	-	-	-	-	-
U.K.	-	-	-	0.1	-	-	-	-	-
E. Europe	-	-	0.2	-	-	-	-	-	-
Czechoslovakia	-	-	0.2	-	-	-	-	-	-
Mid. East	18.7	14.6	8.3	5.6	5.4	5.7	2.7	4.8	10.0
S. Yemen	16.2	11.3	7.5	3.9	3.4	3.7	0.9	1.4	4.1
Kuwait	1.0	-	-	-	-	-	-	-	-
Jordan	-	-	-	-	-	-	-	0.5	-
S. Arabia	1.9	3.3	0.8	1.7	1.9	1.6	1.8	2.9	5.9
Lebanon	0.6	-	-	-	0.1	0.4	-	-	-
Africa	1.5	1.8	1.4	22.2	8.8	1.5	0.6	0.3	2.5
Tanzania	-	-	-	-	0.9	-	-	-	-
Kenya	-	-	1.0	20.4	5.8	1.4	-	0.1	-
Mauritius	0.3	1.2	0.4	1.8	1.5	0.1	0.5	0.2	2.5
Sudan	-	-	-	-	0.1	-	-	-	-
Fr. Terr. of A + I	1.2	0.6	-	-	0.5	-	0.1	-	-
Asia	64.1	81.2	87.5	69.9	77.9	88.9	96.2	91.1	86.9
Japan	-	-	-	2.0	-	-	0.8	-	-
Ceylon	64.1	81.2	87.4	57.4	70.4	81.2	90.9	89.6	77.0
Malaysia	-	-	-	4.5	-	-	-	-	-
Singapore	-	-	0.1	6.0	7.5	7.7	4.5	1.5	9.9

TABLE 11

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM CHICKPEAS BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-1.3	-1.4	-1.6	-1.7	7.2	6.3	-1.6	-1.4	-1.3
W. Europe	68.8	-39.7	17.5	31.6	-10.6	18.6	-8.5	4.7	17.7
Comm. Market	69.6	-39.0	18.1	35.0	-11.1	19.0	-8.1	5.0	17.9
Belgium	-7.1	-6.7	17.6	-6.0	-5.7	21.7	-5.0	-4.6	-4.3
W. Germany	15.0	-7.4	-5.8	-4.2	-2.6	-1.0	0.5	2.1	3.7
Italy	18.7	-9.2	-8.0	-12.8	12.3	-6.5	-2.3	1.8	6.0
Netherlands	43.2	-15.7	-21.9	-12.0	-15.1	4.8	-1.3	5.7	12.5
Efta	-0.8	-0.7	-0.6	3.4	0.5	-0.4	-0.4	-0.3	-0.2
U.K.	-0.8	-0.7	-0.6	3.4	0.5	-0.4	-0.4	-0.3	-0.2
E. Europe	-1.7	-1.5	5.8	-1.0	-0.8	-0.5	-0.3	-0.1	0.2
Czechoslovakia	-1.7	-1.5	5.8	-1.0	-0.8	-0.5	-0.3	-0.1	0.2
Mid. East	-19.1	16.8	39.6	-58.7	10.0	22.7	-40.7	67.1	-37.1
S. Yemen	-23.5	3.7	60.8	-44.1	2.0	24.1	-27.8	-6.7	11.5
Kuwait	7.5	-3.7	-2.9	-2.1	-1.3	-0.5	0.2	1.0	1.8
Jordan	8.3	3.6	-1.0	-5.7	-10.4	-15.1	-19.8	69.5	-29.2
S. Arabia	-14.7	16.6	-14.1	-3.8	18.4	2.7	9.0	5.3	-19.4
Lebanon	3.3	-3.4	-3.2	-3.0	1.3	11.5	-2.3	-2.0	-1.8
Africa	-132.7	-111.6	-88.5	389.6	171.6	-9.3	-74.2	-79.8	63.8
Tanzania	-3.3	-3.3	-3.3	-2.3	25.7	-3.3	-3.3	-3.2	-3.2
Kenya	-113.0	-104.9	-67.9	381.1	105.1	-31.9	-64.9	-54.8	-48.8
Mauritius	-19.5	-3.8	-9.0	15.7	25.4	30.2	-7.1	-20.4	-11.6
Sudan	-0.9	-0.8	-0.8	1.3	4.3	-0.7	-0.6	-0.5	-0.5

TABLE 11 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Fr. Terr. of A + I	3.9	1.2	-7.5	-6.2	11.1	-3.6	1.7	-0.9	0.3
Asia	-980.9	-417.1	771.4	-242.8	845.8	699.4	1051.1	-226.1	-1499.6
Japan	-7.2	-7.3	-7.5	36.4	-7.7	-7.9	18.0	-8.1	-8.3
Ceylon	-908.7	-335.8	858.0	-418.1	716.7	595.6	1014.4	-117.7	-1403.9
Malaysia	-17.6	-15.9	-14.3	86.4	-11.0	-9.4	-7.7	-6.0	-4.4
Singapore	-47.4	-58.1	-64.8	52.5	147.8	121.1	26.4	-94.3	-83.0
Total	-1067.6	-557.8	707.0	47.7	1022.5	737.3	926.0	-237.2	-1587.4

TABLE 12

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
HIDES AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	0.1	0.5	0.4	-	-	-	-	0.2	-
W. Europe	77.7	72.3	72.3	80.5	66.5	90.8	74.7	73.3	79.5
Comm. Market	42.5	45.1	35.8	50.9	66.1	68.1	47.7	53.7	64.7
France	4.2	2.7	1.1	4.5	4.9	1.6	0.8	1.6	0.8
W. Germany	0.1	-	0.3	0.4	0.4	-	-	0.5	0.3
Italy	37.3	41.6	34.4	45.5	58.4	65.0	46.8	50.9	63.6
Netherlands	0.9	0.8	-	0.5	2.4	1.5	0.1	0.7	-
Efta	22.0	19.2	23.1	21.6	0.2	18.4	19.3	8.0	7.1
U.K.	20.6	18.8	23.1	21.6	-	17.9	19.3	7.7	5.2
Sweden	1.4	0.2	-	-	-	0.5	-	0.3	1.9
Switzerland	-	0.2	-	-	0.2	-	-	-	-
Other W. Europe	13.2	8.0	13.4	8.0	0.2	4.3	7.7	11.6	7.7
Greece	12.3	7.5	13.3	7.7	-	2.3	6.0	4.9	3.4
Turkey	-	-	0.1	0.1	0.2	0.5	-	-	-
Spain	0.9	0.5	-	0.2	-	1.5	1.7	6.7	4.3
E. Europe	0.1	-	0.2	5.4	1.5	-	-	0.1	-
U.S.S.R.	-	-	0.2	5.4	-	-	-	0.1	-
Bulgaria	-	-	-	-	1.5	-	-	-	-
Czechoslovakia	0.1	-	-	-	-	-	-	-	-
Mid. East	18.6	24.8	20.6	11.8	2.5	8.6	25.3	15.7	17.9
S. Yemen	1.4	-	0.4	1.0	0.3	0.9	4.4	2.4	1.9
Jordan	0.7	0.8	1.0	-	0.6	0.2	1.7	1.8	2.1
Israel	-	-	0.1	-	0.8	0.8	1.2	2.6	0.9
Iran	4.4	3.6	1.8	0.8	0.8	5.3	13.0	7.3	7.6
S. Arabia	-	0.4	-	0.2	-	-	1.1	-	-
Lebanon	1.4	1.4	1.3	1.5	-	1.4	1.3	1.0	0.5
Syria	10.7	5.9	3.9	8.3	-	-	2.6	0.6	2.8
U.A.R.	-	12.7	12.1	-	-	-	-	-	2.1
Africa	0.3	1.7	0.6	-	0.5	-	-	0.1	0.6
Kenya	-	0.5	0.4	-	0.5	-	-	0.1	-
Somalia	0.3	1.2	0.2	-	-	-	-	-	-
Fr. Terr. of A + I	-	-	-	-	-	-	-	-	0.6
Asia	0.3	-	0.5	0.3	0.8	0.6	0.5	1.5	-
China (M)	0.3	-	0.4	0.3	0.2	0.4	-	-	-
Japan	-	-	-	-	0.5	-	0.5	1.4	-
India	-	-	0.1	-	0.1	0.2	-	0.1	-

