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Foreign Trade and Income Distribution: The Case of Malaysia

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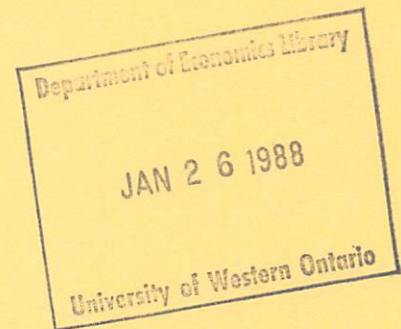
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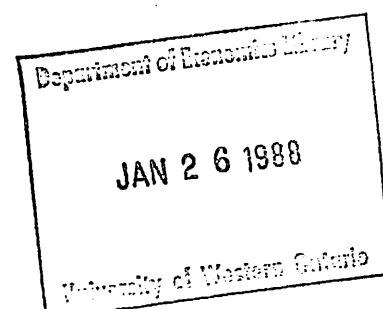LONDON, CANADA
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FOREIGN TRADE AND INCOME DISTRIBUTION:

THE CASE OF MALAYSIA

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1. Introduction

Rapid economic growth and more equal distribution of income have been the goals of economic policy in many developing countries during the last two or three decades. A number of third-world countries, faced with limited domestic markets due to low incomes, a small population, or limited physical size, have relied heavily on foreign trade in pursuing these objectives. Some countries have focussed mainly on growth, others on income distribution, and quite a few have tried redistribution with growth in varying degrees. Strategies, likewise, differ from country to country. Almost all of them have practised import substitution at one time or another, eventually combining or replacing it with export promotion. Foreign trade, income distribution, and economic growth thus seem to be closely intertwined in the recent development experience of many third-world countries.

The main objective of this chapter is to study the relationship between personal income distribution and external trade in Malaysia during the last 25 years. Theory of international trade offers a number of interesting hypotheses about the effects of trade on factor incomes, or on the functional distribution of income, but the assumptions underlying such hypotheses (perfect competition, full employment, etc.) are rarely valid in practice, and even if they were, it would be difficult to say how, in general, trade might affect the personal distribution of income because there is no well-defined relationship between factor incomes and their size distribution. The experience of various countries differs considerably in this regard because they do not have the same economic structure, their trade and other policies often differ, and a host of institutional factors come into play. Case studies, thus, can shed valuable light on the linkage between foreign trade and personal distribution of income.

In this context, Malaysia provides an interesting example of a small open economy for which external trade has always been extremely important. Distributional issues are also a primary concern of national economic policy, so both topics have received a good deal of attention. There are a number of other reasons for studying Malaysia. First, it will not be an exaggeration to say that, historically, trade has been a major influence on all aspects of the Malaysian economy. One might, therefore, expect a strong link between trade and income distribution also. Second, Malaysia exports a variety of products. Although its traditional exports have been derived from exploitation of natural resources, they represent a range of technologies and factor intensities - from simple, labor-intensive, natural rubber to highly capital-intensive, petroleum - and now different types of manufactured goods are being produced and exported. Developments in the field of trade thus affect a number of sectors and markets which would not be the case if there had been only one or two exportable goods. Third, over the years, a number of institutional arrangements have evolved which provide a direct connection between trade and income distribution. For example, a part of the wages on plantations is determined by export price, and that price directly affects the income of smallholders for whom sale of rubber is often the only source of income. Another example is provided by free-trade zones which have been set up to attract foreign investment and promote exports of manufactured goods. Profitability of these industries as well as employment and income generated by them depend mainly on foreign trade. Fourth, since 1980, Malaysia has suffered a serious balance of payments problem, a current account deficit every year between 1980 and 1985, caused by a precipitous decline in the prices of primary commodities which continue to be Malaysia's major exports.

The immediate problem is to cope with sharply reduced export earnings without sacrificing socio-economic goals, while for the long run many areas of economic policy are being reviewed to see how Malaysia's heavy dependence on a few exports might be reduced. Income distribution effects are an essential part of such policy discussions.

National accounts data indicate that between the time of Malaysia's indepenence in 1957 and 1970, household income in current prices doubled. According to the best available data from household surveys, during the same period, household income distribution became more unequal: Gini coefficient increased from 0.4 to 0.5 (Snodgrass (1980), pp. 69,70). Right after that, in 1971, the government launched its New Economic Policy (NEP) whose main aims were to eradicate poverty, and to improve the income and wealth position of native Malays, Bumiputras, who formed the political majority and were also the largest poverty group in Malaysia. Under NEP, the government started a number of schemes to restructure employment, to increase the share of Malays in corporate investments directly or indirectly, and to improve incomes and productivity in rural areas where most of the poor live. Although these policies are not directly aimed at reducing income inequality, their egalitarian concern is all too evident, and they are designed to modify, in a major way, the system of sharing economic rewards which prevailed until 1970. Since foreign trade played an important role in the evolution of that system, it seems that, prima facie, trade tended to worsen income inequality in Malaysia which the government then tried to ameliorate through NEP-type measures and other policy instruments. This is undoubtedly a simplistic conclusion because there are problems of comparability of data over time,[1] and as later sections in this chapter will show, linkage between trade and income distribution becomes rather complex in practice, especially when the labor

market is segmented and the government undertakes a major program such as the NEP.[2]

Unfortunately, in spite of the importance of foreign trade and its effect on income distribution outlined above, it is difficult to conclusively establish an empirical connection between the two although a great deal seems to be happening in the areas of both trade and distribution in Malaysia. One big reason for this is that income distribution, really racial economic imbalance, has become a very sensitive and potentially explosive topic in Malaysia. The government monitors the results of NEP programs through periodic surveys of household income etc., but the data are confidential, so there is no way of definitely determining various sources of income inequality and how they are being affected by changes in the foreign trade sector and elsewhere in the economy. Also, the overall thrust of economic policy in Malaysia is to achieve a high rate of growth, and to improve the relative income and wealth position of particular groups. Policy makers do not appear to be much interested in income distribution in general, or in distributive effects of foreign trade, on the assumption that resources can be raised from that sector and elsewhere for NEP-type redistribution programs, or other, specific redistributive policies can be implemented. Consequently, many types of data, for example, import propensities by income class, or distribution of factor incomes in export activities, are not available. From such data, one could readily estimate income distribution effects of external trade. Since that is not feasible, with the information that is obtainable, it is necessary to take an indirect approach in which an attempt is made to spell out the links between trade and income distribution and quantify a number of them for individual sectors as well as the entire economy. Some simulations will also be attempted to get an idea of how income redistribution will alter demand

for imports and how changes in the volume and composition of exports will affect income inequality.

The next section presents an overview of major economic developments in Malaysia between 1960 and 1985, including a review of structural change and changes in the size and composition of foreign trade. Facts about income distribution, gleaned from a variety of sources, are set out in Section 3, along with some sources of income inequality. Some trade-related variables that might affect income inequality are considered in Section 4. The all important question of labor market segmentation is taken up in Section 5. Section 6 deals with inequality within the primary sector, and the manufacturing sector is discussed in Section 7. Section 8 takes up the question of general equilibrium effects, and the principal conclusions are summarized in Section 9.

2. Overall Economic Performance 1960 - 1985

This section begins with a quick summary of recent economic developments; then structural changes in the Malaysian economy since about 1960 will be taken up, to be followed by a brief discussion of distortions in various sectors, and it will conclude with a short description of the role of the public sector.

2.1 General Background

Malaysia became independent in 1957, but real economic development did not start until 1966 when the First Five Year Plan was launched. The early sixties were politically turbulent years, devoted mostly to negotiations about the Constitution and the political structre of the Malayan federation. The next significant date on the economic calender is 1971 when the Second Plan was launched, along with NEP, after the violent racial riots of 1969, which was to dramatically alter the orientation of Malaysian economic policy toward

redistributive goals. The year 1971 also marked the beginning of a relatively tranquil era, unmarred by political and racial strife of the sixties.

Geographically, Malaysia consists of West or Peninsular Malaysia, and Sabah and Sarawak on the island of Borneo. Peninsular Malaysia accounts for about 85 percent of the population but only 40 percent of the total land area. Peninsular Malaysia is far more developed than Sabah and Sarawak, although their importance is increasing because they are the source of most of Malaysian oil. A number of rubber and oil palm plantations have also been set up there, but so far almost all manufacturing activity is confined to the peninsular part.

Many statistical series begin with 1971 which, therefore, will be the starting point for much of the analysis that follows. Data for earlier years, notably 1960, will be used here and there mainly as a point of departure.

2.2   Recent Economic Developments

According to World Bank classification, Malaysia is a fast growing, upper-middle-income country. Between 1960 and 1985, its real GDP per capita increased more than two and a half times. Judged by growth rate of per-capita GNP during 1970-81, it ranked seventeenth in the world, way ahead of Thailand and the Philippines, but well behind some other countries in the region such as Hong Kong, South Korea, and Singapore.

Malaysia's population in 1985 was 15.7 million, roughly twice the number for 1960, which implies an average growth rate of about 2.5 percent a year during the period, 1960-1985. Malaysia has large deposits of tin and petroleum, and its equatorial climate is ideal for tree crops like rubber, oil palm and of course hardwood. Since all of these, except petroleum, tend to be labor-intensive activities, climate and a fast growing population have combined to give it comparative advantage in rubber, palm oil, timber and tin,

and Malaysia by and large has done well by these exports except in those years in which prices have been depressed.

During the 1970s, the Malaysian economy performed relatively well on the whole. Gross investment in most years was more than 20 percent of GNP, and exports and imports invariably exceeded 40 percent of GNP. Despite the oil crises of 1972 and 1979, the average growth rate, as noted above, was quite high. Between 1971 and 1975, when private investment and exports grew at a slower pace, public investment provided the main source of growth. During the period 1976-1980, however, external demand increased considerably and oil exports became significant. Since then the Malaysian economy seems to have slowed down. It had a balance of trade deficit for the first time in 1981 ($243 million) which jumped to $1.8 billion in 1982 with a corresponding increase in balance of payments deficit.[3] This is a reflection of world-wide economic conditions and a sharp decline in the price of most of Malaysia's exports. The government borrowed heavily to cover its current account deficit and to finance domestic public investment which was stepped up as a countercyclical measure. Between 1980 and 1984, Malaysia's external debt tripled and led to a fifty percent increase in the debt service ratio, from 4.4 percent in 1982 to 6.6 percent in 1985.

Turning to movements in the price level, except for the years 1972 to 1974, when the consumer price index (CPI) increased by almost 30 percent, the 1970s were years of relative price stability: an inflation rate of 3.5 percent between 1974 and 1976, and less than 7 percent on an average during 1970-1976. Since 1980, the CPI has risen at an average rate of less than 4 percent a year.

Because of the rapid rate of population increase, the unemployment picture did not improve much during the 1970s. The unempoyment rate declined

slightly, from 7.5 percent to about 7 percent in 1975. The next five or six years saw a steady decline in this rate, but since 1981, unemployment has been rising rapidly, reaching almost 8 percent in 1985.

The one element which stands out in this brief account of Malaysia's recent economic history is that Malaysia's economic fortunes depend crucially on its foreign trade sector, especially on the prices of a few primary products which form the biggest single export group and account for as much as 50 percent of all export earnings in some years (more than 30 percent even at the depressed prices of 1985). When exports were booming, for example between 1976 and 1980, large scale investment programs could be undertaken, and overall macroeconomic indicators looked good. When export prices declined sharply, between 1981 and 1985 for instance, there were adverse consequences all round. For a long time, therefore, Malaysia has been trying to reduce its reliance on a handful of exportables by promoting manufactured goods, first through a policy of import substitution in the sixties, and then through export promotion in the seventies. Such attempts at bringing about structural change have been in evidence in many third-world countries.

2.3   Structural Change

As Table 1 shows, Malaysia's real GDP per capita (in 1970 prices) in 1985 was $2148, more than two and a half times the corresponding number for 1960. Starting in 1971, which marked the beginning of NEP, real GDP per capita increased at an average annual rate of about 5 percent during the ensuing decade, and at 2.5 percent a year between 1981 and 1985. During the last two and a half decades, many structural changes have taken place in the Malaysian economy.

The most noticeable change has been a steady decline in the share of agriculture in GDP, from 35.9 percent in 1960 to 20.8 percent in 1985. The big gain has been in manufacturing whose GDP share more than doubled, from 8.6 percent in 1960 to 19.7 percent in 1985. These changes show up rather well in employment composition in Table 1: agriculture accounted for only about 34 percent of total employment in 1985 as opposed to nearly 53 percent in 1971. The employment share of manufacturing, by contrast, increased from almost 9 percent in 1971 to 15 percent in 1985. Similar changes took place in construction, and banking and finance sectors. This is a result of attempts to diversify and modernize the Malaysian economy, moving away from low-productivity, subsistence production towards high-productivity, modern activities.

