Malaysia
Development Pattern and Policy

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Development Pattern and Policy 1947 – 1971

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Singapore University Press

Kent Ridge, Singapore 0511

Typesetting by The Graphic Communication Group.
Printed and bound by Chong Moh Offset Printing Pte Ltd.

Contents

To
Bhagawan Sri Sathya Sai Baba
and
Ratna, Padmaja, Sri Ram, Sai Suguna

Preface

In March 1974 I submitted a Ph.D thesis entitled "The Postwar Development Pattern and Policy of the Malaysian Economy" to the University of Singapore. A statistical part of the thesis has already been published as *National Accounts of West Malaysia, 1947 – 1971*. The present publication deals with the substantive part of the thesis covering various aspects of the development pattern and development policy of the Malaysian economy. The period covered is 1947 – 71. Statistical and other publications available up to mid-1974 were consulted. I hope this modest contribution to the general subject area of development studies will prove useful to students and research scholars.

Professors You Poh Seng, Lim Chong Yah, and Lee Soo Ann of the University of Singapore offered advice and encouragement. Colleagues Ramakrishnan and Shantakumar gave me help whenever I needed it. Computational and typing assistance were received from Miss Yap Choo Lian, Mrs. Elsie Koo, and Miss Susan Ho. I am thankful to all these and several other friends who have helped me in various ways.

Facts, arranged in the right way, speak for themselves; unarranged, they are as dead as mutton.

J.R. Hicks

Introduction

This work attempts to assess the development pattern and policy of the Malaysian economy during 1947–71 through an analysis of macroeconomic data from national accounts, population censuses and surveys, industrial censuses and surveys, and other sources. The methods of analysis are drawn from the pioneering contributions of Clark, Kuznets, Chenery, Leontief, and several other scholars.

The most important justification for undertaking studies of the development pattern of underdeveloped countries arises from the observed differences between these countries and the developed countries in the pre-industrialization era. The areas of difference include the levels of per capita product, supply of agricultural land per capita, agricultural productivity, inequality in the size distribution of income and various social and political factors.[1] A detailed assessment of these differences led Kuznets to say:

> The plea here is for greater realization of how little is known and how much there is to be learned, and hence for greater caution in building models and writing prescriptions; for a clearer perception particularly on the part of policy makers, that the problems facing the underdeveloped countries are far more difficult than they appear at first sight, and that these countries cannot be expected to follow the patterns of presently developed areas which had entirely different beginnings.[2]

1. An elaborate discussion of the differences is available in S. Kuznets, *Economic Growth and Structure: Selected Essays* (London: Heinemann, 1965), pp. 177–85; and idem, "Underdeveloped Countries and the Pre-Industrial Phase in the Advanced Countries: An Attempt at Comparison", in *The Economics of Underdevelopment*, ed. A.N. Agarwala and S.P. Singh (New York: Oxford University Press, 1968), pp. 135–53.
2. Kuznets, *Economic Growth and Structure*, p. 193. On the inapplicability of the past pattern of development of the developed countries to the present developing countries, a recent reference is Paul Streeten, "The Frontiers of Development Studies: Some Issues of Development Policy", *Journal of Development Studies* 4, 1 (1967): 2–24.

The justification for a combined study of development pattern and development policy lies in their interrelationship. The study of development policy is broadly the study of a nation's planning effort and this effort is generally to achieve a desired pattern of development. The assessment of planning assumes special importance when we are considering firstly a developing economy and secondly the postwar period. This is due to the generally acknowledged fact that planning for economic development was a postwar phenomenon and it was of special significance to the less developed countries.[3]

As far as possible, Malaysia is covered as a single unit.[4] Where this is not done, it is simply because of the paucity of data. It may be mentioned in this context that relatively more emphasis is placed on West Malaysia than on East Malaysia.[5]

The time-span chosen is the postwar period.[6] Most of the study covers

3. "Since the war there has been a fairly general and largely unchallenged assumption that development should be planned." — T. Wilson, *Planning and Growth* (London: Macmillan, 1965), p. 2. A brief summary on the evolution of planning concept and the supporting arguments of Rosenstein-Rodan, Mandelbaum, Myrdal, and the various organs of the United Nations is available in Derek T. Healey, "Development Policy: New Thinking about an Interpretation", *Journal of Economic Literature* 10, 3 (1972): 758–61.
4. Malaysia consists of West Malaysia and East Malaysia. "West Malaysia" is used here to refer to the former "States of Malaya" and the preceding "Federation of Malaya". Even though the latest official practice is to refer to West Malaysia as Peninsular Malaysia, we prefer to use the term "West Malaysia", as it is widely known to students and scholars of the Malaysian economy. Sabah (former British North Borneo) and Sarawak are together referred to as East Malaysia. In 1963, West Malaysia, Sabah, Sarawak, and Singapore joined together to form Malaysia. In 1965 Singapore became an independent republic.
5. In 1970, the population of West Malaysia (8.8 million) was nearly 85% of the total population of Malaysia (10.4 million).
6. The choice of the postwar period should not be understood in the sense that the prewar period was less significant or less interesting. In fact the various historical sub-periods merge into one and form a chain of causes and effects which together provide the economy of Malaysia we find today. As observed by Kuznets in another context, "the relations, for the recent postwar period among the sectors, factors, and other components of the economy in their contribution to aggregate growth, would have to be viewed against the background of a long-term past in which the trends in such relations could be discerned. Only such a background would provide the basis for judging the characteristics of the process in recent years, studying their possible dependence upon some specific aspects of the long-term past, and suggesting their possible contribution in the future". S. Kuznets, *Postwar Economic Growth: Four Lectures* (Cambridge, Mass: Harvard University Press, 1964), p. 104.

the period 1947 – 71, which was selected for two reasons. Firstly, while during the period of Japanese Occupation there was widespread disruption of economic activity, the reconstruction was swift and for the most part the Malaysian economy was on its feet by 1947.[7] Secondly, apart from extensive trade data and certain categories of production figures, macroeconomic data on the national economy were available only in the postwar period. In fact, national accounts data on a firm footing were developed only from 1960 and only for West Malaysia.[8] Thus in this study of development pattern and policy, the period covered is the postwar period with relatively more emphasis on the post-1960 years. It was only after 1960 that planning for economic development was seriously taken up.[9]

Chapter 1 is an analysis of economic growth in the postwar period. The sources of growth from the demand side and the supply side are identified. On the demand side, consumption, investment, and exports

7. "On 8 December 1941, the Japanese bombed Pearl Harbour. Next day, Japanese troops began their invasion of Malaya. In less than two and a half months, to the shock of the entire Malayan population, and in spite of the resistance of the British, Australian, and Malayan defending forces, the whole Peninsula including Singapore was overrun by the enemy.

   With the Japanese Occupation, Malaya entered a period of economic ruin.... The root cause was the fact that occupied Malaya was cut off from the outside world, an isolation later made complete by the Allied sea blockade.

   By 1947, the Malayan economy had, by and large, shaken off the effects of the war. In that year, the production of rubber, the country's largest industry, was already greater than in any prewar year, and the stage was now set for further growth." Lim Chong Yah, "Malaya", in *Asian Economic Development*, ed. Cranely Onslow (London: Weidenfeld & Nicholson, 1965), pp. 95 – 97. "Malaya" here refers to West Malaysia.

8. The integration of national accounts into an input-output framework took place in 1960. See Chapter 3.

9. Even though the Draft Development Plan for 1950 – 56 and the First Five Year Plan for 1956 — 60 were formulated in West Malaysia, during the period, the "emergency" apparently had priority over planning: "... the main problem which faced the Government after the war, and once most of the work of post-occupation re-organisation and reconstruction had been completed, was the Emergency caused by Communist insurrection. This officially broke out in 1948, and at once it became the Government's top priority to end the Emergency as soon as possible. The costs involved were very considerable; for example, at the height of the Emergency, in 1951 and 1952, some 40 per cent to 45 per cent of the Federal budget had to be set aside for expenditure on internal security. But by 1955, it was increasingly apparent that the situation was being brought under control, and in 1960 the Emergency was officially declared at an end." Lim, "Malaya", p. 101.

are considered in detail. The analysis on the supply side is essentially an attempt to decompose the observed rate of growth into parts, attributable to the growth of labour, growth of capital, and other factors.

Consideration of growth alone does not lead to a portrayal of developmental patterns.[10] In Chapter 2, changes in the composition of output and employment are analysed. In the second part of the chapter, an assessment of the pattern of development was attempted to see how far and how much quantitative resemblance exists between the Malaysian pattern and the patterns described and discovered on the basis of international data by earlier writers.

Structural change — broadly the changing composition of output, labour force, and capital stock — arises because of the differential effect of growth of demand and the differential impact of technological change on various productive sectors of the economy.[11] Development therefore constitutes the addition of new products and new processes. The study of development is thus facilitated if input-output tables are available in addition to the other national accounts tabulations. The tables constructed by this writer for West Malaysia from 1960 through 1967 are analysed and discussed in Chapter 3.