TABLE 13

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM HIDES BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-3.8	15.9	5.7	-11.5	-9.7	-7.0	-4.2	14.5	1.2
W. Europe	677.0	163.3	-1535.4	-1035.3	1877.4	964.2	-2091.1	-1012.3	825.8
Comm. Market	137.5	171.8	-1361.1	-847.9	3144.3	780.4	-1886.5	-644.1	519.0
France	37.7	-60.5	-135.8	7.9	304.6	-42.7	-88.0	-15.2	-7.5
W. Germany	-0.4	-7.8	-0.2	3.4	28.0	-15.4	-13.8	3.8	2.4
Italy	105.7	253.9	-1162.0	-820.9	2640.3	806.4	-1742.5	-620.3	559.8
Netherlands	-5.5	-13.8	-63.1	-38.3	171.4	32.1	-42.2	-12.4	-35.7
Efta	243.3	-9.7	-222.7	-82.8	-875.9	302.1	-91.0	-145.1	82.9
U.K.	171.2	-2.7	-188.6	-53.6	-859.5	308.6	-56.4	-124.3	5.8
Sweden	77.9	-13.9	-29.6	-25.3	-31.1	-3.8	-32.5	-19.3	78.0
Switzerland	-5.7	6.9	-4.5	-3.9	14.7	-2.7	-2.1	-1.5	-0.9
Other W. Europe	296.1	1.2	48.4	-102.8	-391.0	-118.3	-113.6	-223.1	223.9
Greece	212.3	-29.8	80.3	-53.1	-316.6	-109.0	-4.5	116.0	184.6
Turkey	-2.5	-4.3	-2.1	-0.9	12.3	18.4	-13.4	-6.2	-17.0
Spain	86.3	35.3	-29.8	-48.8	-86.7	-27.7	-95.7	113.3	56.3
E. Europe	-11.8	-20.0	-15.1	211.8	-26.4	-27.6	-27.9	-21.1	-30.2
U.S.S.R.	-2.5	-1.3	2.9	229.1	-9.7	-11.6	-13.4	-7.2	-17.0
Bulgaria	-15.6	-15.6	-15.6	-15.6	-15.6	-15.6	-15.6	-15.6	-15.6
Czechoslovakia	6.3	-3.1	-2.4	-1.7	-1.1	-0.4	1.1	1.7	2.4
Mid. East	228.6	592.0	-144.7	-527.6	-607.4	-271.2	-20.4	46.3	420.0
S. Yemen	75.6	-36.8	-27.1	-10.5	-35.8	-23.2	37.5	8.1	112.8
Jordan	24.8	22.9	3.9	-40.0	6.0	-40.9	-48.9	15.2	57.2
Israel	11.8	-10.9	-14.7	-4.4	32.0	-9.7	-25.3	42.0	-21.6
Iran	183.2	80.7	-114.8	-179.3	-170.8	38.6	67.1	-25.6	96.1

TABLE 13 -- Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
S. Arabia	-2.1	13.0	-11.0	-2.9	-2.2	-7.8	24.3	-5.6	-4.6
Lebanon	16.0	15.7	-18.5	2.3	-58.0	31.7	-5.5	9.2	7.0
Syria	282.0	-25.9	-190.9	78.2	-215.7	-148.7	-10.6	11.5	106.6
U.A.R.	-362.7	533.3	228.4	-214.6	-162.9	-111.2	-59.0	-8.5	166.5
Africa	45.2	88.7	-17.3	-51.7	-14.3	-80.9	-93.4	-104.1	239.3
Kenya	-17.8	13.5	0.4	-12.3	40.9	-9.8	-6.5	-1.3	-3.0
Somalia	5.2	43.0	-24.2	-23.4	-15.6	-7.8	-	7.8	15.6
Fr. Terr. of A + I	57.8	32.2	6.5	-16.0	-39.6	-63.3	-86.9	-110.6	226.7
Asia	5.0	-21.6	-6.5	-15.8	57.1	2.7	-11.4	72.3	-34.9
China (M)	7.6	-16.5	1.5	0.4	5.4	11.3	-1.7	-3.8	-2.8
Japan	2.1	-5.1	-8.4	-11.6	47.2	-14.1	-5.3	72.5	-27.8
India	-4.7	4.3	0.4	-4.6	4.5	5.5	-4.4	3.6	-4.3
Total	631.2	442.1	-1084.0	-1485.1	3845.8	415.7	-2378.4	-687.5	1200.4



TABLE 14

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
GOATSKINS AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	25.6	28.5	34.4	23.1	15.7	19.5	12.2	11.2	11.2
W. Europe	64.9	69.6	49.1	56.5	40.9	42.0	54.2	79.2	76.7
Comm. Market	48.8	50.2	38.6	49.5	33.0	36.1	47.9	64.0	66.4
Belgium	0.4	-	1.8	-	-	-	-	-	-
France	4.5	15.3	14.6	15.6	5.3	1.4	0.5	1.6	3.3
W. Germany	5.4	3.2	8.3	8.1	6.5	8.8	6.3	6.0	3.2
Italy	15.9	12.9	6.5	18.3	18.6	22.6	33.2	49.2	47.0
Netherlands	22.6	18.8	7.4	7.5	2.6	3.3	7.9	7.2	12.9
Efta	5.9	7.3	4.8	2.9	7.2	3.2	4.9	12.7	8.1
U.K.	5.9	7.3	4.8	2.9	7.2	1.7	4.5	12.7	8.1
Switzerland	-	-	-	-	-	1.5	0.4	-	-
Other W. Europe	10.2	12.1	5.7	4.1	0.7	2.7	1.4	2.5	2.2
Greece	10.2	12.0	5.6	4.1	0.5	2.7	1.4	2.5	2.2
Spain	-	0.1	-	-	-	-	-	-	-
Yugoslavia	-	-	0.1	-	0.2	-	-	-	-
E. Europe	3.1	-	14.0	21.9	34.9	38.5	43.4	3.0	3.0
U.S.S.R.	3.1	-	14.0	21.9	34.9	38.5	43.4	3.0	3.0
Mid. East	0.1	2.0	2.8	0.3	0.1	-	0.3	-	-
S. Yemen	-	0.1	-	-	-	-	-	-	-
Lebanon	-	1.9	2.8	-	0.1	-	0.3	-	-
U.A.R.	0.1	-	-	-	-	-	-	-	-
Yemen	-	-	-	0.3	-	-	-	-	-
Asia	-	-	-	-	0.1	-	-	-	-
Japan	-	-	-	-	0.1	-	-	-	-
Africa	-	-	0.2	0.7	1.7	0.8	-	0.1	6.7
Kenya	-	-	0.2	0.7	1.7	0.8	-	0.1	6.7

TABLE 15

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM GOATSKINS BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-552.0	308.9	406.2	217.4	794.5	762.6	-1222.5	-883.4	-132.2
W. Europe	410.3	202.4	-1047.7	-355.1	869.3	-1037.4	-724.8	820.8	-17.8
Comm. Market	291.1	-42.8	-883.9	-4.1	566.2	-699.8	-481.1	355.2	-24.0
Belgium	-14.9	-27.8	83.3	-17.7	-14.6	-8.5	-3.5	1.5	.6.6
France	-549.7	108.9	222.4	576.0	227.6	-266.8	-286.2	-114.6	83.9
W. Germany	-100.9	-254.1	-2.4	6.4	384.2	352.9	7.7	-61.5	-338.8
Italy	554.7	-117.3	-871.4	-388.4	311.6	-443.4	-249.7	528.6	-229.5
Netherlands	401.9	247.5	-315.8	-172.2	-342.6	-334.0	50.6	1.2	453.8
Efta	63.8	61.8	-106.1	-220.0	484.1	-377.8	-189.7	383.3	-96.6
U.K.	64.3	63.9	-102.4	-216.7	483.9	-384.4	-219.7	394.9	-83.4
Switzerland	-0.5	-2.1	-3.7	-5.3	0.2	6.6	30.0	-11.6	-13.2
Other W. Europe	55.4	183.4	-57.7	-131.0	-181.0	40.2	-54.0	82.3	102.8
Greece	63.4	184.0	-57.5	-134.1	-203.6	45.8	-48.7	84.7	106.4
Spain	-3.1	4.3	-2.4	3.9	0.3	-1.4	-1.1	1.3	-0.4
Yugoslavia	-4.9	-4.9	2.2	-0.8	22.3	-4.2	-4.2	-3.7	-3.2
E. Europe	-823.5	-1199.4	-561.2	-1.1	2751.0	1788.2	1547.3	1101.6	-2398.4
U.S.S.R.	-823.5	-1199.4	-561.2	-1.1	2751.0	1788.2	1547.3	1101.6	-2398.4
Mid. East	-44.0	-30.8	125.5	-14.3	-12.1	-22.0	7.4	-7.1	0.8
S. Yemen	-1.8	4.5	-1.2	-0.9	-0.6	-0.3	-	0.2	0.5
Lebanon	-44.3	-29.3	131.7	-29.3	-8.3	-19.3	8.7	-9.3	-0.3
U.A.R.	5.6	-2.8	-2.2	-1.6	-1.0	-0.6	0.2	0.8	1.4
Yemen	-3.5	-3.2	-2.8	17.5	-2.2	-1.8	-1.5	-1.2	-0.8

TABLE 15 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Asia	0.6	-0.8	-3.3	-4.8	11.7	-7.8	-9.3	19.2	-12.3
Japan	0.6	-0.8	-3.3	-4.8	11.7	-7.8	-9.3	19.2	-12.3
Africa	-120.4	-157.7	-184.0	-190.4	-134.7	-213.0	-268.7	-306.0	184.7
Kenya	-120.4	-157.7	-184.0	-190.4	-134.7	-213.0	-268.7	-306.0	184.7
Total	-772.2	-1449.6	-1168.6	-229.3	5415.4	1293.0	-369.3	-1075.7	-2063.0