In spite of the transfer of labor and other resources out of the primary sector, Malaysia's industrial base is not very large. The government has taken steps to modernize the infrastructure and invest in a number of industries such as automobiles, petrochemicals, etc., but structural transformation, similar to, say, Taiwan or South Korea, has not yet been completed in Malaysia which owes its prosperity, in large measure, to traditional exports of primary commodities, to large scale public investment in infrastructure, and direct foreign investment. In many ways, changes within individual sectors, even within agriculture, have been more consequential than transfer of resources out of there. These are briefly described below. Later sections will deal with them in greater detail, along with their effects on income distribution.

In agriculture, palm oil and cocoa gained in importance, at the expense of rubber and rice although in the latter two there have been major productivity gains. Replanting with new and improved varieties of rubber

trees led to higher yields (about 4 percent annual increase between 1960 and 1975) and permitted profitable exports in spite of falling prices. Rice output also increased at the rate of about 4 percent a year during this period mainly because in many instances two crops could be grown where only one grew before. The Green Revolution and two major irrigation projects facilitated double cropping in some areas.

In the mining sector, the biggest change happened in petroleum. Most of the oil is on Sabah and Sarawak, and once production-sharing arrangements were finalized in 1976, oil exports began to yield sizeable revenues. Its share of mining output, in 1970 prices, increased from 17 percent in 1971 to 69 percent in 1985. By contrast, the corresponding output share of tin dropped from 78 percent in 1971 to 21 percent in 1985. Tin prices collapsed toward the end of 1985, so many mines had to be closed resulting in loss of jobs in mining areas.

In manufacturing, there was greater emphasis on export promotion without abandoning the policy of import substitution. Industries producing electrical and electronic equipment, petroleum products, and textiles expanded whereas agro-based industries, such as rubber and wood products did not change much. The government invested directly in several industries, particularly automobiles, petrochemicals, and cement, and it also set up a number of free-trade zones (FTZ's) to promote exports.

Composition of exports altered remarkably during the last decade and a half. As Table 2 shows, exports of palm oil, petroleum, and manufactures increased considerably, while rubber, and especially tin, declined in importance. The major development on the import side was the tremendous increase in imports of intermediate goods, especially for the manufacturing sector (Table 3). In 1985, 63 percent of all imported intermediate goods were

for manufacturing use. Share of consumption goods in imports, particularly of food, declined steadily. It is interesting to note here that two of Malaysia's traditional exports, rubber and tin, are subject to international agreements, and a third, petroleum, is affected by OPEC policies, although Malaysia is not a member of OPEC. The first tin agreement was signed during the inter-war period, and there have been several since 1956, one every five years. The International Natural Rubber Agreement (INRA) was negotiated in 1980. These agreements notwithstanding prices of oil, tin, and rubber have fluctuated a lot.

Many of these changes undoubtedly have been caused by an interplay of market forces. For example, decline in tin output is mainly due to falling world demand. Likewise, expansion of oil palm is due to the higher price of palm oil (relative to rubber), but it is doubtful that the substantial increase in rice output, or much manufacturing activity, would have happened without strong government initiatives. While such policy measures were probably necessary to implement Malaysia's national plans and to try to attain the goals of NEP, they seem to have created distortions in some sectors of the economy which have affected resource allocation as well as income distribution.

2.4   Distortions of the Economic System

The most significant distortions appear to have developed in the management of exchange rate, in the general area of industrialization and exports, and in agricultural price and taxation policies.

Malaysia is rich in natural resources, and primary products dominate its export trade. Exchange rate, therefore, has been largely affected by exports of tin, rubber, and petroleum, and an argument is sometimes made that such exports have often led to an overvaluation of the ringgit which has undermined

exports of manufactured goods. On several occasions, the ringgit has been allowed to appreciate as an anti-inflationary device. For example, between 1971 and 1976, it appreciated 13.6 percent against the U.S. dollar, then it depreciated steadily until 1980 when it began another upward phase which lasted through 1984.

More important than nominal exchange rate, of course, is the real effective exchange rate (REER) which takes into account the relative rates of inflation in Malaysia and her main trading partners. An index of REER, with base 1975=100, is presented in Table 4. Between 1981 and 1984, REER increased by nearly 24 percent. The nominal rate, on the other hand, adjusted very slowly as it depreciated gradually against the U.S. dollar.

Along with many other Third-world countries, Malaysia adopted an import substitution strategy for industrialization in the late fifties and sixties. For a variety of reasons, though, the rate of protection was not high. The country did not impose exchange controls or many quantitative restrictions, at least in the early phase, but it became clear that possibilities of industrialization through an "inward looking" approach were rather limited, and to meet the rapid growth targets necessary for attaining NEP goals, greater orientation toward exports was needed. Accordingly, a number of tax and other incentives were introduced under the 1968 Investment Incentives Act, and then a number of free trade zones were set up. Import substitution, however, continued to be pursued in a parallel fashion. In 1984, for example, 50 items were subject to import quotas, and price controls were in effect on 14 manufactured goods.

As Verbruggen (1985) points out, several studies have suggested that there was a rising trend in the effective protection of domestic manufacturing during the seventies, although there is some controversy about the level of

effective rate of protection (ERP) and how it compares with similar rates among Malaysia's competitors in the region.[4]   Regardless of actual nominal and effective rates of protection in Malaysia, it is worth pointing out that most import substitution programs discriminate against export-oriented activities. In Malaysia, for example, agriculture has always had a larger share of exports than manufacturing but has received less protection. In some instances, exports received low or even negative effective protection, and there is some evidence that protection has favored relatively capital-intensive type of manufacturing.[5]

There are numerous distortions in agriculture as well, mainly as a result of government policies. From the standpoint of foreign trade, export taxes are much higher on rubber than on palm oil. There is both an input and a price subsidy in rice cultivation, and under NEP, many schemes have been set up to develop land for settlement and provide credit, extension, and other services. Many of these schemes have a direct effect on the incomes of the poor most of whom are concentrated in rural areas. It has been estimated, for instance, that in the area of the Muda irrigation project, between 1969 and 1973, net farm income per family doubled.[6]

It is very difficult to quantify how exchange rate policies, tariffs and quantitative restrictions, and various schemes of export promotion and investment incentives outlined above have affected Malaysia's foreign trade, especially export of manufactured goods. It is clear, however, that in spite of all the policies favoring the manufacturing sector, primary products are still very important in the export sector, which implies that the Malaysian economy remains highly vulnerable to sharp changes in export prices of such commodities, and that is one reason for the most recent difficulties, with five successive years of balance of payments deficits starting in 1981.

Government policies, however, are worth discussing some more because they affect so many aspects of the economy, including income distribution.

2.5   The Role of the Public Sector

The Government has become a major player on the economic scene. Apart from traditional services, it participates directly in many sectors of the economy such as agriculture, transport, and industry. Moreover, as a part of the restructuring aimed at under the NEP, a number of government corporations have been created, and trust agencies have been set up to acquire corporate shares to be held in trust for Bumiputras. There has been a sizeable increase in public expenditure also as the government has come to play an expanding role in heavy industry, export promotion, and many other areas. The government has also become a major investor as well as a big employer. Between 1970 and 1985, Federal and State employment increased at the rate of 5.6 percent per annum. In 1985, government employees accounted for about 15 percent of total employment, which is not a large number, but public sector wage and other policies ("no termination," pay scales based on formal education and seniority etc.) have an appreciable effect on labour costs in the private sector, especially for professional, managerial, and clerical workers who constitute such a major part of government employment.

All the structural changes and many of the government policies discussed above affect income distribution, directly or indirectly, even if policies and programs aimed specifically at correcting ethnic imbalances in the economy are not taken into account. Income distribution observed in household income surveys, or that implicit in National Accounts, is the result of government policy measures as well as developments in trade and other sectors of the economy, and it is generally difficult to separate the effect of one from

the other, especially because much structural change has been aided and induced by government policy. It is nonetheless possible to identify trade-related variables and isolate their effect on income distribution from the effects of government policies such as income transfers or specific production subsidies. This theme will be taken up again in later sections after some facts and figures about income distribution are examined.

3. Income Distribution in Malaysia

There are mainly two types of data on income distribution in Malaysia, the numbers collected in household-based surveys, such as surveys of income, budgets, and labor markets, and those implcit in National Accounts. The first source yields direct information about different types of household income and their distribution, whereas the second reflects the process of income generation in the economy and focusses on aggregate factor incomes. This section reviews both types of data to see how income distribution has changed during the period covered by this study. An attempt will also be made to decompose income inequality into its various sources wherever data permit. Direct evidence on income inequality comes only from survey data, but for purposes of decomposition, numbers in National Accounts can be used.

3.1 Evidence from Survey Data

A good deal of information about Malaysia's size distribution of income has been collected in a number of surveys and as a part of various censuses during the last twenty five years or so. Unfortunately, all the surveys did not use the same definitions of income or the same sampling procedures, and what is worse, not much documentation is available for some of them. Almost all of the surveys are confined to Peninsular Malaysia; therefore, not much is

known, at least in the public domain, about Sabah and Sarawak. Data on income distribution thus are incomplete, and probably not strictly comparable over time, especially before and after 1970. The Post Enumeration Survey (PES), in which data for 1970 were compiled, is generally regarded as the best source for such data. Presumably, the methodology, definitions, and coverage of PES were carried over to subsequent surveys although most of the data collected therein have not been released.

3.1.1   Income Inequality Before 1970

The data being what they are, the most prominent stylized fact revealed by them about size distribution of income in Malaysia is that inequality increased rather dramatically between 1957-58 and 1970, and then declined slightly: the Gini coeffcient calculated from the Household Budget Survey (HBS) for 1957-58 was 0.37, from PES for 1970 it was 0.51, and from Household Income Survey for 1984, 0.48.[7] Some more data for 1970, 1973, and 1974 are presented in Table 5. If these numbers are plotted, the Lorenz curves for 1970 and 1973 will intersect, but that for 1974 will lie inside the other two everywhere, which will indicate a more equal distribution. It appears, therefore, that during this period inequality first increased and then decreased, which is the pattern to be expected according to the so-called "Kuznets' Law." Since data for the 1970s are likely to be more comparable than earlier numbers, it seems reasonable to conclude that size distribution of income moved toward less inequality at least during this period, regardless of what happened prior to 1970.

What has been described above is the only firm, direct evidence we have on inequality of size distribution in Malaysia, and we shall refer to it again and again throughout this chapter. This evidence will be amplified by using

other data, on labor earnings for example, or on output and employment in various sectors from National Accounts. Other surveys will be tapped for information about the nature of labor markets, or about the earnings of selected sub-groups such as male urban workers or smallholders in agriculture, but no other comparable data on the overall size distribution of income are available.

An interesting question to ask is: "Can anything meaningful be said at all about income distribution before 1970, the years between independence and the start of the NEP, or are the data limitations too severe?" Anand (1983), after examining unpublished documentation and other material about the HBS 1957-58 concluded that it was simply not comparable to PES 1970, so nothing could be said about changes in income inequality during this period. Snodgross (1980, p.76), while not downplaying the limitations of these data, felt that Anand was being excessively cautious, and that an increase in inequality of the magnitude suggested by these numbers probably did occur, although this could not be proved conclusively. A part of his reasoning pertains to omissions from the HBS data and circumstantial evidence about the quality of that survey, but another argument, about the relationship between export prices and income inequality has broader implications.

3.1.2 Changes in Income Inequality: An Explanation

Snodgross suggests that inequality might be positively related to the export price index. During an export boom, property incomes in rubber, tin, etc. can rise tremendously whereas labor incomes would rise much less because of surplus labor and absence of strong trade unions, and property income is undoubtedly heavily concentrated near the very top of the income distribution.

The stylized facts about income inequality mentioned above seem to roughly correspond to movements in export prices which were rather low in 1957-58 and near peak in 1970. Again, between 1980 and 1985, prices of these products dropped sharply, and there was some reduction in the Gini coefficient.

This argument, however, is less persuasive when it is recognized that one component of wages in the plantation sector is determined by export prices, and now there is a large number of smallholders in the plantation sector whose biggest and sometimes the only source of income is sale of primary products. An increase in the export price of, say, rubber, thus will increase wages as well as incomes of smallholders most of whom are concentrated in the lower end of the income distribution. Of course it is possible that property incomes might rise even more, which would result in greater inequality than before. In the final analysis, therefore, it is an empirical question, because everything depends on how export prices affect property and labor incomes and how these are distributed, but not enough data are available to permit any empirical estimates in this regard.