Economic development, more often than not, is synonymous with industrialization. Further, almost all developing countries are practising some amount of import restriction to promote domestic industrialization. Industrialization and import substitution are the subjects for discussion in Chapter 4. Data from the input-output tables and from industrial censuses are used to assess the extent of import

10. "Growth may well imply not only more output, but also more inputs and more efficiency, for example, an increase in output per unit of input. Development goes beyond these to imply changes in the structure of outputs and in the allocation of inputs by sectors." C.P. Kindleberger, *Economic Development* 2nd ed. (New York: McGraw-Hill, 1965), p. 3. See also J.A. Schumpeter, *The Theory of Economic Development* (New York: Oxford University Press, 1961); G.M. Meier and R.E. Baldwin, *Economic Development: Theory History, Policy* (New York: John Wiley, 1957); and B. Higgins, *Economic Development: Principles, Problems and Policies* (Allahabad: Central Book Depot, 1966). Meier and Baldwin do not make any explicit distinction between "growth" and "development". It is implicit in their consideration of changes in factor supplies and structure of demand for products as accompanying "rise in output" during the process of development. The distinction is implied also in Higgins' discussion of the nature of the development problem.

11. Kuznets, *Postwar Economic Growth*, pp. 36 – 68.

substitution, export promotion, levels of nominal and effective protection, bias against exporting, and related aspects. Several policy considerations and recommendations form part of the chapter.

The planning efforts of Malaysia in the postwar period in general and after 1960 in particular are reviewed in Chapter 5. Assessment of targets, strategies, and accomplishments comprises the core of this chapter.

As in many other developing countries, employment opportunities in Malaysia have not kept pace with the labour force expansion caused mostly by the high rate of population growth.[12] It was therefore thought essential to consider the employment problem in detail. This is done in the five sections of Chapter 6 which also contains a critical review of the employment targets of the Second Malaysia Plan.

The Second Malaysia Plan added a new dimension to the nation's developmental efforts by proclaiming the laudable objective of initiating steps to correct economic imbalances. The planners had mainly two imbalances in view — regional and racial.[13] Despite the lack of sophisticated analytical apparatuses to analyse the objective, an attempt is made to examine the current status of the problem in the last section of Chapter 6.

Chapter 7 brings together the principal findings of the study.

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12. As observed by the Pearson Commission, "the failure to create meaningful employment is the most tragic failure of development". Commission on International Development, *Partners in Development* (New York: Praeger Publishers, 1969), p. 58.

13. In Malaysia, there are three major ethnic/racial groups: Malays, Chinese, and Indians. According to the census of 1970, of the total population of 10.4 million in Malaysia, 46.8% are Malays, 34.1% are Chinese, 9% are Indians, and the remaining 10.1% is made up of Dayaks, Kadajans, other natives, and others. In West Malaysia, of the total population of 8.8 million, 53.2% are Malays, 35.4% are Chinese, 10.6% are Indians, and 0.8% are others. The ethnic composition differs greatly between West Malaysia and East Malaysia and within the East, between Sabah and Sarawak. See Department of Statistics, Malaysia, *1970 Population and Housing Census of Malaysia, Community Groups* (Kuala Lumpur, 1972).

1. Analysis of Economic Growth

Malaysia in 1970 had a population of 10.4 million and an estimated per capita Gross National Product (G.N.P.) of US$380. In relation to the other countries of the Association of Southeast Asian Nations (ASEAN) — Indonesia, the Philippines, Singapore, and Thailand — Malaysia is next only to Singapore in terms of G.N.P. per capita.

During the last one and a half centuries, ever since the Malaysian economy was opened up to world trade, the export sector has contributed significantly to the economic growth performance of Malaysia.[1] The export sector stimulated the other sectors, promoted infrastructural development, contributed to government revenue, and planted the seeds for a multiracial population. While exports of rubber, tin, palm oil, timber, and other primary products were instrumental in causing great hardships in the 1930s and were generally the cause of economic instability, it is unlikely that economic growth of the type achieved in the past would have occurred if Malaysia were to develop on the basis of primary production purely for domestic use. The economy then would have probably been subject to the so-called low level equilibrium trap — never coming out of the vicious circle of low productivity, low savings, low investment, and low productivity. It is well known that entrepreneurs and capital formation are the catalysts that make economic growth possible. In Malaysia, the export sector, which provided (or attracted) both entrepreneurs and capital, was a highly organized sector and contributed not just to overall growth but, to a certain extent, to *sustained growth.*

With regard to the optimum utilization of all available data, this chapter will first deal with an analysis of Malaysian economic growth in

1. A comprehensive and scholarly study which traced the evolution of the economy covering the entire span of time up to 1962 is available for West Malaysia. See Lim Chong Yah, *Economic Development of Modern Malaya* (Kuala Lumpur: Oxford University Press, 1967).

the post-1960 period and then with West Malaysian economic growth in the postwar period. As for measurement of rate of growth, the arithmetic growth rate will be used when consecutive years are considered, and the average of the annual growth rates when a series of years are considered.

Malaysian National Accounts

National accounts for Malaysia covering both West Malaysia and East Malaysia are available for different periods from 1960 in the following sources:

(1) *National Accounts of West Malaysia, 1960 – 1966* and the subsequent issues from the Department of Statistics, Kuala Lumpur (hereafter this source will be cited as *National Accounts,* followed by the relevant years);
(2) Bank Negara Malaysia, *Annual Reports;*
(3) *First Malaysia Plan, 1966 – 1970;*
(4) *Mid-Term Review of the First Malaysia Plan, 1966 – 1970;*
(5) *Second Malaysia Plan, 1971 – 1975;* and
(6) *The Economic Report, 1972 – 1973,* issued by the Treasury of the Government of Malaysia.

A detailed study of the above sources shows that the 1960 – 64 national accounts data became outdated and were therefore inconsistent in comparison with the oft-revised and updated 1965 – 70 data. A scrutiny of the unrevised data for 1965 – 68 and the revised and updated data for the same period gives us the extent of adjustments required for private consumption expenditure, public consumption expenditure, private capital formation, and public capital formation. Using this knowledge on adjustments it was possible to obtain approximately consistent figures on these items for 1960 – 64. To these are added the data on balance of trade on current account and net factor income receipts to obtain the G.N.P. series. The data are given in Table 1. The growth rates of G.N.P. and its major components are given in Table 2. The shares of the major components are given in Table 3.

G.N.P. Growth

From the last column of Table 2, the following observation can be made regarding the growth rate of G.N.P. at current prices: the rate of growth was anything but steady. For the period 1960 – 71, the highest rate of growth of 10.4 per cent occurred during 1965 and the lowest of 0.2 per cent during 1961. The low growth rate of 1961 was mainly due to a decline in export demand and export prices indicated by the decline in

TABLE 1

G.N.P. AND COMPONENTS (ABSOLUTE FIGURES), MALAYSIA, 1960 – 71

($ million)

Year	Private Consumption Expenditure	Public Consumption Expenditure	Private Invest-ment	Public Invest-ment	Merchandise Trade Surplus	Services Trade Deficit*	G.N.P. at Market Prices
1960	4,224	837	615	210	1,009	– 349	6,546
1961	4,478	911	592	402	511	– 334	6,560
1962	4,694	975	655	554	337	– 310	6,905
1963	4,996	1,130	700	570	283	– 321	7,358
1964	5,233	1,309	753	576	272	– 326	7,817
1965	5,578	1,463	781	630	521	– 341	8,632
1966	5,872	1,661	904	594	553	– 407	9,177
1967	6,221	1,704	1,004	595	475	– 351	9,648
1968	6,423	1,744	1,044	625	637	– 400	10,073
1969	6,723	1,826	948	577	1,464	– 602	10,936
1970	7,095	2,162	1,328	743	935	– 623	11,640
1971	7,477	2,389	1,325	853	677	– 686	12,035

Note: * Includes net factor income payments to abroad.