TABLE 16

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
SHEEPSKINS AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	10.6	7.7	18.2	12.9	5.6	6.9	7.2	3.0	7.7
W. Europe	84.9	93.0	80.6	86.4	91.8	87.1	86.9	84.8	82.5
Comm. Market	54.9	44.8	39.5	41.0	50.9	49.7	46.9	44.6	46.1
Belgium	-	-	0.1	-	-	-	-	-	-
France	37.5	17.2	15.1	13.2	16.6	21.7	15.3	10.1	9.5
W. Germany	11.7	14.6	14.7	15.0	14.7	12.9	17.5	23.1	19.6
Italy	6.6	11.1	9.0	11.9	19.4	14.2	11.5	17.5	14.2
Netherlands	0.1	1.9	0.6	0.9	0.2	0.9	2.6	3.9	2.8
Efta	29.9	42.4	40.7	44.5	40.5	36.8	39.3	38.1	34.0
U.K.	29.4	41.6	40.5	43.1	35.9	35.8	38.6	36.9	29.2
Denmark	-	-	-	-	-	-	-	-	0.9
Norway	-	-	-	-	-	-	-	0.9	-
Sweden	0.5	0.8	0.2	1.4	0.2	0.9	-	0.3	2.1
Switzerland	-	-	-	-	4.2	0.1	0.7	-	1.8
Other W. Europe	0.1	5.8	0.4	0.9	0.4	0.6	0.7	2.1	2.4
Greece	-	0.1	0.1	0.3	-	-	-	0.1	0.5
Finland	0.1	4.9	0.3	0.3	0.4	0.6	0.7	1.3	1.9
Yugoslavia	-	0.8	-	0.3	-	-	-	-	-
Spain	-	-	-	-	-	-	-	0.7	-
E. Europe	0.6	-	0.2	-	0.2	-	-	-	5.2
Czechoslovakia	0.6	-	0.2	-	0.2	-	-	-	5.2
Mid. East	0.3	-	0.4	0.3	0.4	4.8	3.6	0.7	3.2
S. Yemen	0.3	-	-	-	-	-	-	-	-
Jordan	-	-	-	0.2	-	-	-	-	-
Israel	-	-	0.2	0.1	-	-	-	-	-
Labanon	-	-	0.2	-	0.4	4.8	3.6	0.7	3.2
Aus NZ SAF	0.6	-	-	-	-	-	-	-	-
New Zealand	0.6	-	-	-	-	-	-	-	-
Asia	0.8	-	-	-	-	-	0.1	1.1	0.7
Japan	0.8	-	-	-	-	-	0.1	1.1	0.7
Africa	0.2	1.4	-	-	0.4	0.6	-	-	0.2
Kenya	-	-	-	-	0.4	0.6	-	-	-
Somalia	-	-	-	-	-	-	-	-	0.2
Fr. Terr. of A + I	0.2	1.4	-	-	-	-	-	-	-

TABLE 17

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM SHEEPSKINS BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-226.0	-531.7	891.7	314.0	-282.6	-19.3	89.1	-378.3	143.8
W. Europe	-68.7	-799.2	-712.9	-604.0	1915.3	1015.8	696.2	977.4	-2561.3
Comm. Market	946.6	-738.7	-926.1	-1047.4	1134.4	781.1	288.8	826.3	-1370.9
Belgium	-6.0	1.8	11.7	-3.4	-2.5	-1.6	-0.7	-	0.9
France	1258.9	-821.7	-748.3	-816.9	163.6	1037.0	348.4	-167.2	-248.8
W. Germany	-18.7	-16.3	80.0	-98.6	82.8	-340.9	202.5	562.9	-453.7
Italy	-288.7	-40.9	-245.2	-91.5	1047.2	190.0	-333.3	253.4	-610.8
Netherlands	1.1	138.4	-24.3	-37.0	-156.7	-103.4	71.9	177.2	-58.5
Efta	-998.6	-154.5	236.5	445.9	845.7	294.9	480.8	83.9	-1228.2
U.K.	-990.1	-138.3	344.4	454.3	454.0	388.8	637.5	236.3	-1396.0
Denmark	15.7	8.9	2.2	-4.4	-11.2	-17.9	-24.6	-31.4	62.9
Norway	10.1	4.4	-1.2	-6.9	-12.6	-18.3	-16.0	92.3	-27.4
Sweden	5.4	19.3	-43.9	84.0	-49.2	34.7	-86.5	-67.6	104.2
Switzerland	-29.7	-48.8	-65.0	-81.1	464.7	-92.4	-29.6	-145.7	28.1
Other W. Europe	-16.7	94.0	-23.3	-2.5	-64.0	-60.2	-73.4	67.2	37.8
Greece	-2.0	8.1	2.1	19.2	-12.7	-16.7	-19.6	-7.5	29.5
Finland	12.1	25.9	-10.3	-27.4	-28.6	-20.8	-32.9	9.9	28.7
Yugoslavia	-33.7	57.3	-16.7	11.3	-13.7	-8.7	-2.7	1.2	6.2
Spain	6.9	2.7	1.6	-5.6	-9.8	-14.0	-18.2	63.6	-26.6
E. Europe	121.4	21.3	9.2	-49.9	-47.1	-112.2	-135.4	-157.5	342.3
Czechoslovakia	121.4	21.3	9.2	-49.9	-47.1	-112.2	-135.4	-157.5	342.3
Mid. East	28.2	-56.3	-69.8	-126.5	-15.0	401.0	176.8	-263.7	-71.3
S. Yemen	24.9	-12.4	-9.7	-7.1	-4.4	-1.7	0.8	3.5	6.2
Jordan	-4.0	-3.7	-3.3	21.1	-2.5	-2.1	-1.7	-1.4	-1.0

TABLE 17 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Israel	-8.4	-3.3	12.9	2.0	-1.8	1.5	3.6	1.8	-7.1
Lebanon	15.7	-36.9	-69.7	-142.5	-6.3	402.9	174.1	-267.6	-69.4
Aus NZ SAF	54.1	-22.0	-17.3	-12.6	-7.8	3.1	1.5	6.3	11.0
N. Zealand	54.1	-22.0	-17.3	-12.6	-7.8	3.1	1.5	6.3	11.0
Asia	80.9	-13.1	-27.1	-26.1	-39.1	-41.1	-32.1	81.9	15.9
Japan	80.9	-13.1	-27.1	-26.1	-39.1	-41.1	-32.1	81.9	15.9
Africa	-29.8	84.7	-49.9	-41.8	22.6	53.1	-23.4	-17.1	8.3
Kenya	-9.2	-10.7	-12.2	-13.8	44.7	67.2	-16.2	-18.8	-21.3
Somalia	3.7	1.4	0.1	-1.4	-2.7	-3.9	-5.2	-6.5	12.2
Fr. Terr. of A + I	-24.3	94.0	-37.8	-26.6	-19.4	-10.2	-1.0	8.2	17.4
Total	-7.8	-1409.9	-50.0	-642.1	1447.8	1235.7	761.6	195.5	-2168.6



TABLE 19

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM GROUNDNUTS BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-2.0	-2.5	-3.0	19.5	-4.0	-4.4	-4.9	-5.4	7.1
W. Europe	-1011.9	272.5	1624.3	98.9	-419.6	586.1	91.4	16.0	-297.4
Comm. Market	-552.0	312.9	767.4	300.5	-410.4	-436.3	-37.2	107.0	41.3
Belgium	-11.4	0.2	17.7	4.3	-5.2	-3.6	-2.1	-0.5	0.9
France	-55.1	-62.7	204.6	-17.1	-49.7	-45.4	17.9	41.3	-32.4
W. Germany	16.2	-10.7	-6.6	-1.5	-4.5	-2.4	-0.3	1.7	3.8
Italy	-563.1	366.8	416.7	319.5	-258.6	-315.8	-124.9	73.0	86.7
Netherlands	61.4	119.3	135.0	-4.7	-92.4	-69.1	72.2	-8.5	-17.7
Efta	-253.2	54.1	140.3	-31.4	148.9	-3.9	-310.6	-30.4	-229.2
U.K.	-252.0	51.1	141.1	-30.8	149.3	-3.7	-310.6	-30.5	-229.5
Switzerland	-1.2	3.0	-0.8	-0.6	-0.4	-0.2	-	0.1	0.3
Other W. Europe	-206.7	-194.5	716.6	-170.2	-158.1	-145.9	439.2	-60.6	-109.5
Spain	-206.7	-194.5	716.6	-170.2	-158.1	-145.9	439.2	-60.6	-109.5
E. Europe	-4.3	25.2	5.6	-18.9	-14.4	-7.9	-1.4	5.0	11.4
Czechoslovakia	-4.3	25.2	5.6	-18.9	-14.4	-7.9	-1.4	5.0	11.4
Mid. East	15.2	29.8	-58.3	-36.5	0.3	53.1	34.9	-21.5	-15.7
S. Yemen	-4.0	-2.9	-14.9	-9.9	17.2	38.2	14.2	-18.7	-18.7
Kuwait	-0.4	-1.4	-1.3	-1.2	8.8	-1.1	-1.0	-1.0	-0.9
Israel	-25.5	60.4	-17.3	-13.2	-9.1	-5.0	-0.9	3.1	7.2
S. Arabia	-0.3	-2.3	-4.4	4.6	-3.4	12.6	1.6	-3.4	-4.5
Syria	45.5	-22.7	-17.8	-12.9	-8.1	-3.2	1.6	6.4	11.3
Yemen	-0.1	-1.3	-2.6	-3.9	-5.1	11.6	19.4	-7.9	-10.1



TABLE 19 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Africa	-16.2	35.4	-7.0	-8.4	-5.8	-3.3	-0.7	1.8	4.4
Tanzania	-16.2	35.4	-7.0	-8.4	-5.8	-3.3	-0.7	1.8	4.4
Asia	2.4	1.0	-0.2	-1.5	-2.9	-4.2	-5.6	20.1	-8.3
Japan	2.4	1.0	-0.2	-1.5	-2.9	-4.2	-5.6	20.1	-8.3
Total	-978.9	154.5	1513.8	20.2	-347.4	-463.0	110.4	125.8	-134.9