Regarding changes in income equality, Kuznets-type explanations are based on shifting population weights and narrowing differences in output per worker between agriculture and the rest of the economy. As economic development takes place, people move from low-productivity primary sector to high-productivity modern sector. That worsens inequality initially, but eventually leads to greater equality, a U-shaped pattern of observed productivity differences (Kuznets (1971), Chenery and Syrquin (1975)). Broader explanations of this type take into account inequality within sectors as well. For example, in an empirical analysis of Indian economic development in the fifties, Swamy (1967) estimated that 85 percent of the change in size distribution of income could be attributed to intersectoral factors and only 15 percent to changing

inequality within the two sectors. The survey data summarized in Table 5 are of little help in performing a similar analysis for Malaysia because they are not broken down by sector, and they pertain to family income from all sources, presumably including transfers, whereas the Kuznets argument is in terms of factor incomes and productivity differentials between sectors. This is where National Accounts data can help, for they are based on value of output in various sectors rather than on household income.

3.2 Evidence from National Accounts

Some numbers on employment and GDP shares for primary, manufacturing, and other sectors in Malaysia are given in Table 1. The numbers for 1960 are very old and not strictly comparable with more recent ones, but they suggest that between 1960 and 1971 productivity declined in every sector except manufacturing. Productivity rose in every sector between 1971 and 1985, relatively more so in the primary sector because its employment share declined more than its share in GDP. The ratio of output per worker in this sector to overall mean output was 0.73 in 1960, 0.68 in 1971, and it increased to 0.74 in 1985.

3.2.1 A Simple Decomposition

From these numbers, a simple decompositional exercise is performed in Table 6, where a Theil coefficient and a coefficient of variation between primary, manufacturing, and other sectors are computed. It is clear from both sets of coefficients that inequality between sectors increased between 1960 and 1971, and it has been diminishing since, except between 1971 and 1975 when there was a very slight increase.[8] All sectoral means have risen over time, and differences between them have narrowed. Between 1971 and 1985, the

biggest jump, more than 100 percent, occurred in the primary sector. This was undoubtedly facilitated by significant productivity gains in rice (due to the Green Revolution), and in the plantation sector, due to replanting with new, improved varieties of rubber, and also because of switching to oil palm. In this connection, the "other" sector, which is dominated by government and other services, is of particular interest because its employment share has increased the most on account of NEP policies directed at restructuring employment. In 1985, the mean for this sector was higher than the overall mean, and this sector accounted for 55 percent of total employment in that year.

This reduction in inequality between sectors could well account for all of the slight decline in overall inequality since 1971 reported in Table 6, although, without additional information, one really could not rule out that inequality within sectors might have actually increased. Because of the aggregative nature of these data, measures of total inequality cannot be calculated from them, so it is difficult to determine precisely what has happened to inequality within individual sectors. A similar decomposition, nevertheless, can be performed with data for GDP by industrial origin, at the 1-digit level, to gain further insight into changes in income inequality.

3.2.2 Decomposition at the 1-Digit Level

At this level of disaggregation, agriculture and mining are distinguished within the primary sector, and the "other" sector is divided into several sub-groups. Numbers on output per worker in Table 7 are particularly revealing because they show that productivity in mining was quite high in both 1960 and 1971, about three times that in agriculture. And agricultural

productivity was not low either, when compared with some other countries in the region, mainly due to many highly productive estates in the plantation sector.[9] It is also evident in Table 7 that overall mean output nearly doubled in real terms between 1971 and 1985. The most striking productivity gains happened in mining and quarrying, and Finance, Insurance and Commerce sectors (four-fold or higher) whereas output per worker doubled in several other sectors. The big drop was in the "other services" category, while productivity in construction remained virtually unchanged.

Turning to between-sector inequality, the relevant Theil coefficient increased between 1960 and 1971 and then dropped continuously through 1980 before increasing slightly by 1985. This pattern is confirmed by the coefficient of variation between sectors which too showed an increase in 1985 after a steady decline through 1980. There was no increase in inequality from 1970 to 1975, unlike what Table 6 suggested. A comparison of the results in Table 6 and Table 7 is interesting in several respects. First, some of what appeared there to be within-sector inequality really reflects changes between sectors; these sectors are simply concealed by the primary-secondary-tertiary classification used in Table 6. Second, and more important, evidence from survey data presented above suggested that overall inequality increased before 1970, and it had been declining since, through 1984. The numbers in Table 7 show an increase in between-sector inequality during the eighties, which implies that inequality within individual sectors would have lessened appreciably in the eighties. In as much as household surveys and National Accounts generate complementary, comparable information, an examination of changes within particular sectors, thus, takes on added importance. Before looking at specific sectors, however, it is interesting to relate these results to some of the structural changes discussed earlier.

3.2.3 Income Inequality and Structural Change

The major change in the Finance sector appears to have taken place between 1971 and 1975 which is probably due to the big surge in that sector under the NEP. By contrast, most gains in mining productivity happened after 1975, undoubtedly due to petroleum, once production-sharing arrangements were finalized in 1976. Closing of some, presumably less productive, tin mines also would have helped. Curiously, between 1980 and 1985, when inequality between sectors increased according to the results in Table 7, Malaysia was facing serious balance of payments difficulties. The years between 1980 and 1985, therefore, are of special interest. As noted in Section 2, during this period, the government pursued a vigorous countercyclical policy, increasing spending and creating jobs to offset the adverse effects of steeply falling export prices. It is worth asking if the expanded role of government, and significant productivity gains in mining, might be responsible for the increase in inequality between sectors observed during these years.

A decomposition along the lines of Table 6, but isolating the government first and then mining, is performed in Table 8. For brevity, estimates of only the between-sector Theil coefficient are presented for a number of years. These estimates show that when government services are isolated, inequality between sectors continues to decline since 1971, so these activities do not seem to be much different from the rest of the tertiary sector, nor is their employment weight high enough to matter. A better explanation, probably, is that the "government services" sector does not fully capture the many different types of activities the government has undertaken during the eighties. When mining is treated as a separate sector, however, the Theil

coefficient does rise between 1980 and 1985, although its absolute value is not very high. Later in this chapter, we shall examine the mining sector in more detail.

3.2.4 Rural and Urban Inequality

Apart from the politically sensitive nature of distributional issues, one reason why more information is not available about income distribution is that economic policy in Malaysia has concentrated on improving the lot of specific groups, rather than on altering the overall distribution in a particular way. For example, the First Malaysia Plan aimed at increasing the productivity of the rural population. The distributional goals of the Second Plan and NEP, as noted earlier, were to reduce poverty and to correct economic imbalance along racial lines. Similar themes are mentioned in the more recent Plans as well, without much discussion of the overall distribution of income. There appears to be greater interest in relative changes in rural and urban incomes, and in the incomes of various ethnic groups, than in income distribution as a whole. The rural–urban distinction nonetheless can be very useful because all primary commodities are produced in rural areas, and most of the poor live there (87 percent in 1975, for instance). Exports, therefore, directly affect rural incomes, and improvements in them will reduce overall inequality.

Some data on rural and urban household incomes are summarized in Table 9. Between 1970 and 1984, mean incomes in 1970 prices nearly tripled in both sectors, so the ratio of rural to urban mean income was about the same in 1970 and 1984 (0.53). It is also known that workers have been moving out of the rural (primary) sector where, according to PES, in 1970, income inequality was somewhat lower than in the urban sector (Gini coefficient of 0.5 as against

0.46 for rural income). Overall inequality, as mentioned above, declined slightly between 1970 and 1984, which suggests that, in all likelihood, income distribution within one or both sectors has become a little more equal.

If more data were available, one could compute measures of within-sector inequality as well as other measures of overall inequality. Likewise, if various types of income could be identified for different income groups, by decile or economic sectors (1-digit SITC, for example), more could be learnt about the process of income generation in Malaysia and where foreign trade fits into this picture. As things stand, the complete decile distribution is available only for 1970, but in a condensed form, so inequality within each income decile cannot be computed. And even for that year, unfortunately, information on various types of income collected for the PES did not get recorded. Much less information is available for more recent years, which makes it very difficult to attempt any direct empirical estimates of how foreign trade might have affected income distribution in Malaysia. We shall nonetheless try to identify some trade-related variables in the next section.

It must be emphasized here that the purpose of the above discussion has been to highlight some stylized facts about income distribution in Malaysia and consider some sources of inequality. This has not been an appraisal of government's distributional policies or its anti-poverty measures which arenumerous and cover a wide range of programs. Changes in size distribution of income probably are not even the best way of gauging their efficacy because many of them, for example, expansion of social services such as education and medical care, considerably improve the welfare of the poor although their effect may not immediately show up in measured income.

4. Trade-Related Variables and Income Distribution

The review of stylized facts about income distribution in the previous section shows that since concerted development began in the early seventies, income inequality has declined somewhat over time, and that differences in output per worker across broadly defined sectors have narrowed. Developments in the foreign trade sector have undoubtedly affected income distribution, along with structural changes discussed in Section 2 and various government policies. These three sets of influences are not independent of each other; in fact they are highly interdependent in many areas. For example, the growing share of manufactured goods in export, indeed promotion of manufacturing activiites in the first place, are a direct result of government policy. Given the focus of this study, it is useful to discuss trade-related variables some more even if their effects cannot always be isolated from other changes in the economy. We shall begin with variables suggested by economic theory, then consider some empirical work, and lastly discuss which of these variables might be important in the Malaysian case.

4.1 Guidance from Theory

Economic theory, at best, can offer only incomplete guidance about possible effects of foreign trade on factor prices and employment because the assumptions underlying theoretical analysis are rarely met in practice. Theory has even less to say about how factor rewards will be distributed throughout the population. Therefore, in general, it is very difficult to determine howvarious trade and industrialization policies will affect size distribution of income.

Briefly, from a theoretical standpoint, the Stolper-Samuelson theorem suggests that protection benefits the factor used intensively in the protected

industry. By contrast, international trade, presumably following comparative advantage, benefits the abundant factor while hurting the scarce factor. According to this thesis, since Malaysia is a labor-abundant economy, trade should create more employment and lead to a more equal distribution of income than an inward-looking strategy of import substitution. Within a protected industry, rents to specific factors will increase, but it is difficult to predict a priori how income inequality within each sector will be affected.

One could make similar statements about the effects of changing export prices or some other developments in the area of external trade. There is no stipulation, however, that the relationship suggested by theory will hold in a dynamic context, over time, or in a case where population has been growing steadily and there has been a good deal of investment, some from abroad, as in the case of Malaysia. Both the labor force and capital stock have been increasing in this country, and there is also some evidence, to be discussed later in this chapter, that factor markets are far from competitive. Under these conditions, it is difficult to determine how factor rewards might respond to changes in external trade, and to talk about income distribution effects in general terms is well nigh impossible. There is more information on this subject, however, in country studies as well as other empirical work, and we shall examine it briefly.

4.2 Empirical Evidence

Relationship between income inequality and trade policies has been explored in a number of empirical studies, some dealing with developing

countries, for example, Little, Scitovsky, and Scott (1970). In many third-world countries, trade and industrialization policies are closely tied together. Often countries adopt trade regimes in which tariffs, quotas and other restrictions are imposed on the imports of manufactured goods, in the hope of establishing domestic industries which would eventually join the export sector. Some effects of such policies are well known. For example, it is argued that they are biased in favor of capital-intensive production and against agriculture, and they lead to a neglect of comparative advantage, etc. So far as income inequality goes, it is alleged that such policies generate extra profits in the favored manufacturing sector without many benefits to the rest of the economy, and they raise the relative price of manufactured goods while lowering the price of primary-sector exports (in domestic currency) due to depreciating real effective exchange rates, and so on.

The relative importance of such factors in any given situation depends on a host of considerations. For example, a manufacturing enclave, with few linkages with the rest of the economy will have very different effects from those of a well-connected industrial system. Even a manufacturing enclave will create jobs whose benefits will be widely shared in a competitive labor market but not in a segmented one. Government's role is also important. It can alter the exchange rate and adopt other policies to benefit disadvantaged sectors, or it can be a passive observer and let the chips fall where they may. The important question to ask is: "Which of the variables suggested in the literature are likely to be important in Malaysia?" Many of the trade and industrialization policies mentioned above have been followed in Malaysia, and there has been much discussion of effective protection, real exchange rates, changing export prices, etc.

4.3 Some Trade-Related Variables in Malaysia

By far the most important trade related variable in Malaysia is fluctuation in world prices of primary commodities with which Malaysia's economic fortunes have waxed and waned, and which has brought serious balance of payments problems in the eighties. Changing commodity prices, unquestionably, have also affected income distribution, following one version of the Stolper-Samuelson theorem or another. As an empirical matter, income distribution effects of a change in export price will depend on relative factor intensities of different industries, on conditions in factor markets, and on distribution of factor-ownership.