TABLE 2

ANNUAL PERCENTAGE RATES OF GROWTH OF MAJOR COMPONENTS OF G.N.P., 1960–71

Year	Percentage Change Over the Previous Year in					
	Private Consumption	Public Consumption	Private Investment	Public Investment	Merchandise Exports	G.N.P.
1961	6.0	8.8	−3.9	91.4	−12.2	0.2
1962	4.8	7.0	10.6	37.8	0.7	5.2
1963	6.4	15.9	6.9	2.9	2.1	6.6
1964	4.7	15.8	7.6	1.0	1.6	6.2
1965	6.6	11.8	3.7	9.4	11.8	10.4
1966	5.3	13.5	15.7	−6.1	1.7	6.3
1967	5.9	2.6	11.1	0.1	−3.3	5.1
1968	3.2	2.3	4.0	5.0	10.7	4.4
1969	4.7	4.7	−10.1	−8.3	22.5	8.6
1970	5.5	18.4	40.1	28.8	2.2	6.4
1971	5.4	10.5	−0.2	14.8	−3.1	3.4

TABLE 3
PERCENTAGE CONTRIBUTION OF MAJOR COMPONENTS TO G.N.P., MALAYSIA, 1960-71

Year	Percentage Share in G.N.P. of				
	Private Consumption	Public Consumption	Private Investment	Public Investment	Merchandise Exports
1960	64.5	12.8	9.4	3.2	55.5
1961	68.2	13.9	9.0	6.1	49.3
1962	68.0	14.1	9.5	8.0	47.2
1963	68.0	15.3	9.5	7.7	45.2
1964	66.9	16.7	9.6	7.4	43.2
1965	64.6	16.9	9.0	7.3	43.8
1966	64.0	18.1	9.8	6.5	41.9
1967	64.5	17.7	10.4	6.2	38.6
1968	63.8	17.3	10.4	6.2	40.9
1969	61.5	16.7	8.7	5.3	46.2
1970	61.0	18.6	11.4	6.4	44.3
1971	62.1	19.8	11.0	7.1	41.6

exports as a percentage of G.N.P. (Table 3) from 55.5 in 1960 to 49.3 in 1961. The high growth rate of 1965 was due to the high growth rate of exports. The year 1969 also witnessed a high growth rate of G.N.P. (8.6 per cent) caused essentially by the high rate of growth of exports (22.5 per cent).

The justification for explaining the fluctuating G.N.P. growth rate by means of volatile export growth rate is clear from the data in Table 3 on percentage contribution of each of the G.N.P. components to G.N.P. and the annual rates of these components in Table 2. For example, private consumption demand was generally over 60 per cent of G.N.P. The annual rate of growth of consumption was the least fluctuating, reflecting the influence of an annual rate of growth of population by 3 per cent, and also reflecting consumption growth caused by income growth in some of the years. Thus the fluctuations in G.N.P. growth rate cannot be adequately explained by private consumption component. In terms of a high percentage contribution to G.N.P., next to private consumption was merchandise export; and from the data in Table 2 we can conclude that the G.N.P. growth rate fluctuations have been mainly brought about by the fluctuations in export earnings.

Two aspects, however, should be borne in mind. Firstly, there was the high tempo of public consumption expenditure. From about 13 per cent of G.N.P. in 1960, public consumption expenditure increased to some 20 per cent of G.N.P. in recent years. This increase had some stabilizing influence on G.N.P. Secondly, both private and public investment were extremely volatile. In a planned economy, one would expect private investment to be relatively more fluctuating and public investment to be growing relatively steadily. This was not so in the case of Malaysia where government revenue was tied up with export earnings and where the *laissez-faire* nature of the economy could not curb private consumption, and where probably between public consumption and public investment the latter was the residual claimant. However, in recent years (for example, 1972) public investment acted as a stabilizing force in some of the years when export growth was low or negative.

Growth at Current and Constant Prices

In Tables 1, 2, and 3, all the data are at current market prices. We should, however, also look at growth rates at constant prices. G.N.P. at 1960 prices, exports at 1960 prices, and related data are given in Table 5. From the table we notice that the annual constant price G.N.P. growth rates were not as volatile as the growth rates of G.N.P. at current prices. The average annual growth rates of G.N.P. for two sub-periods are noted in Table 4. Average G.N.P. growth rate at current prices was higher during 1965 – 70 compared to the 1960 – 65 period. But, at 1960 prices, the growth rate was lower during 1965 – 70 than during 1960 – 65.

As for the causes of growth of G.N.P. at constant prices, two significant areas of interest are, firstly, the rates of investment and produc-

TABLE 4
AVERAGE ANNUAL GROWTH RATE

	1960 – 65	1965 – 70
	(%)	
G.N.P. at Current Prices	5.7	6.2
G.N.P. at 1960 Prices	6.3	5.6
Total Consumption at 1960 Prices	6.3	4.1

TABLE 5
GROWTH OF G.N.P., EXPORTS, AND CONSUMPTION (AT 1960 PRICES), MALAYSIA, 1960 – 70

Year	G.N.P. at Current Prices ($ million)	G.N.P. Price Deflator* (1970 = 1)	G.N.P. at 1960 Prices ($ million)	G.N.P. Growth Rate (%)	Major Exports† at 1960 Prices ($ million)	Major Exports to G.N.P. Ratio (%)	Total Consumption Expenditure at Current Prices ($ million)	Consumption Price Deflator* (1960 = 1)	Consumption Expenditure at 1960 Prices ($ million)	Consumption Growth Rate (%)
1960	6,546	1.000	6,546	—	3,032	46.3	5,061	1.000	5,061	—
1961	6,560	0.960	6,833	4.4	3,154	48.1	5,389	1.000	5,389	6.5
1962	6,905	0.955	7,230	5.8	3,201	46.3	5,669	1.003	5,652	4.9
1963	7,358	0.954	7,712	6.7	3,390	46.1	6,126	1.026	5,970	5.6
1964	7,817	0.961	8,134	5.5	3,340	42.7	6,542	1.025	6,382	6.9
1965	8,632	0.972	8,880	9.2	3,591	41.6	7,041	1.024	6,876	7.7
1966	9,177	0.966	9,500	7.0	3,809	41.5	7,533	1.039	7,250	5.4
1967	9,648	0.975	9,895	4.1	3,947	40.9	7,925	1.078	7,351	1.4
1968	10,073	0.979	10,289	4.0	4,573	45.4	8,167	1.084	7,534	2.5
1969	10,936	0.994	11,002	6.9	5,116	46.8	8,549	1.080	7,915	5.1
1970	11,640	0.996	11,686	6.2	5,146	44.2	9,257	1.104	8,385	5.9

Note: * Price deflators obtained by linking the implicit price deflators (1960 = 100 and 1965 = 100) computed from the data in the *First Malaysia Plan, 1966 – 70* and *Second Malaysia Plan, 1971 – 75.*

† Rubber, Tin, Round Timber, Sawn Timber, Iron Ore, Palm Oil, Palm Kernels, Canned Pineapple, Pepper, Copra, and Coconut Oil.

tivity growth (causing capacity expansion) and, secondly, the growth of consumption and exports (causing demand expansion). The ratio of investment to G.N.P. at current prices averaged 15.9 per cent in 1960 – 64 and 16 per cent during 1965 – 69. Thus there was little difference as far as the tempo of investment was concerned. However, productivity improvements occurred in specific spheres, especially the rubber and rice sectors of West Malaysia.[2] In spite of this, the growth rate was low in the second sub-period which could be explained only from the demand side.

On the demand side, we have noted earlier the accelerated growth of public sector consumption demand. The current price data bring out the growth of the ratio of public sector consumption to G.N.P. as follows: the average ratio increased from 15.4 per cent during 1960 – 65 to 17.5 per cent during 1965 – 70. But as far as real consumption is concerned, the growth rate of consumption was lower in the second sub-period. This was due to a slightly higher rate of increase in consumer prices (1½ per cent annually). As for export demand, the export – G.N.P. ratios from constant prices data are given in Table 5. The most remarkable feature is the narrow range of variation in the ratio. The relationship between export growth and G.N.P. growth was significant and stable over time.

We may characterize rubber and tin as Malaysia's traditional exports. In 1960, the value of merchandise exports was $3,633 million.[3] Rubber earned about $2,000 million or more than half of the total merchandise exports. The earnings from tin in 1960 were $507 million. Throughout the period 1960 – 70, rubber and tin retained their first and second place in their contribution to export earnings. Together, rubber, tin, saw logs, sawn timber, crude and partly refined petroleum, and palm oil made up some 80 per cent of total exports. The share of rubber in total exports declined moderately over the 1960 – 70 period because of the expansion of other exports, and the share of tin declined more substantially mainly due to the exhaustion of known deposits. The share of timber and palm oil increased over the period. Timber availability increased due to the opening up of land for development, and palm oil production improved mostly due to the shift from rubber to palm oil

2. See the later sections on West Malaysia.

3. Unless otherwise stated "$" refers to the Malaysian dollar, officially known as the "Ringgit", since June 1973.

which started in the early postwar years to counter the decline in the natural rubber price caused by competition from synthetic rubber. Crude petroleum production was by far concentrated in East Malaysia and the industry had not yet obtained a significant share in total exports.

TABLE 6
GROWTH RATES OF EXPORT VOLUME AND PRICE OF MAJOR EXPORT COMMODITIES, MALAYSIA, 1960 – 70

Commodity	Average Annual Growth Rates			
	1960 – 65		1965 – 70	
	Export Volume	Price	Export Volume	Price
Rubber	2.6	– 8.0	7.2	2.0
Tin	– 0.3	12.9	4.4	– 1.0
Saw Logs	18.0	– 0.3	14.0	5.6
Crude Petroleum	– 6.2	– 3.1	23.0	– 3.2
Palm Oil	8.2	4.2	24.0	0.7

We have noted earlier the divergence between G.N.P. growth at current and constant prices. Part of the explanation can be obtained from the growth rates of volume and price of the major export commodities. From Table 6 we note that during 1961 – 65, rubber prices declined substantially and timber and crude petroleum prices also declined. Export volume increased significantly only in respect of timber and palm oil. During 1966 – 70, rubber prices moved upwards moderately and export volume expanded considerably. We have thus the situation of a slightly higher growth rate in G.N.P. at current prices than the growth rate of G.N.P. at constant prices which was however less than the growth rate during 1961 – 65. It is thus important to note that just as real Gross Domestic Product (G.D.P.) or G.N.P. growth is predominantly determined by export demand, export price fluctuations cause fluctuations in nominal growth rates and these bring about fluc-

tuations in the purchasing power in the hands of the Malaysian citizens.[4] These are all consequences of the high and invariant degree of export orientation of the economy.