TABLE 20

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
LINSEED AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	1.7	-	-	-	-	-	-	-	-
W. Europe	74.2	65.7	89.1	75.6	41.8	45.1	82.2	82.4	-
Comm. Market	19.2	3.5	4.6	2.7	4.5	16.8	14.3	82.4	-
W. Germany	0.3	-	-	0.7	1.2	-	1.5	-	-
Italy	18.2	3.5	4.5	2.0	3.3	16.8	12.8	82.4	-
Netherlands	0.7	-	0.1	-	-	-	-	-	-
Efta	1.0	-	0.6	-	0.8	-	-	-	-
U.K.	1.0	-	0.6	-	0.8	-	-	-	-
Other. W. Europe	54.0	82.2	83.9	72.9	36.5	28.3	67.9	-	-
Greece	21.0	22.1	14.7	16.2	24.0	22.7	27.9	-	-
Finland	0.1	-	-	-	-	-	-	-	-
Yugoslavia	32.9	60.1	69.2	56.7	12.5	5.6	40.0	-	-
E. Europe	9.6	2.6	7.8	17.0	10.5	-	-	-	-
U.S.S.R.	-	2.3	1.5	3.7	10.5	-	-	-	-
Czechoslovakia	7.8	0.3	6.3	10.4	-	-	-	-	-
Hungary	1.8	-	-	-	-	-	-	-	-
Rumania	-	-	-	2.9	-	-	-	-	-
Mid. East	6.4	3.0	2.2	2.8	-	23.1	13.9	-	100.0
Cyprus	-	1.0	0.1	-	-	-	-	-	-
Israel	6.4	0.3	0.4	-	-	8.1	13.9	-	-
S. Arabia	-	-	-	-	-	-	-	-	100.0
Lebanon	-	1.1	1.7	2.8	-	15.0	-	-	-
Syria	-	0.2	-	-	-	-	-	-	-
Yemen	-	0.4	-	-	-	-	-	-	-
Africa	5.9	3.5	0.1	2.6	8.3	1.3	1.4	14.3	-
Kenya	-	0.4	0.1	0.6	1.0	1.3	1.4	8.2	-
Mauritius	-	-	-	-	-	-	-	6.1	-
Sudan	0.2	-	-	-	-	-	-	-	-
Fr. Terr. of A + I	5.7	3.1	-	2.0	7.3	-	-	-	-
Asia	1.5	4.6	-	-	38.4	30.5	-	-	-
China (M)	-	-	-	-	14.5	30.5	-	-	-
Japan	1.5	4.6	-	-	23.8	-	-	-	-
Ceylon	-	-	-	-	0.1	-	-	-	-

TABLE 21

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM LINSEED BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	91.5	-45.7	-35.9	-26.1	-16.3	-6.5	3.2	13.0	22.8
W. Europe	4076.0	2995.9	2604.0	-319.0	-2323.0	-1237.9	-320.5	96.0	-524.0
Comm. Market	708.0	-354.7	-198.5	-254.3	-229.1	227.2	44.3	83.4	134.7
W. Germany	4.1	-17.3	-21.7	27.9	29.5	-13.9	6.7	-8.7	-6.1
Italy	668.3	-314.7	-173.8	-268.9	-250.0	245.0	36.9	86.7	130.7
Netherlands	35.6	-22.7	-3.0	-13.3	-8.6	-3.9	0.7	5.4	10.1
Efta	35.4	-46.3	42.1	-29.6	10.7	-13.0	-4.6	3.6	11.9
U.K.	35.4	-46.3	42.1	-29.6	10.7	-13.0	-4.6	3.6	11.9
Other W. Europe	3332.6	3396.9	2760.4	-35.1	-2104.6	-1452.1	-360.2	9.0	-670.6
Greece	-395.2	862.5	-104.7	-290.9	-130.2	-23.4	-61.4	-68.9	232.8
Finland	9.4	-4.6	-3.6	-2.6	-1.6	-0.6	1.6	2.6	3.6
Yugoslavia	-2946.8	2539.0	2868.7	258.4	-1972.8	-1428.1	-330.4	75.3	-907.0
E. Europe	-23.8	-540.2	17.8	448.9	-165.9	-422.8	-308.8	-188.7	-71.6
U.S.S.R.	-221.2	98.4	-21.1	139.5	251.0	-98.4	-73.8	-49.3	-24.7
Czechoslovakia	129.2	-567.6	104.2	181.0	-379.1	-300.3	-221.5	-142.7	-63.9
Hungary	100.2	-50.0	-39.3	-28.6	-17.8	-7.1	3.5	14.3	25.0
Rumania	-32.0	-29.0	-26.0	157.0	-20.0	-17.0	-14.0	-11.0	-8.0
Mid. East	104.5	-7.3	-97.2	-117.7	-242.0	470.0	27.1	-92.0	-42.0
Cyprus	-43.4	87.3	-14.0	-23.2	-16.5	-9.8	-3.0	3.6	10.3
Israel	309.1	-167.2	-126.6	-146.0	-115.4	148.2	114.8	-23.5	7.0
Lebanon	-132.7	1.3	62.3	65.7	-100.7	336.3	-84.7	-76.7	-68.7
Syria	-10.5	25.3	-7.0	-5.3	-3.6	-1.9	-0.2	1.4	3.1
Yemen	-18.0	46.0	-11.9	-8.9	-5.8	-2.8	0.2	3.2	6.3

TABLE 21 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Africa	95.8	107.7	-252.1	-54.6	137.2	-69.9	-36.3	16.5	57.7
Kenya	-30.7	20.3	-11.7	13.4	16.4	17.4	-2.6	-8.5	-14.5
Mauritius	-1.6	2.4	-1.7	3.2	-1.8	-0.9	-1.0	4.0	-2.1
Sudan	1.3	-0.6	-0.4	-0.3	-0.2	-	-	0.1	0.3
Fr. Terr. of A + I	126.8	85.6	-238.3	-70.9	122.8	-86.4	-32.7	20.9	74.6
Asia	-286.7	177.2	-374.8	-351.8	1034.8	577.2	-282.9	-260.0	-237.0
China (M)	-96.6	-111.4	-126.1	-140.8	361.5	712.8	-184.9	-199.7	-214.4
Japan	-189.5	289.2	-248.1	-210.4	673.3	-135.0	-97.4	-59.7	-22.0
Ceylon	-0.6	-0.6	-0.6	-0.6	-	-0.6	-0.6	-0.6	-0.6
Total	-2611.6	2833.1	2008.9	-374.4	-1415.6	-544.9	-771.1	-279.4	1908.1

TABLE 22  
 PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
 COTTONSEED AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	1.4	-	-	-	-	-	-	-	-
W. Europe	98.6	79.1	72.2	85.2	9.7	15.4	-	30.7	-
Comm. Market	-	-	-	-	-	0.6	-	1.9	-
W. Germany	-	-	-	-	-	-	-	1.7	-
Italy	-	-	-	-	-	0.6	-	-	-
Netherlands	-	-	-	-	-	-	-	0.2	-
Efta	98.6	79.1	72.2	85.2	9.7	14.8	-	28.8	-
U.K.	98.6	31.7	21.4	-	9.7	14.8	-	-	-
Greece	-	47.4	50.8	85.2	-	-	-	28.8	-
Mid. East	-	20.7	6.7	-	4.7	45.2	-	-	1.9
Lebanon	-	20.7	-	-	1.9	45.2	-	-	-
Yemen	-	-	6.7	-	2.8	-	-	-	1.9
Asia	-	-	20.7	14.5	85.4	39.2	100.0	69.2	98.1
Japan	-	-	20.7	14.5	85.4	39.2	100.0	69.2	98.1

TABLE 23

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM COTTONSEED BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	1.7	-0.9	-0.7	-0.5	-0.3	-0.1	-	0.2	0.4
W. Europe	-268.9	-7.3	189.4	391.1	-175.3	100.2	-253.5	292.2	-180.3
Comm. Market	2.0	0.2	-1.4	-3.2	1.1	17.2	-8.9	21.4	-12.5
W. Germany	2.4	1.0	-0.3	-1.7	3.1	4.5	-5.9	20.7	-8.7
Italy	-0.6	-0.9	-1.1	-1.4	-1.6	13.1	-2.4	-2.6	-2.9
Netherlands	0.2	0.1	-	-0.1	-0.3	-0.4	-0.6	2.3	-0.9
Efta	-270.9	-7.5	190.8	394.3	-176.4	83.0	-244.5	270.8	-167.8
U.K.	3.7	-11.6	20.1	-132.1	35.6	279.3	-63.9	-41.2	-18.5
Greece	-274.6	4.1	170.7	526.4	-212.0	-196.3	-180.6	312.0	-149.3
Mid. East	-102.7	-0.3	-73.0	-140.5	-83.1	939.2	-178.3	-190.9	-153.9
Lebanon	-88.4	13.8	-114.1	-126.9	-111.7	952.4	-165.4	-178.2	-165.4
Yemen	-14.3	-14.1	41.1	-13.6	28.6	-13.2	-12.9	-12.7	11.5
Asia	72.5	114.3	-132.2	-359.1	-484.9	104.0	107.1	-91.8	-179.7
Japan	72.5	114.3	-132.2	-359.1	-484.9	104.0	107.1	-91.8	-179.7
Total	-299.2	-122.9	-25.4	-119.3	319.0	1135.3	-335.4	-11.1	-559.8