Malaysia's exports represent a wide range of factor intensities and technology. The plantation sector is relatively labor intensive. In mining, tin mines use a lot of labor, but petroleum is highly capital intensive. In manufacturing, the electronic, assembly-type, industry has high labor-output ratio, though much less than on plantations. An increase in the price of, say, rubber, thus, will generate more demand for labor than a comparable increase in the price of electronic goods. How these changes in demand for labor affect employment and earnings then depends on conditions in labor markets - degree of labor mobility, flow of information, job allocation rules - in short, on the extent of competition in such markets. Here, the question of foreign ownership is also important because capital income too will be affected. And the resulting change in domestic income distribution will depend on whether owners of capital are foreigners or Malaysian nationals. For instance, an exogenous fall in the price of a capital-intensive good will adversely affect capital income, but if most of it belongs to foreigners, domestic income

distribution might actually become more equal when output price falls. Foreign ownership is widespread in Malaysia's principal export sectors, although a number of foreign corporations are being acquired by public-sector trust agencies set up under the NEP, which points to an expanding share of capital income for a segment of Malaysians, Bumiputras, for whom these corporate shares are being held in trust.

In the manufacturing sector, a policy of import substitution has been followed for a long time, supplemented by export promotion since the seventies. Here all the variables mentioned above are relevant, especially the share of labor in different industries and the input-output structure of the economy. Industries with high labor shares do not always have the highest total impact on labor income in the economy because of rather limited backward and forward linkages. As the section on manufacturing later in the chapter will show, increase in output of a natural-resource-based (NRB) industry, for example rubber products, will have a greater effect on total wage income than some of the industries with higher direct labor coefficients.

Apart from government policies which redistribute income directly (transfers) or indirectly through restructuring employment, labor markets hold the key to changes in income equality when something alters in the foreign trade sector, whether it is a change in export price, a revision in import duty, or some other policy move. Labor income is more widely distributed than income from any other source, and for most people with low incomes, employment is the major, often the only, source of income. Other things being equal, any developments that increases labor income, therefore, are likely to enhance income equality. In the next section, we shall review the labor scene in Malaysia before turning to individual export sectors.

5. Labor Markets in Malaysia

Labor markets provide an important channel for transmitting effects of external trade to income distribution. The main question to consider is: "Are labor markets in Malaysia competitive or divided into non-competing segments?" Labor market segmentation is often used to explain income inequality in developing countries and to compare distributional effects of alternative development strategies. Some empirical evidence from Malaysia in this respect is reviewed here. For this purpose, we adopt the definition used by Mazumdar (1981, p.150) that segmentation exists where ". . . a difference in earnings can be attributed to institutional factors over and above what is accounted for by labor quality variables such as education and experience."[10] The evidence comes from Mazumdar's work with a 1975 survey of earnings of male employees in three Malaysian towns, and the analysis by Randolph (1983), also of male wage remuneration, of data from Malaysian Family Life Survey which are more comprehensive than Mazumdar's data because they are not confined to a few urban centres.

5.1 Market Segmentation: Empirical Evidence

Mazumdar found that institutional variables, mainly size of entrprise, helped significantly to explain earning levels after allowing for human capital attributes, such as education and experience, of employees in different skill categories. Size of enterprise was also found to be significant in regressions for the three occupational groups considered, viz., unskilled, skilled blue-collar, and white-collar male employees. In each category, workers in large enterprises (100 or more workers) earned more than the grand mean of earnings, but much less than that in the smallest

enterprises (10 or fewer). He concluded that the quantitative effect of enterprise size on earnings differences, although significant, was not spectacular. The spread in earnings, net of other effects, averaged about 30 percent of the mean earnings in each occupation (Mazumdar, 1980, p.166).

Randolph used a dual economy model to postulate three distinct segments in Malaysia's labor market, two in the modern sector and one in the traditional sector. The upper tier of the modern sector comprised of professional, administrative and managerial occupations; its lower tier encompassed most urban labor and rural labor employed in clerical occupations. The third segment, the traditional sector included the majority of the rural labor force, agricultural occupations, etc. She then fitted a human capital model to explain observed earnings in each of the three segments and found that differences in acquired levels of human capital - education, formal training, on-the-job training - mostly explained differences in earnings between employees in the upper tier of the modern sector as well as in the traditional sector. In the lower tier of the modern sector, competition played hardly any role. Job assignment determined one's wage, and it seemed that employers trained the employees for the jobs to which they were assigned. Workers were selected for jobs on the basis of employer's preferences or stable working patterns, and prior skills or education did not explain much of the variance in observed earnings.

Both pieces of evidence, thus, point to a segmented labor market in urban areas. Randolph's results about the lower tier of the urban sector generally corroborate Mazumdar's findings because the skill categories encompassing that tier are what he considered. He had no data on professional cadres or on earnings in the traditional sector. This is where Randolph's analysis is particularly useful. Both authors also provide some evidence on credentialism,

which implies that educated workers are paid a premium for their credentials – certificates, diplomas, and the like – regardless of their productivity or quality of work. It is another aspect of segmentation.

5.2 Implications for Earnings Inequality

These results have rather interesting implications for analysing the effects of foreign trade on income distribution, indeed for distributive effects of economic policy in general. Since the traditional sector labor market is competitive, benefits of, say, an increase in export price or an outward shift in labor demand for some other reason will be widely shared. Workers in the traditional sector usually carry on small scale industry, work on farms and plantations or engage in smallholder agriculture. Setting up of export industries in rural areas, or orienting existing activites toward exports will improve the incomes of a large segment of the rural population and also improve equality. The same conclusions, more or less, will apply to the upper tier of the modern sector, to the earnings of managers and other professionals. The lower tier of the modern sector, however, will not follow this pattern. This market segment is not competitive. Consequently, promotion of manufacturing exports will benefit the professional cadres in a competitive way, but among unskilled or semi-skilled workers, only those lucky enough to be assigned to jobs will benefit. Their earnings differential will be in the nature of an "employment rent" rather than a reward for skill or prior training. Those who do not find jobs in this segment will either have to remain unemployed and join the job queue, or revert to traditional-sector employment. Inequality in this segment, thus, will increase, as will inequality in the entire modern sector. It is worth noting here that this

tier of the urban market, or some part of it, is usually the first repository

of workers who migrate out of the traditional sector, and the numbers in Table

1 indicated that such outmigration has been substantial in Malaysia. It would

not be surprising to learn that many Malaysian workers who have moved out of

the primary sector are in, or have passed through, this segment of the urban

labor market.

It is important to recognise in this context that although the analyses

by Mazumdar and Randolph are insightful, the numbers refer to earnings only of

male employees, not of a complete household. There is no information about

earnings of secondary earners which might be important in the primary sector,

among smallholders and other self-employed households. Also, the structure of

labor markets which emerges from these studies is more typical of the private

sector than the public sector. Market for government jobs, especially in

lower skill categories where oversupply is likely, would not be competitive.

In such cases, therefore, public sector hiring rules will accentuate the

effects of labor-market segmentation. As a part of NEP, a number of

job-creation and job-allocation policies have been implemented, but it is

difficult to quantify their precise effect on overall inequality of earnings.

Results about labor market segmentation and their implications nevertheless

will be very useful in discussing changes in inequality within individual

sectors to which we shall turn next.

6. Income Inequality Within Individual Sectors

The analysis so far shows that size distribution of income in Malyasia has

become somewhat less unequal since 1970, productivity differences between

sectors have narrowed, and there have been appreciable changes within

particular export sectors. We shall now consider trade-related effects on

income inequality within several sectors. Most of the analysis will be

devoted to rubber, an important, typical, traditional sector, and to manufacturing, which is a comparatively new and modern sector. Mining and oil palm will also be considered to provide a good cross-section of Malaysia's exports. Unfortunately, there is not much information on capital income and its distribution in these activities, so we shall deal mostly with inequality of earnings. The primary sector will be taken up here, and manufacturing in Sections 7 and 8.

6.1 Rubber

Malaysia is one of the oldest and largest producer and exporter of natural rubber. In the eighties, Malaysia produced about 1.5 million tonnes of rubber a year and supplied 35 percent or more of world exports, although, as Table 2 shows, it has been contributing a steadily decreasing share of total Malaysian exports.

Production of rubber is organized between estates and smallholders, with the latter accounting for about 75 percent of total hectareage planted with rubber. Estates consist of large plantations, at least 40.47 hectares (100 acres) in size. Their average size in 1984 was about 300 hectares. Smallholders in rubber are the largest identifiable group of farmers in Malaysia, consisting of about half a million households, with a typical holding well below two hectares. Average yield on smallholdings was also much lower, amounting to about 60 percent of the yield on estates in 1983 and 1984, and small holdings contributed about 67 percent of total output of rubber in these years. Almost all of the output is exported, at prices determined on the world market. The government levies an export tax whose rate is altered from time to time, but it does not set or guarantee prices.

6.1.1 Price Movements

The data in Table 10 show that rubber price has been very volatile. From 1961 through 1973, price declined steadily from US$650 per tonne to US $399. The worldwide boom of 1973 launched a sharp upturn in price which continued through 1980, with the exception of 1975 when price dropped by 24 percent. The 1980 price was four times the price in 1971. Then came a period of sharp decline, the sole exception being 1983 when price rose by 23 percent. Taking inflation into account, in real terms, the price in 1985 was probably less than that in 1971.

Amidst these sharp changes in rubber prices, it might be hard to believe that an international commodity agreement, INRA, has been in force since 1980. Its main goal, however, was not to stabilize prices but to defend a floor price, about $1600 per tonne in 1986, and it has successfully done so for several years. Because of its "must buy" policy, however, the International Natural Rubber Organization (INRO) has accumulated sizeable buffer stocks which are likely to dampen prices for the foreseeable future.

One interesting aspect of rubber exports is that price and quantity often move together. In most years, when price fell, exports also decreased, and vice versa. This suggests that shifts in demand curve have played a prominent part in determining price although the supply curve has also shifted due to productivity gains brought about by replanting with improved varieties of trees. Demand for rubber is mostly derived from demand for other products — automobiles, for example — and synthetic rubber provides a close substitute in many uses. Therefore, a downward shift in the demand for natural rubber could be caused by a drop in automotive demand, or by a sustained decline in the price of oil which would reduce the cost of producing synthetic rubber.

Such shifts play an important part in determining the world price of rubber, although it is doubtful that they are enough to explain the rather erratic changes in the price of rubber.

6.1.2 Income Distribution

An increased demand for rubber, through exports or from another sector of the domestic economy,[11] will directly affect three groups: the property owners who own shares in estates, workers of various types, and the smallholders who are essentially self-employed and who, often with the help of family members, combine rubber cultivation with some other sources of income. The rubber plantation workers are the most highly unionized sector of the Malaysian economy, and a part of their wages is linked to the price of rubber. A change in this price, thus, affects everyone, smallholders most of all perhaps, because the other two groups share the effects of a price change. Of course, if there is a change in the number of employees, or activity levels, labor income might be affected more because some workers work as contract labor, and many are paid on a piece-rate basis. Such decisions, presumably, are made by the management on estates, but smallholders, who have greater control over their decision-making, would also respond to price changes. They are the largest poverty group, and as Wai (1982, p.83) notes, when prices are low, they might be forced to harvest more latex to compensate for income loss due to low prices. Their short-run income thus will be artificially high, but trees could be harmed and long-run latex flows might be lowered. This sort of behavior is to be expected from anyone who tries to maintain a target level of income while facing a fluctuating income source, and it adds to the difficulty of analysing income distribution effects of changes in the price of rubber.

A bigger difficulty arises because there are no data from which size distribution of income in the rubber sector could be readily compiled. The most important set of unavailable numbers are about distribution of capital income which in some years has been twice the salaries and wages paid. Population weight of capitalists, however, will not be large, so inequality of earnings, which can be computed for some years, might not be a bad approximation to income inequality. More complications come into play when one tries to isolate the effect of foreign trade on income distribution, which is the main concern of this research, for there are many different schemes ranging from land development (FELDA, FELCRA) to input subsidization for estates and smallholders, so the observed changes are a combined result of all these schemes as well as foreign trade.[12] The best that can be done, therefore, is to combine bits and pieces of indirect information and identify some factors that might affect income inequality in the rubber sector.