Extent of Export Orientation

A remarkable feature of the Malaysian economy has been the near constancy of the export – G.N.P. ratio. For instance, as shown in Table 5, the ratio was within the narrow range of 40 to 45 per cent throughout the period 1960 – 70. What is the special significance of the observed stability of the degree of export orientation? It appears that the maintenance of equilibrium between export-earnings and payments for imports may require the stability in the extent of export-orientation. A simple result to this effect can be derived as follows:

Let Y = total output
Y_d = output for domestic use
Y_x = output for export
C_m = imports of consumption goods
M_d = intermediate and investment goods imports required per unit of Y_d
M_x = intermediate and investment goods imports required per unit of Y_x
M = total imports

(Note: M_d and M_x are constants)

We have

$$Y = Y_d + Y_x \tag{1}$$

$$\triangle Y = \triangle Y_d + \triangle Y_x \tag{2}$$

$$\frac{\triangle Y}{Y} = \left[\frac{\triangle Y_d}{Y_d} \times \frac{Y_d}{Y}\right] + \left[\frac{\triangle Y_x}{Y_x} \times \frac{Y_x}{Y}\right] \tag{3}$$

$$M = C_m + M_d Y_d + M_x Y_x. \tag{4}$$

4. A concept of national income can be formulated which takes into account the effect of changes in terms of trade on the purchasing power of real G.N.P. See the section on West Malaysia.

Balance of trade is achieved when

$$Y_x = C_m + M_d Y_d + M_x Y_x \tag{5}$$

from which we have

$$Y_x (1 - M_x) = M_d Y_d + C_m. \tag{6}$$

Now let consumer goods imports be determined as

$$C_m = kY \text{ where } k \text{ is a constant} \tag{7}$$

from which it follows

$$C_m = kY_x + kY_d \tag{8}$$

From (6) and (8), we have

$$Y_x (1 - M_x) = M_d Y_d + kY_x + kY_d \tag{9}$$

$$Y_x (1 - M_x - k) = Y_d (M_d + k) \tag{10}$$

from which we have

$$\frac{\triangle Y_x}{Y_x} = \frac{\triangle Y_d}{Y_d} \tag{11}$$

If the rate of growth in (11) is "r", then from equation (3) above, we readily note that

$$\frac{\triangle Y}{Y} = \frac{\triangle Y_x}{Y_x} = \frac{\triangle Y_d}{Y_d} = r \tag{12}$$

which shows that the export sector, the domestic sector, and the total economy grow at the same rate. Hence, the degree of export orientation remains stable as long as the parameters assumed as constants remain so. There can be various short-run and transitory stages. Import substitution may create one transition, but even then, once the initial conditions are given, the extent of export orientation may have to remain

stable to avoid problems of unfavourable balance of trade and balance of payments.

Salient Features of West Malaysian Economic Growth, 1947 – 71

Our analysis so far covered Malaysia as a whole and was restricted to the post-1960 period. A study of the growth process would be more rewarding if a longer time-span were considered. Fortunately, it is possible to study the economic growth of West Malaysia over a relatively longer period, namely, 1947 – 71. In 1971, West Malaysian G.N.P. at market prices was little over $10,000 million and the G.N.P. of Malaysia was a little over $12,000 million. West Malaysia thus accounted for 80 per cent of Malaysian G.N.P. Population-wise, West Malaysia accounts for 85 per cent of Malaysia. The importance attributed to West Malaysia in a study of Malaysian economy needs no further elucidation.

For the purposes of the analytical study of economic growth that follows, we make use of the national accounts data for the period 1947 – 71 compiled by the writer.[5]

The West Malaysian G.D.P. at current market prices and at 1959 market prices for the period 1947 – 71 is plotted in Figure 1. In the top panel of the same figure, the terms of trade index is shown. The core data on growth rates of G.D.P. and Gross National Income (G.N.I.) at constant prices for the period 1947 – 71 are given in Table 7.

Terms of trade were generally not in favour of West Malaysia throughout the 1947 – 71 period except on three occasions, namely, 1950/51, 1955, and 1960. It is only during these three years that the current price G.D.P. curve is above the constant price G.D.P. curve. The 1950/51 Korean War boom and the high export prices for West Malaysia's rubber and tin and other primary exports were responsible for the peak in the terms of trade index as well as G.D.P. at current prices. Moderate booms in world demand for rubber and tin also occurred in 1955 and 1960, once again turning terms of trade in West Malaysia's favour. But for these exceptional periods, in all other years G.D.P. at constant prices had to be at a higher level in order to bring about noticeable growth in export earnings and G.D.P. at current prices.

5. V.V. Bhanoji Rao, *National Accounts of West Malaysia, 1947 – 1971* (Singapore: Heinemann, 1976). Hereafter this source will be cited as Rao, *National Accounts, 1947 – 1971*. Relatively detailed and comparable series on G.D.P., G.N.P., and components at current and constant prices are available in this publication. The methods of compilation are explained in detail in the work cited.

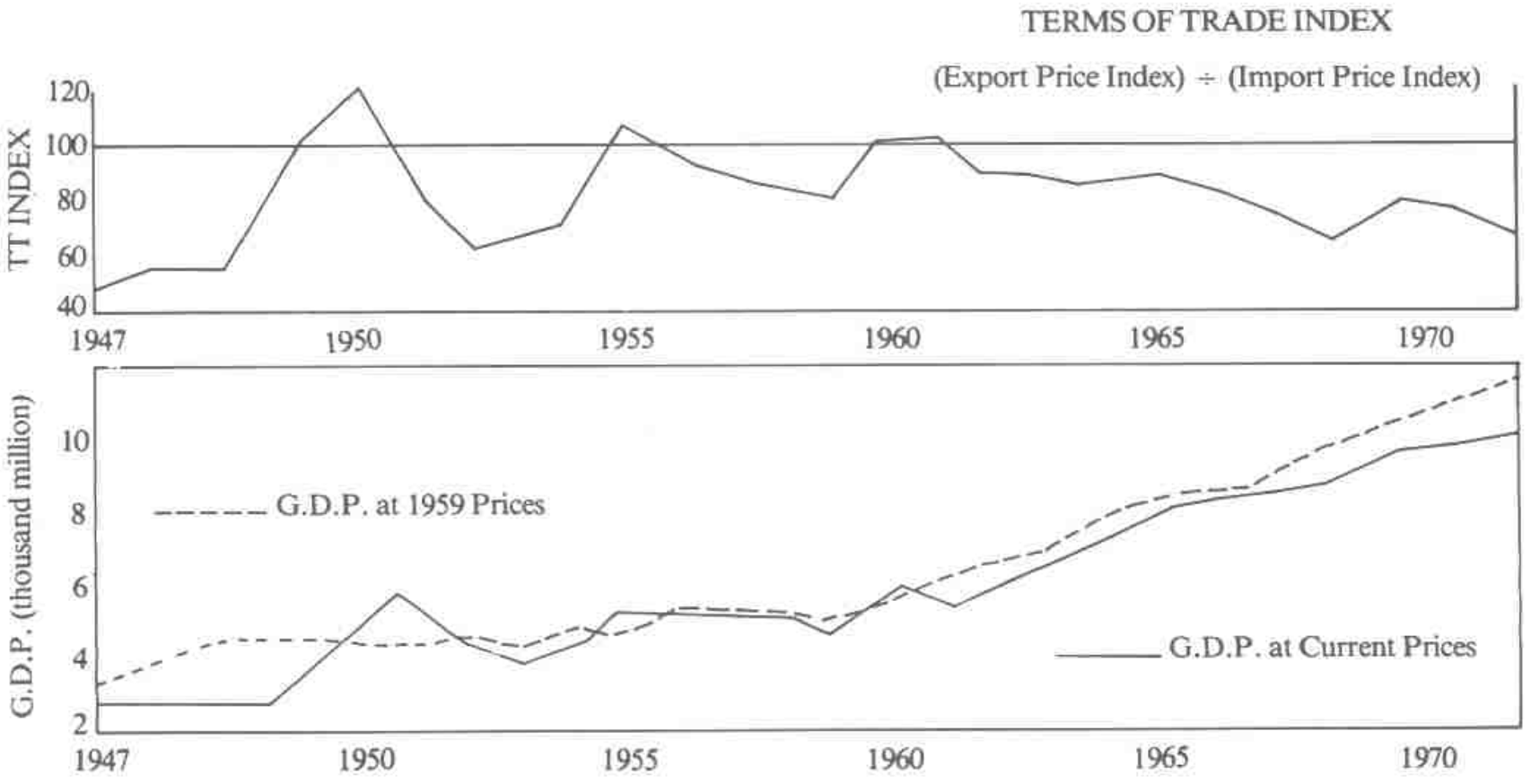

Figure 1. Terms of Trade and G.D.P. at Current and Constant Market Prices, West Malaysia, 1947–1971