TABLE 24

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
CASTORSEED AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	0.3	-	-	-	-	-	-	0.5	-
W. Europe	95.2	81.2	96.9	66.4	90.1	99.9	65.1	64.5	84.2
Comm. Market	74.1	79.8	95.4	55.2	84.9	96.1	58.5	30.8	77.1
France	19.5	6.7	22.4	-	21.3	32.6	-	-	-
W. Germany	-	-	-	-	-	-	-	-	7.6
Italy	54.6	72.8	71.1	55.2	55.6	63.5	58.5	30.8	69.5
Netherlands	-	0.3	1.9	-	8.0	-	-	-	-
Efta	9.3	1.2	1.5	6.2	5.2	3.8	6.6	33.7	7.1
U.K.	3.5	0.3	1.3	6.2	5.2	3.8	6.6	28.9	7.1
Norway	-	-	-	-	-	-	-	4.8	-
Switzerland	5.8	0.9	0.2	-	-	-	-	-	-
Other W.Europe	11.8	0.2	-	5.0	-	-	-	-	-
Greece	-	0.2	-	5.0	-	-	-	-	-
Yugoslavia	11.8	-	-	-	-	-	-	-	-
E. Europe	4.0	14.9	-	-	-	-	-	-	-
U.S.S.R.	-	14.9	-	-	-	-	-	-	-
Czechoslovakia	4.0	-	-	-	-	-	-	-	-
Mid. East	-	-	0.6	-	-	-	-	0.1	-
S. Yemen	-	-	0.6	-	-	-	-	-	-
Lebanon	-	-	-	-	-	-	-	0.1	-
Africa	4.1	-	1.4	32.3	-	-	-	2.9	-
Fr. Terr. of A + I	4.1	-	1.4	32.3	-	-	-	2.9	-
Asia	-	-	-	-	9.8	-	22.4	30.2	14.7
Japan	-	-	-	-	9.8	-	22.4	30.2	14.7

TABLE 25

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM CASTORSEED BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	4.7	-2.0	-1.7	-1.4	-1.1	-0.7	-0.4	2.9	0.1
W. Europe	554.3	33.9	482.5	-430.8	169.7	-164.9	-192.7	207.9	241.1
Comm. Market	289.4	174.8	591.0	-461.6	181.6	-138.2	-213.1	-14.7	181.3
France	11.9	-133.5	221.1	-200.2	119.4	71.0	-72.4	-29.7	12.8
W. Germany	2.4	1.4	0.3	-0.7	-1.7	-2.8	-3.9	-4.9	10.0
Italy	-280.1	322.8	347.8	-242.2	-23.3	-191.3	-123.4	31.6	168.5
Netherlands	-23.6	-15.9	21.8	-18.5	87.2	-15.1	-13.4	-11.7	-10.0
Efta	121.5	-50.5	-32.3	23.8	25.9	-8.0	20.0	203.0	21.1
U.K.	45.3	-25.1	-0.5	53.1	46.7	4.3	23.9	168.5	8.1
Norway	2.6	1.1	-0.3	-1.8	-3.3	-4.8	-6.3	22.2	-9.3
Switzerland	73.6	-26.5	-31.5	-27.5	-17.5	-7.5	2.4	12.3	22.3
Other W. Europe	143.4	-90.4	-76.2	7.0	-37.8	-18.7	0.4	19.6	38.7
Greece	-13.4	-7.1	-10.7	54.6	-8.1	-6.8	-5.5	-4.2	-2.9
Yugoslavia	156.8	-83.3	-65.5	-47.6	-29.7	-11.9	5.9	23.8	41.6
E. Europe	-51.5	238.9	-85.6	-62.1	-38.7	-15.2	8.1	31.5	55.0
U.S.S.R.	-108.2	267.2	-63.4	-46.0	-28.6	-11.2	6.1	23.5	40.9
Czechoslovakia	56.7	-28.3	-22.2	-16.1	-10.1	-4.0	2.0	8.0	14.1
Mid. East	-2.4	-2.4	10.7	-2.2	-2.2	-2.2	-2.1	5.9	-2.2
S. Yemen	-3.1	-2.7	10.7	-1.8	-1.4	-1.0	-0.5	-0.1	0.2
Lebanon	0.7	0.3	-	-0.4	-0.8	-1.2	-1.6	6.0	-2.4
Africa	-22.0	-101.7	-58.5	341.8	-62.0	-48.7	-35.5	-4.3	-9.0
Fr. Terr. of A + I	-22.0	-101.7	-58.5	341.8	-62.0	-48.7	-35.5	-4.3	-9.0



TABLE 25 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Asia	10.3	-5.2	-21.9	-37.6	71.7	-69.0	43.3	86.7	-85.0
Japan	10.3	-5.2	-21.9	-37.6	71.7	-69.0	43.3	86.7	-85.0
Total	-76.9	133.4	293.8	-230.9	91.5	-355.2	-238.8	255.5	128.9

TABLE 26

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
SESAME SEED AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	1.5	6.6	18.6	31.0	21.6	7.1	0.6	7.4	6.8
W. Europe	27.1	31.0	6.0	9.7	9.7	6.7	14.4	10.9	14.5
Comm. Market	18.9	24.1	6.0	4.3	6.4	5.7	6.1	2.3	2.1
Belgium	2.9	3.6	-	-	-	-	-	-	-
France	0.8	1.4	0.1	-	0.1	-	0.3	-	-
W. Germany	0.7	2.1	0.7	-	-	0.5	0.7	0.4	0.4
Italy	5.5	8.7	0.4	2.2	1.8	5.2	3.1	1.9	1.6
Netherlands	9.0	8.3	4.8	2.1	4.5	-	2.0	-	0.1
Efta	0.5	3.6	-	3.7	2.1	-	1.9	0.6	0.2
U.K.	0.5	3.6	-	3.7	2.1	-	1.9	0.6	0.2
Other W. Europe	7.7	3.3	-	1.7	1.2	1.0	6.4	8.0	12.2
Greece	1.5	-	-	-	1.2	0.4	6.1	6.4	11.4
Spain	-	0.2	-	-	-	-	-	-	-
Yugoslavia	6.2	3.1	-	1.7	-	0.6	0.3	1.6	0.8
E. Europe	3.2	-	-	-	-	8.1	3.3	3.2	3.9
U.S.S.R.	-	-	-	-	-	8.1	3.3	3.2	3.9
Czechoslovakia	3.2	-	-	-	-	-	-	-	-
Mid. East	37.7	16.7	38.3	31.6	48.0	51.5	55.8	50.2	29.8
S. Yemen	10.7	-	20.1	15.5	22.2	21.4	18.7	14.3	9.9
Jordan	4.4	-	1.2	1.2	0.9	0.9	5.1	7.7	0.3
Libya	0.1	-	-	0.5	5.8	-	-	1.9	1.4
Israel	6.2	16.6	4.8	2.8	5.3	12.2	7.5	8.3	8.6
S. Arabia	6.4	-	9.1	8.6	9.8	11.2	8.9	9.2	7.5
Lebanon	8.7	0.1	2.5	2.5	3.8	5.5	14.3	7.9	2.1
Kuwait	-	-	0.3	0.5	0.2	-	0.2	-	-
Yemen	1.2	-	0.3	-	-	0.3	1.1	0.9	-
Africa	-	1.1	-	1.0	0.1	-	-	1.4	-
Sudan	-	-	-	-	0.1	-	-	-	-
Fr. Terr. of	-	1.1	-	0.5	-	-	-	-	-
A + I	-	-	-	-	-	-	-	-	-
U.A.R.	-	-	-	-	-	-	-	1.4	-
Somalia	-	-	-	0.5	-	-	-	-	-
Asia	30.7	63.7	36.4	26.4	23.6	25.9	25.4	25.5	41.0
China (M)	-	-	-	-	1.4	-	-	-	-
Japan	30.7	63.7	35.9	26.4	21.8	25.9	22.1	24.9	40.8
Ceylon	-	-	-	-	0.2	-	0.3	0.3	0.2
Singapore	-	-	-	-	0.2	-	-	-	-
Hong Kong	-	-	0.5	-	-	-	-	-	-
Formosa	-	-	-	-	-	-	3.0	0.3	-