Some data on output and labor income in rubber are presented in Table 10. The period 1978-84 consists of three years of substantial price increases and four years in which rubber price dropped sharply. As such, it is representative of what has been happening to rubber since the sixties. It is clear from that table that value of smallholders' output varied directly with price, both in nominal and real terms: until 1980 it rose, it fell for the next two years, increased again in 1983 and decreased in 1984. Labor income, on the other hand, did not follow price changes, at least not on a year-to-year basis: average wage decreased in 1980 although price of rubber was higher, and the opposite happened in 1982. Real wages conformed a little more closely to movements in the price of rubber. The 1980 real wage was about 6 percent higher than the 1978 wage, then it declined somewhat in 1981 and 1982, increased in 1983, and fell again in 1984. Changes in labor income and rubber price do not correspond more closely probably because only a

component of wages is linked to price, and that too on a sliding scale. The presence of trade unions might be another factor. Also, workers have been moving out of the plantations to urban areas for a variety of reasons, and pockets of labor shortages have been reported in a number of years. It is worth noting here that effect of a change in the price of rubber is more pronounced on smallholders than on wage earners. For example, between 1978 and 1980, real value of smallholders' output increased by more than 20 percent while real wages were higher by only 6 percent; after two years of sharp decline in rubber price in 1981 and 1982, real wage was lower by about 10 percent over the 1980 level while output value for smallholders declined by almost 40 percent.

So far as inequality within the rubber sector is concerned, it seems from the above discussion that an increase in the price of rubber will improve incomes of smallholders, and to a lesser extent, employment income of estate workers. Likewise, a drop in price will adversely affect both these groups, but the effect will be greater on smallholders. Since smallholders account for a larger proportion of the population that derives income from rubber than estate workers, it can be expected that, other things being equal, an increase in the price of rubber will certainly alleviate poverty. A drop in price, likewise, will exacerbate poverty. Recall from section 4 that labor market in this sector is competitive. Changes in inequality of earnings, therefore, are likely to be inversely correlated with movements in the export price of rubber.

6.1.3 Inequality of Earnings: Empirical Evidence

Coefficients of variation, computed from information about five types of workers and value of smallholders' output are presented in Table 11 for 1978, 1980, and 1984. Between 1978 and 1980, price of rubber was rising, and inequality of earnings decreased considerably. Since 1981, however, rubber

price has been generally lower than before, and inequality has increased once again. This is _prima_ _facie_ support of the inverse correlation between export price and earnings inequality mentioned above. Several points nonetheless, must be borne in mind in interpreting these results, some of a statistical nature, and others pertaining to the role of government.

Firstly, value of smallholders' output is not strictly comparable with estate workers' salaries and wages: value of output is not net income for a smallholder, it has a capital-income component, and there could be more than one wage-earner in an estate-worker household. Earning differentials between these two groups, thus, might be far less than what the numbers in Table 11 suggest. Inasmuch as this point applies to all the years, coefficients of variation can be compared over time even though each one of them is overstated.[13]

Secondly, there is a cess, an export tax, levied on rubber whenever its price exceeds a certain threshold level. It is a progressive tax whose marginal rate rises as the price rises. The proceeds of the tax are used to finance replanting and newplanting of rubber and oil palm, and a substantial portion of it is devoted to smallholdings. Although smallholders also pay this tax, bulk of it will be paid by big producers; on balance, therefore, net benefit to farmers toward the lower end of the income scale is likely to be substantial.

Thirdly, as a part of NEP, government agencies have been set up to acquire share capital and hold it in trust for _Bumiputras_. A number of existing companies, many of them foreign owned, have been thus purchased in the rubber sector. Such acquisitions do not affect the current income of _Bumiputras_, but in due course, when equity now held in trust is transferred to them, there could be a significant effect on inequality. This, however, does not have much to do with foreign trade or exports of rubber except for the

profits so generated. In this connection, it might be useful to recall Snodgross' argument mentioned above, that a price increase would worsen inequality because property incomes, which are highly concentrated near the top, will soar. Here is another element that might militate against this argument because some of the increased property income will go to Bumiputras concentrated in low-income classes, albeit indirectly through Trust agencies.

6.2 Oil Palm

Exports of palm oil amounted to 9.2 percent of total Malaysian exports in 1985. Oil palm trees are cultivated in the same geographic conditions as rubber trees, and palm oil is produced by crushing the kernels borne by the trees. It does not require as much labor as rubber because harvesting palm kernels is less labor intensive than tapping rubber trees. There is thus greater value-added per worker than in rubber, and during the period covered by this study, its price has fared somewhat better than the price of rubber, resulting in higher profitability. In fact, during the last decade or so, oil palm has been at least partly replacing rubber cultivation in many areas, often under government incentive programs. One of the attractions of palm oil is that most of its competitors are products of annual crops whereas oil palm is a perennial, so it is likely to prove more profitable over time than, say, soyabean or groundnut oil. Large scale cultivation of oil palm began in the early 1960s when rubber prices were very depressed. Today Malaysia accounts for about 57 percent of world output and 85 percent of all exports of palm oil. Malaysians call it their golden crop.

Production in this sector is organized very much along the lines of rubber. There are plantations and smallholders. Effective yield per hectare of crude palm oil on smallholdings is about 55 percent of the yield on plantations, and in 1984, smallholders accounted for 43 percent of the total

output of crude oil. Here also a part of employment income is tied to output price, so the same distributional considerations by and large arise as in the case of rubber. In 1970, according to the Fifth Malaysia Plan (p.86), 89 percent of smallholders in "other agriculture," which consisted of small farmers producing oil palm, pepper, pineapple, etc., were below the poverty line. That proportion dropped to 52.1 in 1976, and to 34.2 in 1984. In 1984, the number of smallholders in this sector was more than three times that in rubber where incidence of poverty was also higher (43.4 percent). It is highly likely that smallholders specializing in oil palm are doing better than all the others in this group. According to the Third Malaysia Plan (p.163), for example, only 29 percent of smallholders in oil palm were below the poverty line in 1970, and that number had already dropped to 10 percent in 1975.

Some data on prices and incomes in oil palm are displayed in Table 12 for a few years. In comparison with rubber, price has not fluctuated as much. In four out of the five years for which complete data are available in Table 12, average wage has moved with the price of palm oil. Once again, using the same classification of workers as in rubber, coefficients of variation are computed in Table 13 for some years. Earnings are obviously more unequally distributed in oil palm than in rubber, and here also an inverse correlation between export price and earnings inequality is in evidence. Between 1980 and 1984, that price increased by forty percent and the coefficient of variation dropped by more than fifty percent.

This result is subject to all the qualifications mentioned above in connection with Table 11: value of smallholders' output cannot be strictly compared with estate workers' salaries and wages, there is hardly any information about distribution of capital income, the data are not

standardized by household size, and government agencies play a prominent part under various schemes. In spite of these, however, the numbers in Table 13 do provide very useful information about inequality of earnings in oil palm.

6.3 Mining

The mining sector has always played an important role in Malaysia's economic development. Malaysia supplies about 40 percent of the world demand for tin, and in the early seventies, tin exports accounted for more than 15 percent of all export earnings. In the last few years, tin mining has fallen on hard times because of declining output and falling prices, but exports of petroleum and natural gas have begun to restore the importance of the mining sector. In the eighties, petroleum exports have exceeded tin exports by a factor of five or more.

Mining is of considerable interest for the twin concerns of this study, namely, foreign trade and income distribution, because this sector is heavily oriented toward exports. It is also highly capital intensive, in sharp contrast with rubber and palm oil discussed above, and two of its principal products, tin and petroleum, are subject to international price agreements. In fact, tin is one of the few commodities, and the only metal, for which an international commodity agreement regulates the market. Foreign interests are quite prominent in the mining sector, perhaps more so than in any other part of the economy. Many of the large tin mines are owned by nonresidents, and there are output-sharing arrangements with multinational corporations for oil which are handled by a state-owned agency, PETRONAS, which has the ownership and the right of exploring and exploiting crude-oil reserves. Mining does not have much linkage with the rest of the economy, so domestic distribution of income is mainly affected by labor income generated in that sector, and of course by government spending of oil revenues. The lion's share of rents or property income goes to nonresidents.

6.3.1 Some Stylized Facts

Some selected statistics for the mining sector are presented in Table 14 for 1984. Petroleum and gas accounted for 93 percent of value added in that year, which attests to the importance of this industry, but it employed less than one fourth the number of people engaged in tin mining, and salaries and wages there amounted to only 3.4 percent of value-added as against 30.4 percent in tin. Total salaries and wages paid were much higher in petroleum than in tin, which undoubtedly reflects the greater proportion of higher priced skills required for producing petroleum. It is also worth noting that although only 16 of the total 790 mining establishments in 1984 were owned by non-Malaysian residents (including one joint ownership), these accounted for almost 75 percent of the value of fixed assets.

Production of tin has been steadily declining over time. Tin output in 1985 was less than one half of that in 1972, and employment too has been falling. For the mining and quarrying sector as a whole, employment in 1985 was about 20 percent lower than in 1980, without, however, a commensurate decline in wages. In tin dredges, workers are unionized, which might explain why wages have not fallen, but even in gravel pump operations, which are more than 80 percent of all tin mines, and where workers do not belong to a union, wages have held up. Closing mines and retrenching workers thus seems to be the industry's response to falling ouput of tin.

6.3.2 Income Inequality

From these stylized facts about the mining sector, it is not difficult to surmise that since most of capital income accruing in this sector goes to non-Malaysian residents, labor income and the level of employment greatly

affect income inequality. Falling output appears to affect employment more than earnings in mining, so income inequality among workers at least is likely to be inversely correlated with exports and output. For two years, 1980 and 1984, a coefficient of variation is computed in Table 15 from data on earnings and employment in the mining sector. There is a decline in earnings inequality of about six percent between these two years, which is not very much considering that exports of tin declined by almost 33 percent from 1980 to 1984. The more striking aspect of the numbers in Table 15 is that the coefficients are much larger than in rubber and oil palm, indicating a more skewed distribution of earnings. Petroleum, however, is the main reason for the high coefficients of variation as well as the slight decline in them. If crude oil is left out, these coefficients drop rather dramatically, to .03 for 1980 and .01 for 1984.

7. Manufactures

7.1 Brief History and Importance

Like many other countries in the region, during its colonial phase, Malaysia was mainly a supplier of primary commodities, with hardly any manufacturing activity. After independence, Malaysia decided to begin the process of industrialization. The guiding philosophy, as in most other developing countries at that time, was import substitution. Under the Pioneer Industries Ordinance of 1958, tax holdiays were granted and tariffs were levied to protect domestic "infant" industries. The earliest manufactures were rubber goods, tin smelting, and vegetable-oil refining. With tariff protection, firms began producing beverages, processed food, and light consumer goods mainly for the home market.

By the late sixties, it was evident that this inward-looking strategy could generate only limited output and employment, certainly not enough to support NEP objectives, so policies aimed at export promotion began to be

adopted. The Investment Incentives Act, passed in 1968, offered a number of incentives to domestic manufactuers to export a part of their production. Then several free-trade zones (FTZs) were set up which offered the manufacturers located therein a free-trade environment as well as fiscal incentives and subsidized credit. They could thus import, duty free, all the machinery and intermediate goods required to produce for the export market while benefiting from tax and other advantages. This led to textiles, and assembly-type manufacture of electronics and electrical products (circuit fittings, transistors, valves, etc.), mainly for the foreign market. The policy of import substitution was not abandoned; rather, export promotion was added to it to form a dual strategy. In fact, one justification for export incentives was to reduce the anti-export bias inherent in most import-substitution schemes. Effects of such policies were predictable. The manufacturing sector expanded, and by 1985 it accounted for 15 percent of total employment (Table 1). Exports of manufactured goods also increased, amounting to more than 20 percent of all exports in some years (Table 2). On an average about 45 percent of manufactured output is exported although some industries such as precision instruments and rubber products export more than 90 percent of their output.

It is clear that economic policy has aimed at promoting manufacturing activity for a long time in Malaysia. Also, the export promotion phase is directly related to NEP which set up ambitious distributional goals. What, then, are the likely income distribution effects of all this manufacturing activity? We shall focus on textiles, industrial machinery and parts, and electronics industries which together contribute more than two-thirds of all manufacturing exports.

7.2 Employment and Earnings

These three export-oriented manufacturing industries are highly labour intensive, with bulk of the labor supplied in low skill categories. In electronics, production workers, who are in the lowest skill category by and large, account for 90 percent of total employment, for 80 percent in textiles, and for about 50 percent in machinery. All three industries have their component of skilled personnel too - production and other managers, engineers, accountants, etc. - but their share in employment is small, about 2 to 4 percent in textiles and manufacturing, and about 10 percent in machinery. Employment pattern in these industries did not change much between 1980 and 1983, the two most recent years covered by surveys of occupational wages from which inequality measures will be computed below. In electronics, there was virtually no change, although in the other two industries the employment share of production workers dropped slightly while that of office and maintenance workers increased.