TABLE 7

ANNUAL PERCENTAGE GROWTH RATES OF G.D.P., G.N.I., PER CAPITA G.D.P. AND PER CAPITA G.N.I. AT 1959 PRICES AND PERCENTAGE CHANGES IN TERMS OF TRADE, WEST MALAYSIA, 1947 – 71

Year	Percentage Growth Rate Over the Previous Year in				
	G.D.P. at Market Prices	G.N.I. at Factor Cost	Per Capita G.D.P.	Per Capita G.N.I.	Terms of Trade
1948	8.5	6.9	5.7	4.2	14.9
1949	7.1	6.0	4.4	3.4	0.0
1950	3.5	33.8	0.9	30.6	88.9
1951	−3.4	9.4	−5.6	6.6	26.5
1952	2.3	−14.3	−0.1	−16.3	−34.9
1953	0.5	−4.9	−2.0	−7.3	−19.0
1954	6.3	10.2	3.7	7.5	7.3
1955	1.6	7.7	−0.8	5.1	42.5
1956	6.5	3.0	3.9	0.4	−10.6
1957	−0.1	−1.8	−2.5	−4.2	−8.6
1958	−1.7	−2.2	−4.5	−4.9	−4.7
1959	6.3	13.1	3.3	9.7	23.4
1960	7.4	5.7	4.3	2.7	2.0
1961	9.6	3.8	6.6	0.9	−17.6
1962	5.8	6.2	2.8	3.2	−1.2
1963	4.9	3.4	1.9	0.4	−3.6
1964	6.9	8.1	3.9	5.2	1.2
1965	6.3	8.2	3.3	5.1	4.9
1966	5.4	2.1	2.5	−0.9	−5.9
1967	2.2	1.1	−0.8	−1.7	−6.2
1968	9.3	3.0	6.3	0.0	−9.3
1969	6.2	12.4	3.2	9.2	14.7
1970	6.2	6.1	3.3	3.2	−3.8
1971	6.5	0.1	3.5	−2.8	−13.3

Source: Rao, *National Accounts 1947 – 1971*. The methodology of deriving G.N.I. from G.D.P. has been explained in detail in this publication.

G.D.P. at constant prices being a measure of aggregate net output, we may consider the growth of G.D.P. at constant prices in more detail. On the basis of Figure 1 and Table 7 we can identify some broad phases of output growth as shown in Table 8.

The reconstruction phase was short and the process of reconstruction swift. The economy recovered very fast from the total destruction of the Japanese Occupation period. The G.D.P. growth rate was 8.5 per cent during 1947/48, 7.1 per cent during 1948/49, and 3.5 per cent during 1949/50. Once the recovery was achieved, the economy did not move very far in the production front, even though the money income earnings were very high during 1950/51. The high prices for primary products of 1950/51 produced some growth momentum in later years and the economy entered the slow growth phase of 1953 – 58. By 1956 there was considerable thinking in government circles not only about political freedom but also about improving production and productivity. The stable growth phase of 1959 – 71 was the result of a variety of steps taken by the Government and the private sectors. Significant among these were the new planting and replanting of rubber which brought about productivity improvement,[6] the development of oil palm, land development, improvement in yield and output of padi through double-cropping and irrigation,[7] and an increase in the extent of industrialization of the economy. Of note here is the fact that the average annual rate of growth of 6.4 per cent occurred during 1959 – 71 despite the downward trend in terms of trade caused by a declining export price index.

The gross investment to G.D.P. ratio increased substantially during the second phase (1959 – 71) compared to the earlier years, thus creating the conditions for domestic capacity expansion. The investment – G.D.P. ratios and the implicit ICORs are given in Table 9 for the two major sub-periods. During the fluctuating growth phase of 1948 – 58, the investment – G.D.P. ratio amounted to only 7.6 per cent, and this essentially helped the economy to get back to the prewar production levels. In fact, per capita G.D.P. showed little increase when the average growth rate for the entire 1948 – 58 period was considered. In the stable growth phase G.D.P. growth was almost always positive and

6. The yield per acre tapped on rubber estates increased from 746 lb in 1962 to 1,061 lb in 1970. Most of the estate acreage was planted with high yielding seedlings by 1970.

7. The average yield per acre of milled rice increased from 1,145 lb in 1959 to 1,623 lb in 1971.

TABLE 8
GROWTH PHASES OF WEST MALAYSIA, 1947 – 71

Phase/Period	Description	Average Annual Growth Rate (%)*	
		G.D.P.	Per Capita G.D.P.
PHASE I 1948 – 58	Fluctuating Growth	2.8	0.3
(1) 1948 – 50	*Reconstruction*	*6.4*	*3.7*
(2) 1951 – 53	*Stagnation*	*– 0.2*	*– 2.6*
(3) 1954 – 58	*Slow Growth*	*2.5*	*– 0.1*
PHASE II 1959 – 71	Stable Growth	6.4	3.4

Note: See notes to Table 7.

higher than the population growth rate. Capacity expansion during the stable growth phase was partly to meet domestic demand which expanded by an increase in the economic role of the Government.

TABLE 9
I/Y RATIOS AND IMPLICIT ICORs, WEST MALAYSIA, 1948 – 71

Period	Gross Investment (I) to G.D.P. (Y) Ratio (%) (lagged one year)	G.D.P. Growth Rate (%)	Implicit ICOR
1948 – 58	7.6	2.8	2.7
1959 – 71	12.9	6.4	2.0

The average percentage compositions of G.D.P. at constant market prices for the two periods 1947 – 58 and 1959 – 71 are given in Table 10. During the period 1947 – 58, export demand constituted 53 per cent of G.D.P. The percentage declined marginally to 49.5 per cent during the period 1959 – 71. The shares of government consumption and gross domestic investment in aggregate demand were higher during 1958 – 71 than during 1947 – 58. Thus during 1959 – 71, even though export demand at about half the aggregate demand was still the prime mover of growth in demand, government consumption and domestic investment

also helped to boost demand for domestic production. The slight increase in the percentage of import demand in G.D.P. during the period 1958 – 71 was due to the increase in the percentage of investment in G.D.P. and the relatively higher growth rate of G.D.P. necessitating an increase in the share of intermediate and investment goods imports in total imports.[8]

TABLE 10
PATTERN OF AGGREGATE DEMAND, WEST MALAYSIA, 1947 – 58, 1959 – 71

Component of Aggregate Demand	As % of G.D.P. at 1959 Market Prices	
	1947 – 58	1959 – 71
1. Private Consumption	59.2	57.4
2. Government Consumption	10.7	14.7
3. Gross Domestic Capital Formation	7.6	13.0
4. Exports of Goods and Services	53.1	49.5
5. Imports of Goods and Services	30.6	34.6
Total*	100.0	100.0

Note: *Sum of items 1, 2, 3, and 4 less item 5.

8. For Malaysia as a whole, the following information on the composition of imports is notable.

Type of Imported Goods	Percentage Composition of Imports			
	1961	1966	1968	1970
Consumption goods	46.7	39.6	36.2	28.2
Investment goods	17.0	23.5	21.1	26.1
Intermediate goods	27.9	31.8	32.6	36.9
Imports for re-export	7.8	4.9	9.3	8.3
Miscellaneous	0.6	0.2	0.8	0.5
Total	100.0	100.0	100.0	100.0

Source: Bank Negara Malaysia, *Annual Report*, 1972.

We shall round up this discussion on West Malaysian economic growth by considering the growth rates of G.D.P. and G.N.I. The annual growth rates of gross national income at constant prices were given in the third column of Table 7. Annual growth rates of per capita G.N.I. were given in the fifth column of the same table. Considering the 1947 – 71 period as a whole, it can be noticed that the G.N.I. growth rates have been characterized by wide disparities in magnitude and direction. By and large, the changes occurred in the same direction as the changes in terms of trade. The average growth rates in Table 11 bring out clearly the losses in income growth due to terms of trade changes during the different phases of output growth. As noted earlier, during 1947 – 58, the average annual growth rate of G.D.P. was relatively low at only 2.8 per cent. In fact, per capita G.D.P. stagnated. However, largely due to the high export prices of 1950/51 and 1955, the average annual growth rate of G.N.I. was 4.9 per cent. This meant that per capita income increased by 2.3 per cent even in the face of stagnation of per capita output. This type of income growth through fortuitous circumstances cannot of course be characterized as economic growth.