TABLE 27

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM SESAME SEED BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-820.6	-781.5	224.6	2984.7	1336.8	-460.1	-1246.0	-245.9	116.2
W. Europe	706.3	210.1	-98.8	-49.3	-637.1	-656.5	273.8	-330.6	981.1
Comm. Market	82.5	71.7	-133.2	-98.0	-254.2	162.7	393.5	-112.6	-104.4
Belgium	28.0	28.0	-35.0	-26.0	-17.0	-8.0	1.0	10.0	19.0
France	6.4	14.1	-14.1	-15.4	-5.6	-13.9	42.9	-8.4	-5.6
W. Germany	5.3	30.2	14.1	-46.0	-48.1	4.9	37.8	-4.3	6.6
Italy	38.7	34.8	-198.8	-26.1	-73.1	298.0	116.0	-59.9	-128.9
Netherlands	4.1	-35.7	100.6	15.5	-110.4	-118.3	195.8	-50.0	10.1
Efta	-58.2	-79.7	-100.3	266.2	117.6	-130.9	133.5	-48.0	-99.6
U.K.	-58.2	-79.7	-100.3	266.2	117.6	-130.9	133.5	-48.0	-99.6
Other W. Europe	682.0	218.1	134.7	-217.5	-500.5	-788.3	-253.2	-170.0	1185.1
Greece	542.8	229.8	-24.1	-278.0	-387.0	-733.9	-176.9	-292.8	1130.2
Spain	-2.6	3.7	-2.0	-1.7	5.6	-1.1	-0.8	-0.5	-0.2
Yugoslavia	141.8	-15.4	-108.6	62.2	-119.1	-53.3	-75.5	123.3	55.1
E. Europe	264.4	11.5	-116.5	-223.6	-340.7	463.2	-100.8	-183.9	226.0
U.S.S.R.	122.7	19.9	-82.9	-185.8	-288.6	529.5	-20.3	-88.2	-6.1
Czechoslovakia	131.7	-8.4	-23.6	-37.8	-52.1	-66.3	-80.5	-94.7	232.1
Mid. East	799.0	-1130.3	40.9	-334.1	934.8	452.0	1481.9	666.1	-561.2
S. Yemen	-85.2	-723.8	386.6	332.0	1019.4	718.8	565.2	46.6	-144.0
Jordan	281.4	7.8	-42.2	-121.5	-248.8	-365.2	125.5	515.2	-116.2
Libya	1.9	-41.0	-77.9	-63.7	491.4	-180.5	-222.4	41.7	42.9
Israel	198.0	219.7	-122.6	-362.9	-256.2	335.5	-197.8	-157.1	343.6
S. Arabia	98.8	-349.9	65.3	117.6	155.8	128.1	-99.7	-127.4	11.8
Lebanon	281.6	-195.6	-167.8	-230.1	-191.3	-132.5	1219.2	299.0	-582.2

TABLE 27 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Kuwait	-18.4	-19.0	3.4	31.8	11.2	-21.4	9.1	-22.5	-23.1
Yemen	40.9	-18.5	-3.9	-37.3	-46.7	-30.8	82.8	70.6	-94.0
Africa	-49.3	-29.0	-25.9	15.8	-24.5	-54.0	-63.3	167.4	-81.0
Sudan	-1.0	-1.2	-1.4	-1.6	11.2	-2.1	-2.3	0.5	-1.7
Fr. Terr. of A + I	-18.3	-10.4	-14.6	-12.7	-3.8	-9.0	-7.1	-5.2	-3.4
U.A.R.	-21.0	-9.2	-2.6	-14.4	-26.3	-38.1	-50.0	175.2	-73.7
Somalia	-9.0	-8.2	-7.3	44.5	-5.6	-4.8	-3.9	-3.1	-2.2
Asia	568.8	475.2	501.7	-40.1	-751.6	-1152.2	-1247.7	-1585.4	3304.4
China (M)	-18.6	-18.6	-18.6	-18.6	149.4	-18.6	-18.6	-18.6	-18.6
Japan	621.9	516.3	510.6	26.9	-860.7	-1047.4	-1588.1	-1494.7	3445.6
Ceylon	-12.6	-6.6	-0.5	-6.6	-12.6	-18.6	-24.6	21.4	15.4
Singapore	-3.0	-3.0	-3.0	-3.0	24.0	-3.0	-3.0	-3.0	-3.0
Hong Kong	-9.5	-8.2	32.1	-5.6	-4.3	-3.0	-1.7	-0.4	0.8
Formosa	-9.4	-4.7	-18.9	-33.2	-47.4	-61.6	351.1	-90.1	-104.3
Total	1689.3	-1636.3	187.1	1207.5	230.9	-1809.6	-1358.2	-1996.8	3486.6



TABLE 29

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM NIGER SEEDS BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-39.6	28.5	-19.3	-1.1	104.0	-1.8	-127.7	83.5	-26.4
W. Europe	-91.8	-645.7	362.3	625.4	-150.9	-111.1	355.5	511.3	-660.2
Comm. Market	-31.2	-559.7	162.0	548.3	-95.7	13.3	409.2	426.4	-671.9
Belgium	26.8	-58.1	-31.9	5.2	9.6	53.5	149.7	-60.2	-74.0
France	11.0	-14.8	-57.6	40.5	4.7	-9.1	92.1	-15.8	-50.6
W. Germany	50.5	-104.8	-59.0	73.7	81.5	81.2	-37.0	176.7	-85.5
Italy	-125.4	-244.7	244.9	248.5	-166.8	-13.2	226.4	259.9	-429.5
Netherlands	5.9	-137.3	65.6	180.4	-24.7	-100.9	-22.0	65.8	-32.3
Efta	-51.0	-55.4	94.4	50.0	23.7	-15.6	-8.9	-45.3	9.5
U.K.	-29.6	-31.7	-9.7	72.2	45.2	5.1	-5.9	-26.0	-19.0
Denmark	2.3	-1.1	-1.4	-1.8	-2.2	-2.5	14.1	-3.3	-3.6
Switzerland	-23.7	-22.6	105.5	-20.4	-19.3	-18.2	-17.1	-16.0	32.1
Other W. Europe	-9.6	-30.6	105.9	27.1	-78.9	-108.8	-44.8	130.2	2.2
Greece	-0.6	-0.5	2.5	-0.4	-0.4	-0.3	-0.3	0.8	-0.2
Spain	42.4	12.6	-17.1	-18.9	-20.7	-71.5	-28.3	124.9	-22.9
Yugoslavia	-51.4	-42.7	120.5	46.4	-57.8	-37.0	-16.2	4.5	25.3
E. Europe	-35.1	-30.8	-28.5	170.8	-21.8	-18.5	-15.2	-11.9	-8.6
Czechoslovakia	-35.1	-30.8	-28.5	170.8	-21.8	-18.5	-15.2	-11.9	-8.6
Mid. East	-102.3	-110.7	-109.3	391.4	-114.2	343.3	-110.7	-88.2	-106.9
S. Yemen	-9.0	-8.3	-3.6	39.2	-8.1	-7.4	-6.7	-1.0	-5.4
Israel	0.9	-0.3	-1.6	-3.9	-4.2	10.5	-4.2	11.5	-6.8
S. Arabia	7.5	-3.7	-2.9	-2.1	-1.3	-0.5	0.3	1.1	1.9
Lebanon	-102.1	-98.6	-101.2	358.3	-100.3	341.2	-99.4	-98.9	-98.5
Yemen	0.4	0.2	-	-0.1	-0.3	-0.5	-0.7	-0.9	1.9

TABLE 29 - Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Aus NZ SAF	-0.9	-1.0	-2.2	-2.3	3.6	4.5	-2.6	-2.7	-2.9
Australia	-0.9	-1.0	-2.2	-2.3	3.6	4.5	-2.6	-2.7	-2.9
Africa	-2.1	19.3	-9.4	-7.0	-4.7	-2.3	-	2.3	4.6
Sudan	7.5	-3.7	-2.9	-2.1	-1.3	-0.5	0.3	1.1	1.9
Fr. Terr. of A + I	-9.6	23.0	-6.5	-4.9	-3.4	-1.8	-0.3	1.2	2.7
Asia	-402.2	1077.2	-184.3	-375.9	-162.5	-210.1	-100.7	104.7	257.0
Japan	-404.5	1076.2	-184.1	-374.4	-159.7	-206.0	-95.3	85.4	265.0
Ceylon	2.3	1.0	-0.2	-1.5	-2.8	-4.1	-5.4	19.3	-8.0
Total	-338.7	701.6	275.9	1130.1	-57.6	318.7	181.9	933.2	-217.5

TABLE 30

PERCENTAGE DISTRIBUTION OF EXPORT PROCEEDS FROM  
OILSEED CAKES AMONG TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	-	-	-	-	-	-	0.2	-	-
W. Europe	97.0	96.3	97.9	95.1	99.2	97.4	98.9	97.2	91.7
Comm. Market	94.5	96.2	97.9	87.4	80.4	88.6	89.1	87.2	91.5
Belgium	-	-	-	1.1	-	0.3	-	-	-
France	-	-	-	-	-	1.3	2.9	-	-
W. Germany	0.4	0.2	2.0	1.8	4.6	21.8	27.2	39.3	65.5
Italy	0.2	-	1.6	3.7	0.4	3.0	12.6	7.6	5.4
Netherlands	93.9	96.0	94.3	80.8	75.4	62.2	46.4	40.3	20.6
Efta	2.1	-	-	4.8	18.8	8.8	9.8	10.0	0.2
U.K.	2.0	-	-	-	0.1	-	0.6	1.8	0.2
Denmark	0.1	-	-	4.8	18.7	8.8	7.9	4.3	-
Switzerland	-	-	-	-	-	-	1.3	3.9	-
Other WEurope	0.4	0.1	-	2.9	-	-	-	-	-
Greece	0.4	0.1	-	-	-	-	-	-	-
Yugoslavia	-	-	-	2.9	-	-	-	-	-
Mid. East	0.2	-	0.4	0.4	0.2	0.2	0.4	0.2	3.4
S. Arabia	0.2	-	0.4	0.4	0.2	0.2	0.4	0.2	0.6
Yemen	-	-	-	-	-	-	-	-	2.8
Africa	2.3	3.6	0.4	4.6	4.1	-	-	1.6	-
Fr. Terr. of A + I	2.3	3.6	0.4	4.4	4.1	-	-	1.6	-
Sudan	-	-	-	0.2	-	-	-	-	-
Asia	-	-	-	-	-	1.7	-	0.3	0.1
Japan	-	-	-	-	-	-	-	0.3	0.1
Malaysia	-	-	-	-	-	1.7	-	-	-