Turning to earnings, the highest paid employees are "office workers", a category which includes accountants, managers, chemists and the like. In 1980, the average earnings of this group were about six times those of production workers in textiles and electronics, and about three times in machinery. In 1983, the corresponding earnings differential was slightly less: a ratio of 5 to 1 in textiles, and about 4:1 in the other two industries.[14]

Some data on changes in average real wages between 1970 and 1985 are presented in Table 16. It is clear that during the period 1970-1980, when manufacturing employment grew at a very rapid rate as noted above, manufacturing wages increased at 1.9 percent a year, the lowest rate among all sectors. The period 1980-85 tells a different story, though: manufacturing wage increased the most, at 10.8 percent a year in real terms, which is much higher than the rates of wage increases in neighbouring countries, Singapore,

South Korea, and Hong Kong. According to the 1984 Occupational Wages Survey, between 1980 and 1983, wages of skilled workers increased at anuual rates ranging from 17.6 percent for production operators, to 32.2 percent for supervisors and general foremen.

7.3   Inequality of Earnings

From the data on earnings and employment discussed above, coefficients of variation for the three industries are reported in Table 17. In 1980, inequality of earnings was the highest in textiles, followed by electronics, and then industrial machinery. It is remarkable that in 1983 earnings were distributed more equally in the first two, but not in machinery. The biggest change took place in electronics, a drop of 63 percent in the coefficient of variation, undoubtedly due to a large increase in the wages of production workers who accounted for 92 percent of paid employees. It is also noteworthy that the ratio of exports to total output is about 0.9 in this industry, which is much higher than in the other two.

So far as inequality between industries is concerned, it is apparent in Table 17 that there is very little among these three, although it did increase between 1980 and 1983. The reason, also evident in that table, is that in 1980, textiles and electronics had 97 percent of all employment in this group, and average earnings in these two industries were very close. In 1983, electronics had the highest employment share as well as average earnings, and there was also greater dispersion of earnings among the three industries. Relative export performance of electronic goods is definitely a big factor in explaining the increase in between-industry inequality of earnings.

Here it is important to recognize that the above discussion has been in terms of direct earnings and employment which are only a part of the picture. There will be indirect effects, through backward or forward linkages with the

rest of the economy. For example, in the 1975 input-output table, when such linkages are taken into account, the total wage coefficient of electronics is about 10 percent higher than the direct ratio of earnings to output. For textiles, the former is twice the latter, and in case of sugar, which also generates some exports, the total wage coefficient is twenty-five times the direct one. Effects of sugar exports, obviously, spread to many other sectors of the economy than is the case with electronics or textiles. Such "indirect" or "spread" effects must be taken into account, not only for manufactures but also for all other exports, in determining how different trade policies affect employment, earnings, and their distribution throughout the economy. This will be taken up in the next section where results of some simulations from the 1975 input-output table are presented.

8.   Trade and Income Distribution: General Equilibrium Considerations

The previous three sections have provided valuable information about what has happened to inequality of earnings in many Malaysian export activities in recent years. The focus has been on direct effects, within individual industries or sectors. We turn now to the broader picture, taking into account the input-output structure of the Malaysian economy. We shall deal first with income inequality and demand for imports, and then with effects of exports on distribution of earnings.

8.1   Income Inequality and Demand for Imports

The question to be considered here is: "How will the demand for imports change should the distribution of income become more or less skewed?" The answer will be easy if there were data by income class on composition of spending, distinguishing between imports and domestic goods, or information about budget shares in different income classes, or even about income

elasticity of demand for various goods. Such data are not available. In fact, the only pertinent information is about income elasticity of aggregate demand in eight broadly defined commodity groups (Theil, et. al.(1981)), number of households and average income by deciles in PES for 1970, and the 1975 input-output table in which imports of final and intermediate goods are recorded separately. A pure simulation excercise is the only feasible alternative along the lines suggested by Bourguignon (1987), making full use of the scant information at our disposal and adopting some rather strong assumptions.

It is assumed that the same demand functions and elasticities apply to all final goods, imported or domestically produced. Saving is ignored, so aggregate consumption does not respond to changes in income distribution. In fact, with these assumptions, total expenditure on each good can be allocated to different income classes in proportion to their share in total income. Next, a rough correspondence is made between the commodity groups in the demand study and the industry classification employed in the input-output table. For example, elasticity of demand for food is applied to agriculture, food-beverage-tobacco, fishery, and livestock sectors, and so on.[15] Constant-elasticity demand functions are then assumed to relate the demand for each type of good to income in each income class. With each redistribution of income, the assumed demand functions enable us to estimate direct changes in demand for both imported and domestic final goods. The latter will bring about output changes in many sectors through input-output channels, which in turn will lead to greater imports of intermediate goods. Total change in imports, thus, will be the sum of additional final as well as intermediate goods from abroad.[16]

The first simulation reported in Table 18 is complete income inequality, i.e., each decile is given exactly 10 percent of total income. Under the assumptions discussed above, total imports will rise by 4.5 percent. About one-fifth of this increase will be due to larger imports of final goods, and the rest due to greater demand for intermediate goods caused by changes in domestic output in response to the new consumption levels of domestically produced goods.

Different industries in Malaysia have rather dissimilar import requirements. Agricultural activities such as rubber, oil palm, etc. imported intermediate goods worth about 5 percent of the value of their output in 1975, whereas for chemical products the corresponding ratio was 74 percent, 4 percent for food and beverages, and 12 percent for textiles. Therefore, as composition of demand changes with changes in earnings inequality, total import requirements of the economy will be altered.

Complete equality of earnings is a far-fetched goal which may never be attained in practice. Therefore, two other redistributions are also considered in Table 18: (i) a twenty percent transfer from the top decile to the lowest one, and (ii) a ten percent transfer from the tenth decile to be equally divided between the lowest two. The first leads to an increase of about 12 percent in total imports, but they increase by only 0.16 percent under the second redistribution. Once again, imports of intermediate goods, generated by adjustments in domestic output,
dominate the picture.

8.2   Exports and Distribution of Earnings

Exports have always been an important part of the Malaysian economy, and since the early seventies, the government has adopted several policy measures to promote and diversify exports, especially to encourage the production and

export of manufactured goods. In earlier sections we have seen how exports have affected inequality of earnings within several individual sectors. Now we turn to the interdependence among these activities and take a general equilibrium approach. An interesting question to ask is: "How will inequality of earnings alter with changes in the level or composition of exports when the input-output structure of the economy is taken into account?"

For a really satisfactory answer to this question, a full-fledged model of the Malaysian economy is needed because, as exports change, balance of trade will alter, exchange rate would adjust, and aggregate income and employment will change. Besides, commodity and factor prices would alter, wherever necessary, to restore equilibria in the relevant markets. Building such a model is outside the scope of the present research, nor are all the data readily availble, so we have to settle for a relatively modest, fix-price simulation with the 1975 input-output table, as suggested by Bourguignon (1987), in which one or more exports are exogenously changed to examine their effect on inequality of earnings.

The framework of this simulation is straightforward: from the data in the input-output table, along with some additional information on employment, a measure of earnings inequality (between--sector coefficient of variation, CV_B) can be computed. An increase in exports of, say, textiles, will alter output and employment in that industry (direct effects), and in every other industry with which it has a backward or forward linkage (for example, in spinning, weaving, etc.). Assuming fixed employment coefficients and mean earnings, new employment, earnings, and CV_B can then be estimated. These are the first-round effects. Higher earnings will of course lead to more consumption which, in turn, will affect output and employment, and hence the distribution of earnings.[17]

In spite of the simplistic nature of this simulation, there are still data problems to contend with, because there are numbers on total earnings but not on employment shares in the input-output table.[18] Moreover, earnings are not broken down by skill levels or category of worker. Although this information can be obtained for a few industries here and there, not always for 1975 though, distribution of earnings within each and every sector cannot be estimated. We shall, therefore, focus only on between-sector inequality.

Results of the simulation are reported in Table 19. It is clear that a ten percent increase in exports of any of the five activities considered there will have little effect on the coefficient of between-sector variation of earnings. In fact, even a large increase in most exports will have relatively small effect on CV_B. For example, a tenfold jump in textile exports will cause a modest 3.1 percent increase in that coefficient. With a similar change in the "Other manufactures" category, CV_B goes up by only 1.4 percent.

When broader groups of exports are considered, similar results ensue. Since the early seventies, Malaysia has made a strong effort to expand and diversify its export base, moving in the direction of non-traditional manufactures such as electronics and machinery. If all manufacturing exports other than food, beverage, and tobacco, are increased by 10 percent, there is hardly any change in CV_B. Actual changes in exports during the last decade, of course, have been much bigger than what has been considered thus far. In the final simulation, therefore, we double exports of other agriculture (rubber, palm oil, etc.) and forestry, increase exports of crude oil by a factor of 10, and let mining exports go up by 10 percent. Now the coefficient of variation increases by 8.7 percent when input-output effects are considered, but that increase is almost wiped out when changes in consumption are taken into account.

While the coefficient of variation hardly moves in Table 19, other economic magnitudes do respond to changes in exports. Total employment, labor income, and GDP gain the most from increased exports of food, beverage, and tobacco, followed by rubber products, and least of all from crude petroleum. This is undoubtedly a reflection of the considerable linkage food processing has with the rest of the economy, more so than rubber or crude oil. Comparing food and beverages with textiles, the latter has a bigger need for imported intermediate goods - 12 percent of output value versus 4 percent for food - and this is one reason for the greater economic effect of the food industry. Similar arguments apply to other industries as well: those which are concentrated in FTZs, with only a slight connection with other parts of the economy and rather large import requirements, will not have as much economic impact. A good example of this is precision instruments, an export-oriented industry with above average earnings but not much structural linkage with other industries and a sizeable import requirement (16 percent of output value in 1975). A 10 percent increase in its exports will increase wage mean by 0.05 percent, labor income by even less and almost all of it in that industry, and GDP will go up by merely .04 percent.[19]

The above results have been derived by assuming fixed wage means in each sector, fixed input-output coefficients, and rather simplistic assumptions about final demand. Also, inequality within each sector could not be taken into account. Under these assumptions, changes in level and composition of exports will not have much effect on inter-sectoral distribution of earnings. If only input-output effects are considered, inequality of earnings between sectors will increase. However, different exports have quite different effects on macroeconomic aggregates such as employment and GDP. Therefore, as exports increase and their composition changes, there are bound to be

important general equilibrium repurcussions. Labor-skill requirements of various sectors are rather diverse, and with the evidence on labor-market segmentation discussed earlier, there could be appreciable changes in wage rates and inequality of earnings within each sector.

9.   Conclusions and Summary

This study of the relationship between foreign trade and distribution of income in Malaysia began with an overview of recent developments and structural change in the Malaysian economy. Exports have always been the life blood of this economy, and during the last two decades, an attempt has been made to set up an industrial base to produce a variety of manufactured goods for the domestic market and diversify exports which have traditionally consisted of a few primary commodities. At the same time, since 1971, Malaysia has undertaken a far-reaching program under the New Economic Policy to eradicate poverty, and to restructure employment and redistribute income against the backdrop of a rapid rate of economic growth. Both trade and distribution, thus, have figured prominently in policy discussion. We have explored a number of links between trade and income inequality within four of the most important export categories in Malaysia, namely, rubber, oil palm, mining, and manufacturing as well as among them. Some general equilibrium implications, emanating from the 1975 input-output table have also been considered. The main conclusions are:

1. Malaysia has always had a highly productive tree-crop sector, and relative productivity in tree crops as well as in the rest of the primary sector has risen over time as workers have moved out to manufacturing and tertiary sectors of the economy.

2. Surveys of household incomes show that inequality of personal income in Malaysia increased somewhat between 1960 and 1970, but it has lessened

slightly over time since 1970, and there has been a marked decline in poverty. Differences in output per worker have narrowed across sectors, as evidenced by declining measures of between-sector inequality since 1971.

3. Real incomes have risen everywhere, and survey data indicate that relative mean incomes of households in rural and urban areas have remained virtually unchanged.

4. There is some evidence of labor market segmentation in Malaysia. The market for professionals, managers, and administrators is competitive, so also is the market in the traditional sector, but the lower tier of the urban market, encompassing the urban labor force and some self-employed workers, is not competitive. Consequently, earning differentials among professionals will be based on differences in ability or human capital, but there will be "employment rents" among urban workers.

5. Higher export prices and earnings improve equality of earnings in rubber by increasing the wages of estate workers and incomes of smallholders, and in all probability, reduce overall inequality of personal incomes in that sector. Earnings in oil palm are similarly affected, but inequality of earnings is greater than in rubber although there is lower incidence of poverty among estate workers and smallholders in oil palm.

6. The mining sector is relatively capital intensive, with tin mining being the least so. Changes in employment, rather than in wages, seem to result from adjustments to fluctuating exports and output in that sector. Consequently, a fall in exports increases inequality of earnings. Of all the sectors examined here, inequality of earnings is the highest in the mining sector mainly due to oil which accounts for a relatively small proportion of total employment but a rather large share of all labour income in mining.