TABLE 11
AVERAGE ANNUAL GROWTH RATES OF G.D.P., G.N.I., AND PER CAPITA G.N.I. AT CONSTANT PRICES, WEST MALAYSIA, 1947 – 71

Period	Average Annual Percentage Growth Rate of		
	G.D.P.	G.N.I.	Per Capita G.N.I.
1947 – 58	2.8	4.9	2.3
1959 – 71	6.4	5.6	2.6

We noted earlier that during 1959 – 71, output growth was relatively stable. However, the fact that about half the output was produced for export had its repercussions on income growth due to the transmission of business cycles from the trading partners into West Malaysia. The growth rate of G.N.I. on the average was less than the growth rate of

G.D.P. Per capita income did increase, though at different rates during the different sub-periods. It could not have increased, in the face of adverse terms of trade, if G.D.P. did not grow at a sufficiently high rate to compensate for the growth rate of population and the rate of decline in terms of trade.[9]

Pattern of Exports: West Malaysia

The percentage composition of exports is given in Table 12. It is clear from the table that more than 80 per cent of the export earnings were obtained from a few primary products. Throughout the period, rubber and tin were the chief export earners. The percentage contribution of rubber to export earnings was on the decline from 1960, a trend brought about by declining rubber prices. In the post-1960 period, the contribution to export earnings from tin was maintained at a level of 20 to 25 per cent. The export earnings from timber have increased relatively faster. From less than 0.5 per cent in 1947, the contribution of timber export earnings increased to 5.9 per cent in 1970.

The data on composition of exports in Table 12 can be used to compute the index of commodity concentration of exports. Values of the index are given in the last column of Table 12. The index known as the

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9. Kenneth E. Boulding, in his *Economic Analysis, Vol. 1: Micro-economics* (New York: Harper & Row, 1966), p. 42, gives the following equation for per capita income:

$$y = \frac{L_d P_d + L_e P_e T + G}{L_n + L_d + L_e}$$

where y = per capita income
L_n = population outside the labour force
L_d = labour force in the production sector for domestic use
L_e = labour force in the production sector for export
P_d = labour productivity in the first sector
P_e = labour productivity in the second sector
T = terms of trade (imports per unit of exports)
G = net receipts from gifts and transfers.

Other things given, fluctuations in T will bring about fluctuations in y. Since T and G are unlikely to have a permanent increasing trend, a lasting increasing trend in y can come only through an increasing trend in P_d and P_e.

TABLE 12
PERCENTAGE COMPOSITION OF MERCHANDISE EXPORTS AND INDEX OF COMMODITY CONCENTRATION, WEST MALAYSIA, 1947 – 70

Year	Rubber	Palm Oil	Palm Kernels	Pine-apple	Copra	Coconut Oil
1947	70.30	2.30	0.11	n.a.	0.36	1.63
1948	60.91	2.83	0.10	n.a.	0.97	2.26
1949	50.00	3.06	0.29	n.a.	0.85	3.46
1950	69.43	1.23	0.17	n.a.	0.78	2.14
1951	72.35	1.17	0.20	n.a.	0.49	2.33
1952	60.31	2.10	0.21	n.a.	0.42	1.10
1953	56.01	1.93	0.36	0.69	0.56	3.43
1954	55.52	1.94	0.33	0.90	0.48	3.41
1955	66.78	1.53	0.19	0.74	0.08	2.13
1956	60.86	1.90	0.23	0.86	0.12	2.50
1957	59.77	2.90	0.27	0.91	0.45	2.17
1958	63.53	2.52	0.42	1.31	0.40	2.15
1959	69.54	2.09	0.37	0.87	0.54	1.20
1960	62.49	2.07	0.38	0.90	1.18	0.82
1961	54.93	2.33	0.27	1.00	0.72	1.05
1962	52.08	2.48	0.26	1.08	0.37	0.84
1963	50.80	2.55	0.27	1.09	0.48	0.81
1964	46.87	2.90	0.26	0.20	0.12	0.43
1965	44.10	3.42	0.28	1.31	0.33	0.53
1966	44.74	3.79	0.30	1.41	0.23	0.64
1967	41.66	3.79	0.30	1.50	0.05	0.78
1968	40.44	3.63	0.44	1.50	0.06	0.17
1969	47.60	3.50	0.30	1.90	0.03	0.51
1970	39.68	5.83	0.20	1.04	0.01	0.93

Note: * Biased upwards due to the treatment of "other exports" as a single commodity.

Sources: *Monthly Statistical Bulletin of the Federation of Malaya* (various issues).
Monthly Statistical Bulletin of West Malaysia (various issues).

TABLE 12 *(cont.)*

Timber	Tin Metal	Tin in Concentrates	Iron Ore	Others	Total	Index of Commodity Concentration*
0.46	13.63	n.a.	—	11.21	100.00	72.53
0.46	11.58	8.19	0.05	12.65	100.00	63.91
0.66	12.98	11.74	0.57	16.39	100.00	55.65
0.70	10.29	6.66	0.36	8.24	100.00	71.04
0.62	9.50	7.18	0.50	5.66	100.00	73.58
0.89	13.10	9.93	1.09	10.85	100.00	63.50
1.25	13.77	10.16	1.28	10.56	100.00	59.68
1.09	13.58	11.25	1.31	10.19	100.00	59.30
1.10	9.75	8.53	1.37	7.80	100.00	68.55
1.32	15.05	5.79	2.26	9.11	100.00	63.76
1.34	14.61	5.53	3.00	9.05	100.00	62.63
1.69	12.54	2.02	3.32	10.10	100.00	65.77
1.32	11.89	0.18	4.03	7.97	100.00	71.16
1.89	17.27	0.05	4.79	8.16	100.00	65.60
1.58	20.95	0.11	6.24	10.82	100.00	60.18
1.81	23.47	0.15	6.33	11.13	100.00	58.63
2.39	23.60	0.16	6.52	11.33	100.00	57.65
3.11	25.99	0.20	5.84	13.08	100.00	55.64
2.96	27.87	0.23	5.20	13.77	100.00	54.42
3.18	24.98	0.40	4.37	15.96	100.00	54.09
4.43	25.48	0.40	4.18	17.43	100.00	52.37
5.67	25.50	0.29	3.44	18.86	100.00	51.96
5.11	22.87	0.19	2.84	15.15	100.00	55.39
5.94	23.99	0.18	2.49	19.71	100.00	51.14

Gini-Hirschman Coefficient of Commodity Concentration[10] is computed as

$$100\sqrt{\left[\Sigma\,(P_i)^2\right]}$$

where P_i is the proportional contribution of commodity i to total exports. If a country exports only one commodity, then $P = 1$, and the index will be 100. If a country exports n commodities and if all the commodities contribute equal shares to export earnings, then the index will be 100 $\sqrt{(1/n)}$ which becomes insignificant, though not zero, as n becomes large.

In a study of 44 countries with 1954 data, Michael Michaley[11] found that the index was 31.1 for developed countries and 55.1 for underdeveloped countries. From the last column of Table 12, we note that the index of commodity concentration was very high in the early postwar years and the secular decline in the index was a post-1960 phenomenon. While it is tempting to conclude that West Malaysia has diversified its exports substantially in recent years, this is not entirely the case since the index of concentration is very much affected by variations in export prices. When the index was recalculated with all exports measured at 1959 prices, it varied little from year to year, hovering around a 60 per cent level. In spite of this high level of commodity concentration of exports, there did occur a modest change in the pattern of exports as the data in Table 12 point out.[12] Though most of the export earnings still come from either primary products directly or from processing of primary products, there has been an increase in the contribution from manufacturing (excluding processing of primary products) in recent years. Manufacturing exports are mainly from the following industries: food products, textiles, wood and cork products, rubber products, and metal products.

Labour, Capital, and Growth: West Malaysia

In recent years, a method of analysis of the determinants of economic

10. The term and the formula are adopted from Michael Michaley, *Concentration in International Trade* (Amsterdam: North Holland Publishing Co., 1962). The formula has also been used in I-Shuan Sun, "Trade Policies and Economic Development in Taiwan", *in Economic Interdependence in South East Asia*, ed. Theodore Morgan and Nyle Spolstra (Madison, Wis.: University of Wisconsin Press, 1969), pp. 99 – 123.
11. Michaley, *Concentration in International Trade*, p. 16.
12. Note the recent rapid increase in "other exports".

growth based on the neo-classical production function has become popular.[13] For instance we may assume an aggregate production function of the Cobb-Douglas type with constant returns to scale:[14]

$$Y = A\, e^{\alpha t} (K)^{\beta} (L)^{1-\beta}$$

where Y is output, K is capital input, and L is labour input.