TABLE 31

## ABSOLUTE DEVIATIONS FROM THE TRENDS OF EXPORT EARNINGS FROM OILSEED CAKES BY TRADING PARTNERS, 1962-1970

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
U.S.A.	0.2	-0.1	-0.4	-0.7	-1.1	-1.4	8.3	-2.1	-2.4
W. Europe	353.8	-609.7	-211.2	-477.1	923.8	541.8	-110.7	236.1	-528.2
Comm. Market	404.2	-427.8	1.0	-474.4	288.0	452.4	-145.5	178.8	-152.1
Belgium	-7.7	-7.3	-6.8	33.6	-6.0	9.5	-5.1	-4.7	-4.3
France	-	-4.0	-9.3	-4.6	14.0	39.4	84.7	-25.9	-32.6
W. Germany	418.1	133.8	-43.3	-354.6	-466.9	-8.1	-232.4	110.3	444.0
Italy	28.2	-22.8	-6.0	20.9	-124.3	-52.4	238.4	44.3	-125.9
Netherlands	-34.4	-527.5	66.4	-169.7	871.2	464.0	-231.1	54.8	-433.3
Efta	-47.3	-167.4	-196.4	-63.5	644.4	97.3	40.1	60.0	-376.1
U.K.	59.1	-24.4	-21.8	-21.3	-13.7	-22.2	2.4	53.9	-11.5
Denmark	-121.7	-148.7	-170.7	-28.7	681.3	152.3	32.2	-102.8	-302.8
Switzerland	15.3	5.7	-3.9	-13.5	-23.2	-32.8	5.5	108.9	-61.8
Other W. Europe	-3.1	-14.5	-15.8	60.8	-8.6	-7.9	-5.3	-2.7	-
Greece	9.7	-2.9	-5.4	-2.0	-2.6	-1.1	0.3	1.7	3.2
Yugoslavia	-12.8	-11.6	-10.4	62.8	-8.0	-6.8	-5.6	-4.4	-3.2
Mid. East	-13.0	-17.9	-8.6	-17.3	-27.0	-35.7	-38.5	-53.2	46.1
S. Arabia	1.9	-9.4	6.3	3.9	0.6	-1.7	1.9	-6.4	3.3
Yemen	-14.9	-8.5	-14.9	-21.2	-27.6	-34.0	-40.4	-46.8	42.8
Africa	-22.8	6.1	-12.1	74.8	127.6	-60.6	-49.7	31.2	-24.0
Fr. Terr. of A + I	-21.2	7.5	-10.8	66.9	128.6	-59.7	-49.0	31.7	-23.6
Sudan	-1.6	-1.4	-1.3	7.9	-1.0	-0.9	-0.7	-0.5	-0.4
Asia	-1.0	-3.6	-6.2	-8.8	-11.3	66.0	-16.5	-3.1	-14.8
Japan	2.5	1.2	-	-1.3	-2.5	-3.8	-5.0	9.7	-0.6

TABLE 31 -- Continued

ORIGIN	1962	1963	1964	1965	1966	1967	1968	1969	1970
Malaysia	-3.5	-4.8	-6.2	-7.5	-8.8	69.8	-11.5	-12.8	-14.2
Total	348.8	-612.2	-283.2	419.3	991.7	512.7	-207.3	201.6	-532.4

TABLE 32

## PERCENTAGE DISTRIBUTION OF EXPORTS BY COUNTRY OF DESTINATION, 1962-1970

DESTINATION	1962	1963	1964	1965	1966	1967	1968	1969	1970
Africa	6.78	8.42	6.04	4.08	5.60	4.35	4.68	8.72	6.21
U.A.R.	0.38	0.56	0.62	0.12	0.36	0.34	0.34	0.67	0.08
Sudan	1.06	2.00	0.74	0.06	1.63	0.57	0.92	1.05	0.19
Mauritius	0.16	0.23	0.17	0.21	0.20	0.21	0.25	0.22	0.16
Kenya	0.11	0.24	0.12	0.27	0.24	0.19	0.06	0.09	0.24
Fr. Terr. of A + I	3.50	3.50	4.06	2.71	3.47	2.94	3.02	6.44	5.22
Others	1.57	1.87	0.29	0.11	0.30	0.16	0.07	0.23	0.29
America	39.55	37.81	49.28	55.57	44.78	43.38	43.68	42.81	50.42
U.S.A.	39.54	37.79	49.27	55.51	44.76	43.36	43.65	42.80	50.40
Others	0.01	0.01	0.01	0.06	0.02	0.02	0.63	0.006	0.02
Asia	18.38	19.94	15.26	12.48	16.53	20.15	21.06	17.95	18.67
S. Yemen	6.24	5.98	4.73	2.51	2.34	2.54	1.84	1.61	1.52
S. Arabia	4.31	5.07	4.19	4.50	5.08	5.54	6.74	5.88	5.40
Lebanon	1.04	0.69	0.51	0.49	0.68	1.79	1.23	0.72	0.44
Israel	1.24	1.21	1.10	0.95	1.31	1.94	1.48	1.26	1.87
China (M)	0.01	-	0.05	0.09	0.44	1.03	1.43	0.45	0.61
Japan	1.97	3.70	2.29	2.48	4.37	4.35	4.43	4.82	5.61
Jordan	0.21	0.44	0.18	0.18	0.21	0.45	0.70	0.72	0.37
Ceylon	2.20	1.53	0.14	0.73	1.55	1.57	2.94	1.80	1.64
Others	1.16	1.29	0.69	0.49	0.55	1.94	0.23	1.66	1.18
Europe	34.71	33.22	29.29	27.26	32.98	31.97	30.23	30.37	24.57
Holland	3.83	2.84	3.01	2.59	2.52	2.01	1.88	1.55	1.33
Belgium	0.43	0.72	0.41	0.49	0.27	0.26	0.31	0.23	0.39
W. Germany	3.02	3.64	3.63	3.83	5.37	5.29	8.16	9.24	6.71

TABLE 32 - Continued

DESTINATION	1962	1963	1964	1965	1966	1967	1968	1969	1970
France	3.56	2.29	2.46	2.78	3.27	3.60	3.13	2.95	2.12
Italy	9.84	8.83	7.08	6.57	9.25	8.36	6.23	7.18	6.20
U.K.	5.16	4.37	4.04	3.55	4.64	4.23	3.64	3.25	1.85
Norway	1.18	1.18	0.65	0.79	1.05	0.75	0.65	0.63	0.40
Sweden	0.73	0.67	0.51	0.71	0.44	0.76	0.40	0.43	1.39
Switzerland	0.93	0.43	0.44	0.14	0.46	0.61	0.83	0.66	0.56
Spain	0.03	0.02	0.35	0.37	0.51	0.95	0.24	0.28	0.15
Greece	1.95	2.27	1.34	1.25	1.08	0.71	0.80	0.92	1.23
U.S.S.R.	1.01	1.35	0.62	1.08	2.05	3.04	2.97	1.43	0.34
Bulgaria	-	-	-	0.81	0.62	0.18	-	0.004	0.002
Yugoslavia	2.29	3.94	3.68	1.67	0.45	0.13	0.21	0.61	0.58
Others	0.75	0.58	1.01	0.63	1.00	1.09	0.64	0.95	1.26
Oceania	0.23	0.10	0.04	0.09	0.07	0.04	0.16	0.02	0.01
Unspecified	0.35	0.48	0.06	0.52	0.04	0.11	0.16	0.10	0.10
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE 33

## INDICES OF QUANTITIES TRADED BY SOURCE IN THE MARKETS FOR ETHIOPIAN PRODUCTS, 1962-1970

1962=100

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Coffee	World	Brazil	100	107	97	91	104	107	114	115	109
		Total	100	119	91	82	102	102	112	114	97
	USA	Ethiopia	100	123	139	175	129	160	145	142	161
		Brazil	100	102	79	63	74	68	93	66	53
		Total	100	98	93	86	90	87	104	84	81
	France	Ethiopia	100	115	101	105	106	133	127	122	169
		Brazil	100	99	92	82	91	92	104	141	138
		Total	100	100	110	107	117	120	138	142	139
	W. Germany	Ethiopia	100	95	82	119	279	185	255	202	381
		Brazil	100	100	95	101	99	103	106	110	101
		Total	100	100	107	111	108	114	117	123	117
	Italy	Ethiopia	100	68	70	66	57	45	42	44	45
		Brazil	100	114	121	109	143	196	223	231	252
		Total	100	86	193	94	109	138	155	156	164
	U.K.	Ethiopia	100	107	76	92	92	90	96	80	58
		Brazil	100	100	60	48	41	45	69	155	169
		Total	100	140	118	124	107	99	117	130	146
	Norway	Ethiopia	100	107	76	92	92	90	96	80	58
		Brazil	100	108	100	90	110	111	107	124	115
		Total	100	110	107	93	112	117	113	129	123
	Sweden	Ethiopia	100	104	75	92	58	79	65	42	95
		Brazil	100	104	104	99	107	110	114	117	105
		Total	100	102	109	109	114	121	126	125	122