7. Manufacturing, generally, is not as labor intensive as the primary sector. Among the main export-oriented manufacturing industries, industrial machinery

has the highest inequality of earnings, due to labor requirements of many different skills. Inequality within textiles and electronics is lower mainly because of a heavy concentration of production workers with similar skill levels.

8. Simulations of hypothetical income redistributions with 1975 input-output data suggest that, depending on the degree of redistribution, demand for imports can be quite sensitive to earnings inequality. Imported intermediate goods, rather than final goods, seem to dominate the import picture.

9. Experiments with exogenous changes in exports in a fix-price framework indicate that a ten percent increase in exports of almost any sector, one at a time, will hardly affect earnings inequality between sectors. Even larger changes in groups of exports (primary, manufactures, etc.) will not make much difference to between-sector inequality of earnings when consumption multiplier is taken into account. When only input-output effects are considered, increase in exports invariably increases earnings inequality. Macroeconomic aggregates such as labor income, employment, GDP, will be affected differently by different exports, and these could alter inequality of earnings, especially within individual sectors.

These conclusions shed light on several aspects of the relationship between foreign trade and income distribution in Malaysia, but, regretfully, it has not been possible to make a definite, empirical estimate of that overall relationship. The main difficulty is with data, for we do not have a complete tabulation of income distribution by deciles, or sectors, which would identify various sources of income, and from which measures of overall inequality and inequality within groups might be calculated. Likewise, the input-output table needs to be supplemented with data on income and employment levels for different categories of workers, so that one might make direct estimates of how inequality of earnings would be affected by changing, say,

the export-mix or the price or volume of particular exports. To go from

earnings to distribution of personal income, of course, will require

information on distribution of profits and other capital income as well, but

there are no data on size distribution of property income at present.

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Footnotes

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[1] These Gini coefficients have been computed from two different surveys. The size of households has not been standardized between them and there might be other problems of comparability. Some of these will be taken up later on in this chapter.

[2] Some evidence of labor market segmentation will be considered below in Section 4.

[3] The sign $ stands for the Malaysian Currency 'ringgit' throughout this chapter. At the end of 1985, one U.S. dollar was equal to 2.42 ringgits.

[4] For some numbers on ERP rates in the region, see Ariff and Hill (1985), p.97.

[5] The administration of import duties is not neutral across industries, or across firms within the same industry, and exemptions from import duties as well as zero or low rates have been freely used.

[6]Reported by Young, Bussink, and Hasan (1980), p. 220.

[7]Snodgross (1980, p.71) corrects the 1957-58 data for exclusion of some high-income households and reports a Gini coefficient of 0.41 for 1957-58.

[8]This may be due to the particular set of numbers used which, for consistency, have been aggregated from those in Table 7. Data revisions have been frequent. For instance, if GDP numbers reported in the 1983 World Tables are used, the Theil coefficient turns out to be 0.076, and the coefficient of variation between sectors becomes 0.151. We shall not, therefore, explore "change" in inequality between 1971 and 1975 at this aggregate level any further.

[9]In Korea, where the estates were not as important, the corresponding index of productivity around this time was 0.5. The estates in Malaysian agriculture, by themselves, had a relative productivity of 1.01. Productivity is computed by dividing GDP share of each sector by its employment share, which is then converted to an index by expressing each sector's productivity as a ratio of output per worker for the economy as a whole.

[10]This is by no means the only definition. For a review of the literature, especially that pertaining to developing countries, see Fields (1980), ch. 5.

[11]According to the 1975 input-output table, to be analyzed in Section 8, rubber products accounted for 25 percent of all manufacturing output in 1975 and created considerable wage income for the primary sector.

[12]FELDA, the Federal Land Development Agency, has been developing land for settlement for a long time. Contractors clear the jungle, build houses and roads, plant rubber or oil palm, and set up a rural area ready for occupation by smallholders (about 4 hectares per family). Holdings of this size enable smallholders to generate higher incomes than persons with similar

qualifications could earn in urban or other rural areas (Young, Bussink, and Hasan, 1980, p. 251). FELDA has become the largest producer of standard Malaysia Rubber (SMR) in the country and accounted for 15 percent of SMR exports in 1985.

[13] We experimented with converting value of smallholders' output to a per-capita basis, or treating a portion of it as labor income. The coefficient of variation did drop, in every year, but the main result presented in Table 11 did not change much.

[14] These ratios are between average earnings of the highest and lowest paid emplyees among the six broad categories used for calculating coefficients of variation in Table 17. If a finer breakdown of earnings levels is used, the ratio of highest to lowest earnings will be much higher - for 1980, about 11:1 in textiles and electronics, and about 7:1 in machinery.

[15] In some simulations, higher elasticities, although consistent with the mean for each group, were arbitrarily assigned to commodities with relatively large share of imports, but the result about changes in total imports were not affected much.

[16] If D_d is the vector of demand for domestic goods, change in domestic output (ΔQ) due to a change in income is given by $\Delta Q = (I-A_d)^{-1} \delta D_d$, where I is an identity matrix, and A_d is the matrix of domestic input-output coefficients. Change in imports of intermediate goods then is obtained by premultiplying ΔQ by A_m, the vector of average propensities to import in each domestic output sector. Total change in imports, accordingly, is

$$\delta M = A_m (I - A_d)^{-1} \delta D_d + \delta D_m,$$

where δD_m is the change in demand for imported final goods.

[17]For a formal statement of the equations underlying this simulation, see Bourguignon (1987).

[18]Employment shares have been computed in a roundabout way. Numbers on employment in eight broadly defined sectors are available in the Economic Report. These are allocated to the activities identified in the 1975 input-output table using the data in the Manpower matrix for 1970 reported by Pyatt, Round, and Denes (1984). The industry classification in the two sources is not identical, but we have been able to achieve a reasonable approximation.

[19]This theme is also echoed by Verbruggen (1985) who finds that manufacturing based on natural resources has bigger employment and earning effects than export-oriented industries or those producing for the domestic market.

TABLE 1: BASIC ECONOMIC DATA

	1960[a]	1971	1975	1980	1985[b]
Population					
– Total, thousands	8,170	11,140	12,309	13,871	15,680
– Annual Growth Rate	2.7	2.6	2.6	2.4	2.7
GDP					
– Annual Growth Rate		5.2	-2.3	14.8	-2.5
GDP per capita					
– 1970 prices ($)	804	1,168	1,411	1,891	2,148
– Annual Growth Rate		5.7	0.8	7.8	-3.6
GDP by sectoral origin (constant 1970 prices, per cent)					
– Agriculture	35.9	29.5	27.6	23.8	20.8
– Mining	5.0	6.4	4.5	4.4	10.4
– Manufacturing	8.6	14.2	16.4	18.5	19.7
– Other sectors	50.5	49.9	51.5	53.3	51.1
Labor Force					
– Size (millions)		3.72	4.32	5.11	5.92
– Annual Growth Rate		3.0	5.6		3.1
– Unemployment Rate		7.2	7.0	5.7	7.6
Employment Composition (per cent)					
– Agriculture	54.7	52.6	47.6	39.6	33.8
– Mining	2.0	2.5	2.1	1.6	1.1
– Manufacturing	6.8	8.9	11.1	15.6	15.1
– Other Sectors	36.5	36.0	39.2	43.0	50.0
Share of Expenditure in GDP (current prices)					
– Private Consumption	62.2	61.0	58.5	50.5	52.0
– Government Consumption	10.8	16.7	17.5	16.5	15.2
– Investment	14.1	20.7	25.0	31.1	29.8
– Exports	53.5	40.4	45.5	57.5	54.9
– Imports	40.7	39.0	45.1	55.0	49.7

Source: Economic Report, 1986-87 and Bank Negara Quarterly Bulletin, March–June 1986 for all except 1960.

a GDP shares computed from values in 1960 prices, from Economic Report.
b GDP shares computed from values in 1978 prices.

TABLE 2: COMPOSITION OF EXPORTS[a]

	1960	1971	1975	1980	1985
Major Exports	2,909.7 (77.3)	3,968.3 (75.7)	6,523.2 (64.1)	20,397.8 (66.4)	21,208.9 (49.7)
Rubber	2,001.0 (53.1)	1,460.3 (27.8)	2,025.6 (19.9)	4,618.0 (15.0)	2,871.5 (6.7)
Tin	507.7 (13.4)	900.6 (17.1)	1,206.1 (11.8)	2,505.3 (8.1)	1,648.0 (3.8)
Saw Logs	118.6 (3.1)	642.0 (12.2)	670.4 (6.5)	2,618.2 (8.5)	2,774.8 (6.5)
Sawn Timber	75.1 (1.9)	195.1 (3.7)	440.6 (4.3)	1,344.1 (4.3)	1,140.2 (2.6)
Palm Oil	60.6 (1.6)	380.4 (7.2)	1,319.5 (12.9)	2,603.1 (8.4)	3,951.3 (9.2)
Petroleum	146.7 (3.8)	389.9 (7.4)	861.0 (8.4)	6,709.1 (21.8)	8,823.1 (20.7)
Manufactures	564.7 (15.0)	1,160.3 (22.1)	2,153.6 (21.1)	4,428.4 (14.4)	4,470.5 (10.4)
Machinery and transport equipment	34.2 (0.9)	83.6 (1.5)	573.0 (5.6)	3,238.4 (10.5)	7,155.8 (16.8)
Minor Exports[b]	183.5 (4.8)	306.2 (5.8)	509.7 (5.0)	788.2 (2.5)	1,015.5 (2.3)

Source: Bank Negara Quarterly Bulletin March-June 1986; Ministry of Finance, Economic
         Report 1986-1987, and World Tables, 1983.

[a]Values are in millions, current prices. Numbers in parentheses are percent shares.

[b]Minor exports includes items such as coconut oil, pepper, bauxite, etc.

Table 3. Gross Imports by Economic Function [a]
($ million)

	1971		1975		1980		1985	
Consumption Goods	1,177	(27%)	1,890	(22%)	4,325	(18%)	6,594	(21%)
Food	436	(37%)	705	(37%)	1,177	(27%)	1,850	(28%)
Consumer Durables	126		265		992		1,503	
Other	.615		920		2,156		3,241	
Investment Goods	1,203	(27%)	2,706	(32%)	5,129	(22%)	9,558	(31%)
Intermediate Goods	1,597	(36%)	3,527	(41%)	11,689	(50%)	14,145	(46%)
For Manufacturing	1,007	(63%)	2,347	(66%)	6,670	(57%)	8,982	(63%)
For Other Sectors	597		1,180		5,019		5,163	
Total	4,416	(100%)	8,530	(100%)	23,451	(100%)	30,558	(100%)

[a] The numbers in parentheses are percent shares

Source: Bank Negara Quarterly Bulletin, Mar-June 1986, Table VII. 8

TABLE 4

INDEX OF REAL EFFECTIVE EXCHANGE RATE (1975 = 100)[a]

1976	87.3	1981	84.2
1977	84.8	1982	89.8
1978	82.6	1983	90.4
1979	84.9	1984	91.8
1980	82.2	1985	84.0

[a]Calculated from nominal exchange rates deflated by consumer price indices in Malaysia and her trading partners.

TABLE 5

ESTIMATES OF HOUSEHOLD INCOME DISTRIBUTION

| | Share of Income (Percent) | | | | |
	1957-58	1970	1973	1974	1984
Lowest Quintile	5.7	3.5	3.5	4.8	n.a.
Lowest 40 percent	15.9	11.5	11.2	13.6	n.a.
Highest Quintile	48.6	55.7	56.1	53.4	n.a.
Gini coefficient	0.41	0.51			0.48

Sources: 1957-58: Snodgross (1980), p. 71

        1970: Anand (1983), Table 3-7, based on the Post Enumeration Survey

        1973: World Development Report, 1986, Table 24, based on Household Income Survey, 1974

        1974: Young, Bussink, and Hasan (1980, Table 5.1, based on Distributive Effects of Public Spending Survey

        1984: Fifth Malaysia Plan, p. 100, based on Household Income Survey, 1984

n.a. - not available

TABLE 6

CONTRIBUTION OF SECTORAL DIFFERENCES IN MEAN OUTPUT VALUE TO INCOME INEQUALITY: 1960–1985

	1960			1971			1975			1980			1985		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Primary	56.7	41.0	2.2	55.1	37.8	2.25	49.7	32.1	2.79	41.2	28.2	3.73	35.0	25.9	4.78
Manufacturing	6.8	8.7	3.0	9.0	12.7	4.65	11.1	16.4	6.33	15.6	18.5	6.50	15.1	19.1	8.16
Others	36.5	50.3	4.2	35.9	49.6	4.53	39.2	51.5	5.70	43.0	53.3	6.75	50.0	55.0	7.14
Overall Mean		3.0				3.28			4.32			5.45			6.47
Theil Coefficient between sectors			0.05			.062	.067			.037			.021		
Coefficient of variation between sectors			0.100			0.122	.126			.071			.040		

^{a}All means (except for 1960) are calculated from values in 1970 prices from Economic Report, various issues. 1960 means are in 1960 prices.