Taking logarithms both sides and differentiating with reference to time, we obtain

$$\frac{dy}{y} = \alpha + \frac{\beta dK}{K} + \frac{(1-\beta) dL}{L}$$

In this equation, if we know $d\dot{K}/K$, dL/L, and β, we can then arrive at a decomposition of dy/y into growth rate due to capital input, growth rate due to labour input, and α the residual.[15] β can be estimated by formal regression analysis if a statistical series is available on Y, K, and L. Where such a series is absent, an approximation to $(1 - \beta)$ may be obtained as the share of labour income in total national output.[16]

The application of the production function approach to the data on advanced countries has led to two principal findings which are that growth of capital stock accounts for less than a quarter of G.D.P. growth and that improved resource allocation and technological change

13. For a very recent study incorporating this type of analysis, see Edward F. Denison and William K. Chung, *How Japan's Economy Grew So Fast* (Washington: Brookings Institution, 1976). The authors emphasize five major sources of growth for Japan: increase in labour, increase in capital, the reallocation of labour from agriculture and self-employment, improvements in technology, and economies of scale.
14. An extensive discussion on the derivation and the properties of various forms of production functions can be found in Murray Brown. *The Theory and Measurement of Technological Change* (Cambridge: Cambridge University Press, 1968).
15. Popularly known as Abramovitz residual. Moses Abramovitz himself called it "some sort of measure of our ignorance about the causes of economic growth" in his "Resource and Output Trends in the United States since 1870", *Papers and Proceedings of the American Economic Association* 46 (1956): 5 — 23. The residual arises due to factors other than conventionally measured labour and capital.
16. The approximation requires that the economy is working under conditions of perfect competition, rules of profit maximization, etc. A discussion of these assumptions is available in Brown, *Technological Change*.

typically account for half of the G.D.P. growth.[17] In a study of U.S. economic growth during 1929–57, Denison found that 27 per cent of total growth was explained by the rate of growth of labour input, 15 per cent by the rate of growth of capital stock, and the remaining 58 per cent was attributed to improved education, improved technology, etc.[18] The case of developing countries seems quite different. According to Chenery, "capital accumulation has typically been shown to account for 40 to 50 per cent of total growth in developing countries".[19]

With whatever available data on West Malaysia, we proceed to conduct the empirical exercise of identifying the sources of growth during the stable growth phase of 1959–71. The following growth rates are assumed in respect of labour, capital, and G.D.P.:

Average annual growth rate of labour input (dL/L) = 2.5 per cent.[20]

Average annual growth rate of capital stock at constant prices (dK/K) = 8 per cent.[21]

Average annual growth rate of G.D.P. at constant prices (dy/y) = 6.4 per cent.

In addition to the above data, we require information on the share of labour in total output. From national accounts data, it was found that the average share of wages and salaries in G.D.P. at factor cost during

17. H.B. Chenery, "Growth and Structural Change", *Finance and Development* 8, 3 (1971): 20. Details on studies relating to OECD and other advanced countries are available in Edward F. Denison, *Why Growth Rates Differ* (Washington: Brookings Institution, 1967).
18. Edward F. Denison, *The Sources of Economic Growth in the United States and the Alternatives Before Us*, Supplementary Paper No. 13 (Washington: Committee for Economic Development, 1962).
19. Chenery, "Growth and Structural Change".
20. On the basis of employment data in D.R. Snodgrass, "The Growth and Utilisation of Labour Supply in West Malaysia" (Unpublished paper, Kuala Lumpur, 1972) and the First and Second Malaysia Plan reports, the average annual growth rate for the period 1957–70 works out to 2.5 %.
21. The basic data required here are a series on capital stock at constant prices. The only series available are for the period 1959–66 in W.I. Abraham and M.S. Gill, "The Growth and Composition of Malaysia's Capital Stock", *Malayan Economic Review* 14, 2 (1969): 48. In this paper , there are two sets of capital stock series, the first giving an average growth rate of 7.8% and the second giving 7.6%. With regard to the increase in the tempo of investment in the later years, for the period 1959–71 as a whole, we may assume the average growth rate of capital stock to be 8%.

1959–68 was 44 per cent. The data at our disposal give the results shown in Table 13. The apparent conclusion with regard to the growth of G.D.P. is that of the average growth rate of 6.4 per cent, 70 per cent (4.5 out of 6.4) has been due to increase in capital stock, 17 per cent due to increase in labour input, and 13 per cent attributable to other factors.[22]

TABLE 13
AVERAGE ANNUAL GROWTH RATE OF G.D.P. 1959–71

G.D.P. growth attributable to growth of capital stock	$= \frac{\beta (dK)}{K} = (8 \times 0.56)$	$= 4.5$
G.D.P. growth attributable to growth of labour input	$= (1 - \beta) \left(\frac{dl}{L}\right) = (2.5 \times 0.44) =$	1.1
G.D.P. growth, residual		$= 0.8$
	Total	$= 6.4$

22. These other factors include capacity utilization, education, organization, technology, etc. Apart from the weak data base of the above exercise, since a minor and insignificant portion is attributable to the other factors, excessive investment in higher education may not contribute significantly to growth. In this context, it may be noted that the social returns to higher education are somewhat lower than the returns to secondary level education in West Malaysia. The results based on data for 1967/68 are available in O.D. Hoerr, "Education, Income and Equity in Malaysia" (Unpublished paper, June 1970). Yet another aspect may be noted. One of the general observations made by Chenery, "Growth and Structural Change", was that the residual in developing economies generally accounted for no more than 2% of their rate of growth. In our case we obtained 13%. This somewhat higher proportion may well be due to the improvements in productivity in rubber and rice sectors. A disaggregated study is not feasible due to paucity of sectoral capital stock data.

While the numerical accuracy of the above exercise can be a point of doubt,[23] it is sufficient to show the importance of a high rate of capital accumulation to foster the process of economic growth in a developing country like Malaysia.

23. There are limitations to the approach too. The stringent assumptions of perfect competition are never fulfilled. The existence of surplus labour would put a question on the meaning of the "growth of labour input". There are also conceptual problems in the definition and measurement of capital stock. In the specific case of West Malaysia, capital stock in the nature of "planted acreage" may grow, but yield may come after some years. The model has not taken into account the heterogeneity of capital. A discussion of the limitations of the simple approach and corrections required in measurement are given in Z. Griliches and D. Jorgenson, "The Explanation of Productivity Change", *Review of Economic Studies* 34, 3 (1967): 249 — 83.

2. *Structure Of Output and Employment*

Following the lines of the international analysis of Professor Simon Kuznets reported in his *Modern Economic Growth,*[1] it may be stated that the study of development pattern encompasses the examination and appraisal of temporal shifts in the structure of production, pattern of product use, distribution of income, and allocation of resources.[2] The pattern of product use has been studied in Chapter 1, where we have considered the composition of G.D.P. in terms of aggregate demand components. In this chapter, we study the change in (1) the structure of production, that is, the sectoral composition of gross domestic product at factor cost; (2) the distribution of income, essentially the changes in the distribution of income between labour and capital; and (3) the allocation of resources, the discussion being restricted to the analysis of employment structure due to paucity of data on sectoral composition of

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1. S. Kuznets, *Modern Economic Growth: Rate, Structure and Spread* (New Haven and London: Yale University Press, 1966). A brief report of findings is also given in his *Six Lectures on Economic Growth* (New York: Free Press, 1959). The findings were updated recently in his *Economic Growth of Nations: Total Output and Production Structure* (Cambridge, Mass: Harvard University Press, 1971). Two important predecessors of Kuznets who also considered the structure of employment and output in relation to economic growth were A.G.B. Fisher and Colin Clark. Fisher's works on the subject include "Economic Implications of Material Progress", *International Labour Review*, July 1935, pp. 5–18; "Production: Primary, Secondary and Tertiary", *Economic Record*, June 1939, pp. 24–38; and a larger investigation dealing with structural change, namely, *Economic Progress and Social Security* (London: Macmillan, 1946). Clark's study was a very comprehensive one covering not just the study of employment and output composition, but various other quantifiable aspects related to economic growth and economic development. "The distribution of labour between industries" was just one of the several chapters of his volume, *The Conditions of Economic Progress*, 3rd ed. (London: Macmillan, 1957).
2. The data of Kuznets on developed countries spread over several decades. For comparison of developed with underdeveloped countries, Kuznets used data for the 1950s.

capital stock and investment. With regard to the study of production structure, we consider a comparison of the production structure of West Malaysia and East Malaysia, the trends in East Malaysian production structure in the post-1960 period and the trends in West Malaysian production structure in the postwar period. An econometric analysis of the West Malaysian production structure and a comparison with the structure of other primary export-oriented countries also come under the study.

Changes in Production Structure

The term "production structure" refers to the sectoral composition of total value added or G.D.P. at factor cost. On the basis of a classification of all economic activities into agriculture, industry (including mining), and services, the established fact is that in the course of economic growth, over a long period of time, there come about significant changes in the shares of agriculture and industry in total product. Kuznets found that in the developed countries, the pre-modern share of the agricultural sector in total product was a half or more and the share declined over time in most countries.[3] In the underdeveloped countries the share of the agricultural sector in the 1950s was well over 40 per cent. In most of the developed countries the share of the industry sector in total product rose from about 20 per cent in the early phases of development to about 50 per cent in the 1950s, at which time the share of the sector was less than a quarter in underdeveloped countries. The movements in the share of the services sector are neither marked nor consistent. The share of service sector output is about the same in the 1950s in the underdeveloped and developed countries — 33 per cent and 35 per cent respectively. The explanation for the relatively lower growth of output per capita in agriculture and the relatively faster growth of output per capita in industry in the developed countries is in terms of the low long-term income elasticity of demand for food and other agricultural products and the high elasticity for non-agricultural products and services. This causative explanation is based essentially on the operation of the well-known Engel's law.[4]

3. The exception was Australia. "Apparently, the highly developed, capital-intensive agriculture of Australia was able to maintain its share because of the network of close relations with the more industrialized mother country", Kuznets, *Modern Economic Growth*, p. 96.