TABLE 33 -- Continued

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Coffee -- Contd.	Switzerland	Ethiopia	100	114	77	88	66	69	100	120	97
		Brazil	100	120	101	96	84	79	118	145	179
		Total	100	112	110	112	110	98	135	166	169
	Greece	Ethiopia	100	115	95	97	113	80	86	106	100
		Brazil	100	109	122	133	142	160	163	163	132
		Total	100	125	132	112	140	155	163	170	132
Hides	World	Total	100	124	130	137	129	143	203	191	174
	France	Ethiopia	100	109	20	66	70	28	10	25	16
		Total	100	116	157	233	149	144	142	143	146
	Italy	Ethiopia	100	86	59	64	150	126	65	77	123
		Total	100	111	123	116	124	156	250	224	200
	U.K.	Ethiopia	100	65	64	75	80	39	41	24	21
	Total	100	104	127	133	122	109	127	140	140	125
	Greece	Ethiopia	100	74	72	65	61	19	37	29	21
		Total	100	145	150	157	174	109	94	117	148
	World	Total	100	104	93	99	87	58	49	46	43
Goatskins	U.S.A.	Ethiopia	100	145	148	132	94	104	20	17	23
		Total	100	102	89	100	71	49	36	34	21
	France	Ethiopia	100	109	167	198	167	33	20	39	10
	Total	100	122	147	176	48	106	81	80	80	53
W. Germany		Ethiopia	100	89	168	63	197	193	257	110	161
		Total	100	80	63	207	178	92	91	114	64

TABLE 33 - Continued

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Goatskins - Contd.	Italy	Ethiopia	100	51	29	76	170	88	172	239	273
		Total	100	142	157	214	214	178	255	267	229
	Greece	Ethiopia	100	57	53	55	47	51	46	48	37
		Total	100	120	95	154	100	134	146	135	168
Sheepskins	World	Total	100	113	101	107	121	111	126	129	133
	France	Ethiopia	100	69	55	45	66	65	68	66	40
		Total	100	106	88	94	105	94	108	101	111
	W. Germany	Ethiopia	100	93	84	81	110	64	141	173	168
		Total	100	170	158	143	143	130	172	206	199
	Italy	Ethiopia	100	97	115	102	236	111	153	242	129
		Total	100	124	108	140	177	173	184	199	178
	U.K.	Ethiopia	100	116	178	116	138	116	125	142	143
		Total	100	106	121	100	102	90	110	123	133
Groundnuts	World	Nigeria	100	117	104	98	109	103	122	99	54
		Total	100	105	103	97	107	106	111	91	66
	Italy	Ethiopia	100	154	80	97	29	9	14	16	0
		Nigeria	100	251	131	146	307	212	310	208	156
		Total	100	216	159	124	203	164	214	136	145
	U.K.	Ethiopia	100	98	49	117	97	81	29	54	73
		Nigeria	100	96	62	31	22	25	39	13	8
		Total	100	92	69	43	37	48	55	33	28

TABLE 33 - Continued

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Linseed	World	Total	100	103	129	120	149	114	113	131	125
	Italy	Ethiopia	100	130	22	17	5	13	15	3	0
		Total	100	30	27	37	44	59	45	51	108
Greece	Ethiopia	100	121	78	50	55	55	28	0	0	
	Total	100	139	127	116	187	96	161	152	179	
Castorseed	World	Total	100	105	92	75	115	120	99	84	92
	France	Ethiopia	100	181	155	133	145	0	0	0	0
		Total	100	119	95	57	98	105	68	40	78
Italy	Ethiopia	100	140	92	90	93	30	34	31	13	
	Total	100	123	86	95	131	129	158	89	90	
Oilseed Cakes	World	Total	100	105	109	125	130	137	143	147	175
	W. Germany	Ethiopia	0	0	100	120	201	212	296	281	332
		Total	100	101	120	148	206	238	167	201	207
Netherlands	Ethiopia	100	135	115	82	110	72	91	74	61	
	Total	100	99	99	100	122	122	125	130	196	



TABLE 34

## PRICE INDICES IN THE MARKETS FOR ETHIOPIAN PRODUCTS, 1962-1970

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Coffee	World	Brazil	100	96	130	133	116	107	107	109	149
		Average	100	97	127	132	122	110	116	113	136
	U.S.A.	Ethiopia	100	98	124	128	125	120	117	125	147
		Brazil	100	98	131	133	124	121	115	121	163
		Average	100	98	130	130	124	117	98	115	155
	France	Ethiopia	100	100	129	135	124	123	120	132	149
		Brazil	100	101	138	133	125	119	118	129	164
		Average	100	102	111	133	125	121	114	134	164
	W. Germany	Ethiopia	100	98	103	105	104	100	107	109	123
		Brazil	100	97	127	129	122	115	111	119	157
		Average	100	98	105	113	113	96	99	105	131
	Italy	Ethiopia	100	98	119	132	121	118	116	116	140
		Brazil	100	100	114	133	126	110	109	121	127
		Average	100	109	112	129	121	115	110	115	131
	U.K.	Ethiopia	100	94	127	116	122	124	112	108	148
		Brazil	100	100	135	130	126	122	111	105	178
		Average	100	94	124	110	115	107	111	114	155
	Norway	Ethiopia	100	96	113	123	122	116	109	103	135
		Brazil	100	98	125	136	127	117	113	114	162
		Average	100	97	123	135	127	116	114	116	161
	Sweden	Ethiopia	100	96	120	125	122	110	106	109	219
		Brazil	100	97	124	132	125	114	110	113	156
		Average	100	100	121	134	125	114	111	112	152

TABLE 34 - Continued

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Coffee - Contd.	Switzerland	Ethiopia	100	103	128	130	118	121	123	115	136
		Brazil	100	100	120	132	126	129	121	113	122
		Average	100	98	110	123	122	129	117	107	128
	Greece	Ethiopia	100	100	128	138	131	125	125	108	131
		Brazil	100	100	120	138	128	120	115	104	159
		Average	100	95	125	138	125	115	115	105	138
Hides	World	Average	100	53	57	56	81	67	42	65	67
	France	Ethiopia	100	94	95	94	116	90	85	101	94
		Average	100	88	90	86	122	101	97	113	106
	Italy	Ethiopia	100	95	94	85	120	112	87	105	114
		Average	100	85	82	87	122	100	55	97	102
	U.K.	Ethiopia	100	97	95	122	141	107	97	-	-
		Average	100	97	97	100	145	100	93	100	100
	Greece	Ethiopia	100	95	90	104	120	109	103	114	127
		Average	100	88	82	92	119	109	100	106	108
Goatskins	World	Average	100	100	105	101	128	124	105	137	139
	U.S.A.	Ethiopia	100	100	104	109	175	166	104	122	125
		Average	100	105	106	106	133	127	109	132	128
	France	Ethiopia	100	93	98	103	192	173	101	152	116
		Average	100	84	95	54	131	109	99	101	94
	W. Germany	Ethiopia	100	130	118	152	170	157	140	165	183
		Average	100	101	102	89	127	152	132	149	167

TABLE 34 - Continued

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Goatskins - Contd.	Italy	Ethiopia Average	100	107	108	131	167	180	144	160	150
			100	104	112	122	145	166	160	182	175
	Greece	Ethiopia Average	100	87	77	92	169	169	108	120	142
			100	88	61	82	123	132	112	116	125
Sheepskins	World	Average	100	104	121	100	110	102	88	107	94
	France	Ethiopia Average	100	103	109	91	106	104	93	104	95
			100	114	137	104	120	98	82	102	88
	W. Germany	Ethiopia Average	100	79	88	87	103	90	88	95	91
			100	62	70	70	76	66	64	76	71
	Italy	Ethiopia Average	100	90	98	80	90	105	94	112	105
			100	95	108	88	93	101	89	100	93
	U.K.	Ethiopia Average	100	104	112	103	111	101	103	107	97
			100	110	123	117	134	101	106	132	111
Groundnuts	World	Nigeria Average	100	95	101	118	114	105	95	111	121
			100	98	104	113	110	103	94	112	122
	Italy	Ethiopia Nigeria Average	100	95	100	114	113	98	100	99	-
			100	101	103	121	116	106	93	104	120
			100	94	100	117	111	93	94	111	123
	U.K.	Ethiopia Nigeria Average	100	92	92	119	150	123	92	103	123
			100	99	105	117	118	107	93	122	163
			100	105	105	127	138	122	99	127	161

TABLE 34 - Continued

COMMODITY	TRADING AREA	INDEX	1962	1963	1964	1965	1966	1967	1968	1969	1970
Linseed	World	Average	100	85	92	92	85	92	100	92	85
	Italy	Ethiopia	100	102	100	100	102	93	97	95	-
		Average	100	107	100	100	100	93	100	100	93
	Greece	Ethiopia	100	93	103	107	93	86	100	100	-
		Average	100	93	100	103	86	86	100	100	93
	Castorseed	World	Average	100	100	109	100	91	100	136	118
France		Ethiopia	100	100	115	100	100	-	-	-	-
		Average	100	100	103	93	92	102	134	115	105
Italy		Ethiopia	100	86	100	100	92	100	121	114	82
		Average	100	92	100	100	92	100	128	128	107
Oilseed Cakes		World	Average	100	101	100	102	103	105	102	101
	W. Germany	Ethiopia	-	-	100	100	111	94	100	95	100
		Average	100	109	103	103	117	89	108	106	112
	Netherlands	Ethiopia	100	102	100	112	100	112	100	100	105
		Average	100	107	101	107	100	108	100	100	112