Col. (1) Share of total employment

Col. (2) Share of income

Col. (3) Mean (in thousand ringgits) per annum

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TABLE 8

GOVERNMENT SERVICES, MINING, AND BETWEEN SECTOR INEQUALITY, 1960-1985

CLASSIFICATION

	1960	1971	1975	1980	1985
1. Primary, Manufacturing Government services, and the rest	.026	.100	.074	.039	.027
2. Agriculture, Manufacturing, Mining, and the rest	.078	.095	.093	.040	.061

Source: Same as in Table 7. The numbers are Theil coefficients of between-sector inequality estimated from data in 1970 prices, except for 1960 which were in 1960 prices.

TABLE 9

MEAN RURAL AND URBAN INCOMES (1970 PRICES, $/MONTH)

	1970	1979	1984
Rural	128	331	372
Urban	239	587	695
Ratio of rural to urban	0.53	0.56	0.53

GINI COEFFICIENT

	1970	1979	1984
Rural	0.46	n.a.	n.a.
Urban	0.49	n.a.	n.a.
Overall	0.51	0.51	0.48

Sources

1970: Anand (1983), Table 6-5. The urban mean is a weighted average of the means for Towns and Metropolitan towns.

1979, 1984: Fifth Malaysia Plan, Table 3-4, and p. 100.

n.a. — not available

TABLE 10

PRICES AND INCOMES IN RUBBER

	Average Price $ per tonne	Total Output (000 tonnes)		Salaries and Wages of Estate Workers ($ million)	Number of Estate Workers (000)	Average monthly Wage ($)	Value of Smallholders' Output ($ million)	Consumer Price Index (1970=100)	Real Average Wage ($)	Real value Smallholders' Output ($ million)
		Smallholders	Estates							
1978	2300	888.0	618.0	34.3	122.6	280	2,042	162.4	172	1,257
1979	2694	890.0	607.3	42.9	122.3	351	2,487	168.3	208	1,488
1980	3123	877.1	586.8	39.4	120.3	327	2,739	179.5	182	1,526
1981	2578	882.3	574.3	37.7	115.0	328	2,274	196.9	166	1,155
1982	2011	902.3	554.3	36.2	105.4	343	1,814	208.4	164	870
1983	2472	983.5	539.8	37.7	100.1	377	2,431	216.1	174	1,125
1984	2246	977.7	509.7	34.3	95.3	360	2,196	224.5	168	978

Source:

- Price data are from Bank Negara, Quarterly Bulletin, March—June 1986, Table VII.5, p. P.88.
- Output, from Rubber Statistics Handbook, 1984.
- Salaries and Wages are for estate workers directly employed in December each year and they account for 69 to 73 percent of total payment for salaries and wages. From Rubber Statistics Handbook, 1984
- Number of estate workers, from Rubber Statistics Handbook, 1984. These account for about 75 percent of all employment on Estates. Excluded categories are administrative staff, contract workers and factory workers.
- Consumer Price Index (CPI), Bank Negara Quarterly Bulletin, March—June 1986, p. P.79. For 1981-84, estimated by applying rates of change of the new index to the old index.
- Real values are nominal values deflated by CPI.

TABLE 11

INEQUALITY OF EARNINGS IN RUBBER

	1978 (1)	(2)	(3)	1980 (1)	(2)	(3)	1984 (1)	(2)	(3)
Administrative staff	.04	.00	6.1	.02	.00	6.8	.04	.03	8.2
Estate workers	.39	.02	3.3	.21	.01	3.9	.34	.15	4.3
Factory workers	.02	.00	2.8	.01	.00	4.2	.01	.00	3.8
Contract workers (estate)	.08	.00	3.4	.03	.00	3.5	.06	.02	4.1
Contract workers (factory)	.00	.00	3.0	.00	.00	4.1	.00	.00	4.1
Smallholders	.47	.98	14.0	.72	.98	6.0	.55	.79	14.1
Coefficient of variation		.39			.04			.24	

Source: All numbers on salaries and wages and employment are from Rubber
Statistics Handbook, 1984 value of smallholders' output, from Table 10 above.
Number of smallholders is from various Malaysia Five Year Plan documents.

Col. 1: Share of employment (including smallholders).
Col. 2: Share of earnings.
Col. 3: Mean earnings (thousand ringgit) per annum.

TABLE 12

PRICES AND INCOMES IN OIL PALM

	Price ($ per tonne)	Export Value ($ million)	Number of Workers (000)	Salaries and Wages ($ million)	Average Wage
1978	1415	1871			
1979	1426	2471			
1980	1211	2603	82.9	284.3	3430
1981	1289	2835	85.9	318.5	3706
1982	1059	2742	84.3	345.9	4101
1983	1130	2995	80.1	335.5	4186
1984	1700	4542	86.3	392.6	4548

Source

- Price and export value data from Bank Negara, Quarterly Bulletin, March-June, 1986. Exports consist of crude and processed palm oil.

- Employment, salaries and wages, from Oil Palm, Cocoa, Coconut and Tea Statistics Handbook, 1984.

TABLE 13

INEQUALITY OF EARNINGS IN OIL PALM

	1980			1984		
	(1)	(2)	(3)	(1)	(2)	(3)
Administrative staff	.07	.08	6.6	.05	.03	8.9
Estate workers	.42	.18	2.7	.21	.06	3.5
Mill workers	.03	.02	3.8	.01	.00	4.9
Contract workers (estate)	.25	.15	3.7	.15	.05	4.5
Contract workers (mill)	.01	.00	3.3	.00	.00	3.3
Smallholders	.22	.57	16.2	.57	.86	20.1
Coefficient of variation		.74			.33	

Source: Data on employment, salaries and wages from Oil Palm, Cocoa, Coconut and Tea Statistics Handbook, 1984. Value of smallholders' output is computed by applying effective yield (yield of fresh-fruit-bunches per hectare x extraction rates) to hectarage under Oil Palm.

(1) Share of employment.
(2) Share of earnings.
(3) Mean earnings (thousand ringgit) per annum.

TABLE 14:   SELECTED STATISTICS, MINING SECTOR, 1984.

	TIN	PETROLEUM AND GAS	ALL MINING
Gross value-added (GVA) ($ million)	588.6	9,522	10,204
Share in total value-added (percent)	5.8	93.3	
Salaries and Wages ($million)	179	327	537
Share of Foreign-ownership in GVA (percent)a			90.6
Share of foreign ownership in value of fixed assets			74.8
Share of Malaysian residents in employment (percent)			98

a Includes one establishment owned jointly by non-Malaysian and Malaysian
   residents. Malaysian residents owned 774 of the total 790 establishments
   at the end of 1984.

Source: Malaysia Industrial Surveys, 1984.

TABLE 15

INEQUALITY OF EARNINGS IN MINING

| | 1980 | | | 1984 | | |
	(1)	(2)	(3)	(1)	(2)	(3)
Tin	.73	.53	9.4	.58	.29	7.3
Bauxite and Copper	.03	.02	9.6	.03	.03	14.7
Iron ore	.00	.00	12.1	.01	.00	4.8
Crude Oil	.06	.36	74.2	.13	.53	58.5
Quarrying	.17	.09	6.9	.25	.15	8.6
Coefficient of variation		1.48			1.39	

Source: Industrial Surveys, various years

(1) Share of employment.

(2) Share of earnings.

(3) Average annual earnings (thousand ringgit).

TABLE 16

**Average Annual Real Wages, (In 1980 prices)
in Selected Sectors, Malaysia 1970-1985**

	1970	1975	1980	1985	1970-80	1980-85
					Average growth (%)	
Agriculture:						
Rubber	2,383	2,172	2,934	4,210	2.1	7.5
Palm Oil:	2,210	3,059	3,341	4,196	4.2	4.7
Mining	3,973	4,028	7,060	9,256	5.9	5.6
Primary Sector	2,724	2,696	3,723	5.045	3.2	6.3
Manufacturing	3,642	3,359	4,414	7,368	1.9	10.8
Construction	3,771	4,181	5,007	5,384	2.9	1.5
Secondary Sector	3,674	3,603	4,586	6,496	2.2	7.2
Services	3,606	4,398	4.465	5,219	2.2	3.2
Government	3,792	4,312	7,760	8,274	7.4	1.3
Average	3,367	3,748	5,554	6,829	5.1	4.2

Source: Ministry of Finance, Economic Report, 1979/80; and
Government of Malaysia, Fifth Malaysia Plan

TABLE 17

INEQUALITY OF EARNINGS IN PRINCIPAL
MANUFACTURING EXPORT INDUSTRIES

	1980			1983		
	(1)	(2)	(3)	(1)	(2)	(3)
Textiles	.26	254	.43	.24	406	.32
Industrial Machinery and Parts	.71	287	.38	.72	627	.45
Electronics	.03	460	.41	.04	547	.15
Between-industry coefficient of variation				.02		.03

Source: The coefficients have been computed from data on employment and earnings for six categories of workers reported in Occupational Wage Surveys, 1984.

Col. (1): Share in employment.

Col. (2): Average monthly earnings.

Col. (3): Coefficient of variation of earnings within each industry.

Table 18

INCOME REDISTRIBUTION AND DEMAND FOR IMPORTS

Income deciles	Actual income shares (%)	Simulations		
		(1)	(2)	(3)
1	0.9	10%	20.9%	5.9%
2	2.4	10%		7.4%
3	3.4	10%		
4	4.5	10%		
5	5.7	10%		
6	6.9	10%		
7	8.9	10%		
8	11.2	10%		
9	15.7	10%		
10	40.4	10%	20.4%	30.4%
Change in total imports (percent)		4.52	11.6	0.16

Source: Actual income shares are from Post Enumeration Survey, 1970. In simulations 2 and 3, the blank rows have the corresponding actual income shares. More details about underlying functions and assumptions are in the text.

Table 19

EFFECTS OF A 10 PERCENT INCREASE IN SELECTED EXPORTS
(PERCENT CHANGE WITH REFERENCE TO ACTUAL 1975 INPUT-OUTPUT DATA)

	Other agriculture[a]	Food, beverage and Tobacco	Crude Petroleum	Textiles	Rubber Products
Employment	0.1	6.2	0.05	0.07	1.1
Mean earnings	-0.1	-4.4	-0.05	0.01	-0.85
Coefficient of variation	0	0	0	0	0
GDP	0.03	1.9	0	0.08	0.84
Labor income	0.02	1.2	0	0.06	0.29
Total exports	0.1	2.2	0	0.3	2.74

[a] Consists of cassava, natural rubber, sugar cane, palm oil, etc.

TABLE 7

SECTORAL MEAN OUTPUT AND INCOME INEQUALITY: 1960-1985

(1-DIGIT SITC LEVEL)a

	1960			1971			1975			1980			1985		
	(1)	(2)	(4)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Agriculture, Forestry and Fishing	54.7	36.0	2.00	52.6	31.9	1.99	47.6	27.7	2.51	39.7	24.6	3.27	33.9	21.0	4.01
Mining and Quarrying	2.0	5.0	7.79	2.5	5.9	7.61	2.2	4.6	9.05	1.7	4.6	14.62	1.1	4.9	28.40
Manufacturing	6.8	8.7	3.89	9.0	12.7	4.65	11.1	16.4	6.36	15.7	19.2	6.45	15.1	19.1	8.16
Construction	2.0	3.0	4.56	2.7	4.8	5.74	4.0	3.8	4.10	5.6	4.8	4.47	6.9	5.5	5.13
Finance, Insurance, and Commerce	13.5	26.0	5.9	12.4	5.6	1.48	1.0	6.2	27.67	1.6	7.1	23.03	1.9	8.2	28.66
Transport, Storage, and Communication	3.4	4.2	3.7	4.1	7.9	6.27	4.5	8.4	8.12	4.3	8.0	9.74	4.8	8.8	11.82
Government Services	17.1	16.1	2.9	12.3	7.6	2.05	12.9	12.7	4.25	13.7	12.6	4.86	15.0	13.0	5.62
Other Servicesb	0.45	0.9	6.4	4.3	23.6	17.83	16.7	20.2	5.25	17.7	19.1	5.68	21.2	19.4	5.92
Overall Mean		3.05			3.28			4.32			5.28			6.47	
Theil coefficient, between-sector inequality		.098			.224			.125			.097			.110	
Coefficient of Variation between sectors		.246			1.10			.459			.336			.445	

a All means (except for 1960) are calculated from values in 1970 prices, from Economic Report, various issues. 1960 means are in 1960 prices.

b Includes electricity, gas and water, distributive trades, etc

Col. (1) Share of total employment

Col. (2) Share of income

Col. (3) Mean (in thousands of ringgits) per annum

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