4. "It is well known that the Prussian Statistician Ernst Engel discovered the uniformity that, with the growth of income above a certain minimum, con-

Kindleberger feels that Engel's law applies to a wider variety of goods than just consumption goods alone.[5] Thus if economic growth were to be on the basis of a constant basket of goods, there is a limit to growth. Especially in a closed economy, "without new goods, and without new entrepreneurs to arrange the transfer of capital and labour into their production, economic development must slow down with the decline of demand for old products."[6] Further, "the demand pattern for any new good which wins public acceptance is likely to show a slow rate of increase as this acceptance is being won, a high income-elasticity in the middle stages, and thereafter a decline in income-elasticity as the physical limit of consumption is approached".[7]

Just as the argument goes from demand saturation to the need to introduce new goods, the causative explanation can be approached from the supply side as well; for a major source of the shifts in industrial structure was identified by Kuznets as technological change.[8] The argument is that additions to useful knowledge result in the creation of a new product, of a new process, or of a new way of using raw materials, and thus provide the basis for a new industry; and since a new industry usually grows for a long while at rates much higher than those of older industries, the shifts in industrial structure also continue.

Having noted the general framework for the assessment of changes in production structure we now proceed with our Malaysian case study. Throughout the present chapter, unless otherwise stated, we adopt the following classification of economic activities. *Primary sector* includes agriculture, livestock, forestry, fishing, mining, and quarrying. *Secondary sector* refers to manufacturing and construction. In the *tertiary sector,* the activities grouped together are utilities, transport, storage, communications, wholesale and retail trade, banking, insurance, real estate, ownership of dwellings, public administration, and defence and all other services.

Production Structure: West Malaysia and East Malaysia

The percentage contribution to G.D.P. in 1971 of each of several.

– – sumption of food decreases as a percentage of income, even though the absolute amount of food consumption increases." — Charles P. Kindleberger, *Economic Development,* 2nd ed. (New York: McGraw-Hill, 1965, pp. 168 — 69).

5. Kindleberger, *Economic Development,* p. 169.
6. Ibid., p. 170.
7. Ibid., p. 169.
8. Kuznets, *Modern Economic Growth,* p. 155.

TABLE 14
PERCENTAGE SECTORAL COMPOSITION OF G.D.P. AT FACTOR COST, MALAYSIA, 1971

Sector of Economic Activity	Percentage Contribution to G.D.P.	
	West Malaysia	East Malaysia
Agriculture and Livestock Production	23.6	17.6
Forestry and Logging	1.6	21.9
Fisheries	3.0	2.8
Mining and Quarrying	5.6	7.1
Total Primary Sector	33.8	49.4
Manufacturing	15.6	5.3
Construction	3.6	6.3
Total Secondary Sector	19.2	11.6
Electricity, Water, and Sanitary Services	2.8	1.2
Transportation, Storage, and Communications	4.1	5.0
Wholesale and Retail Trade	14.4	11.6
Banking, Insurance, and Real Estate	2.3	1.1
Ownership of Dwellings	4.2	5.5
Public Administration and Defence	7.4	5.4
Other Services	11.8	9.2
Total Tertiary Sector	47.0	39.0
All Sectors — Total	100.0	100.0
G.D.P. at Factor Cost ($ Million)	8,835	1,810
G.N.P. at Factor Cost ($ Million)	8,671	1,787
Population (Estimate for 1971 in thousands)	9,384	1,684
Per Capita G.N.P. at Factor Cost ($)	924	1,061
Exports as % of G.D.P. at Market Prices	36.8	70.0

Sources: (1) *National Accounts, 1960 – 1968.*
(2) Population estimate based on 1970 Census data and the geometric growth rate for 1960 – 70. See also notes to Table 15.

economic activities and the levels of per capita income in West Malaysia and East Malaysia are shown in Table 14. The following observations can be made. Firstly, in 1971, the per capita G.N.P. of East Malaysia ($1,061) was 14.8 per cent higher than that of West Malaysia ($924).[9] Secondly, the contribution to G.D.P. from the primary sector in East Malaysia (49.4 per cent) was much higher than the contribution of this sector to West Malaysian G.D.P. (33.8 per cent). Thirdly, the secondary and tertiary sector contribution to G.D.P. was higher in West Malaysia than in East Malaysia. Finally, the extent of export orientation of East Malaysia was almost twice that of West Malaysia. Thus even though the per capita income was higher in East Malaysia, this was almost entirely derived from the exports of a few primary commodities especially timber, petroleum, rubber, and pepper.[10] Thus manufacturing activity was of insignificant importance in terms of G.D.P. composition. Most of the service industries were export supporting. It is possible that the impact of high income was not felt on domestic manufacturing and service sectors for two reasons: the first relates to the small size of the market[11] and the possible diseconomies of establishing industries, and

9. East Malaysian income per capita being higher than that of West Malaysia is only a recent phenomenon. Though precise data were not available for several years, we may note that in 1961, G.N.P. per capita of West Malaysia of $791 was much higher than that of East Malaysia which was $582. These estimates are from the statistical appendix *of Report on the Economic Aspects of Malaysia* (by a Mission of the I.B.R.D. under the chairmanship of Jacques Rueff), Singapore, 1963.

10. Timber and rubber accounted for 72% and 8% respectively of gross merchandise export earnings of Sabah in 1969. Petroleum, timber, and pepper accounted for 49%, 30%, and 8% respectively of gross merchandise exports of Sarawak in 1969. The basic data are from *Annual Bulletin of Statistics, Sabah, 1969* and *Annual Bulletin of Statistics, Sarawak, 1970.* It must be emphasized that we are referring here to gross exports which include re-exports. In the case of Sarawak, petroleum exports were mostly re-exports. Crude petroleum was piped into Sarawak from Brunei, and Sarawak re-exported the petroleum either in crude form or partly or fully refined form. Sarawak's own production of crude oil stagnated around 50 to 60 thousand long tons during the postwar period up to 1967. With the discovery of new sources and starting of production at West Lutong in mid-1968, production increased to 0.4 million long tons in 1969 and 0.8 million long tons in 1970. The prospects are that Sarawak's domestic exports of crude and refined petroleum will increase rapidly in the future.

11. The population of East Malaysia (Sabah and Sarawak put together) in 1971 was only 1.7 million. The total area is over 77 thousand square miles; and 16% of the total population live in the six principal towns (Sandakan, Kota Kina-

the second relates to income distribution implying that a higher per capita income might be coexistent with highly uneven distribution of income.[12]

Recent Trends in Production Structure: East Malaysia

The sectoral composition of G.D.P. at current prices[13] for East Malaysia is given in Table 15 for 1961 and 1967 through 1971. The 1971 per capita G.D.P. was about 1.9 times that of the 1961 level; yet, there was little change in the production structure of 1971 compared to 1961.

– – balu and Tawau of Sabah and Kuching, Sibu, and Miri of Sarawak), while the remaining 84% of population are thinly distributed over a large geographical area.

12. There is no data on income distribution for East Malaysia. Employment figures for 1960, however, broadly prove our point. In Sabah in spite of the prominence of timber exports, only 5% of the total labour force were employed in this sector. However, some 75% were employed in all other primary activities. A high proportion of labour force (44%) were found in the rice sector. The situation was worse in Sarawak. In 1960, petroleum absorbed only 0.5% and timber only 1.2% of total labour force, while 58% of labour force were absorbed by the rice sector. The basic data on employment are from L. W. Jones, *Report on the Census of Population, 1960*, Kuching, 1962. There is yet another piece of evidence that can be produced in regard to income disparity in Sarawak. The following table reflects the sectoral income disparity.

Industry	Employment 1960 ('000)	Value Added 1961 ($'000)	Value Added per Worker* ($)
Rice	169.7	22	130
Forestry and Logging	3.5	31	8,857
Other Agriculture and Fishing	62.0	132	2,129
Mining and Quarrying	2.4	34	14,167
Manufacturing	11.5	33	2,869
Construction	4.6	10	2,174
Others	40.6	147	3,621
Total	294.3	409	1,390

Note:* The figures are useful only to bring out the disparities in the value added per worker by sector. The estimates have an unknown margin of error because employment data are for 1960 and value added data for 1961. The sectoral value added data are from the *Report on Gross Domestic Product and Gross Capital Formation for the Year 1961*, Kuching, 1963. A table similar to the one above may also be found in *Malaysia — Sarawak, Development Plan, 1964 — 1968*, Kuching, 1963, p. 17.

13. Constant price data are not available and because of paucity of suitable data, no attempt has been made to compile the constant price series.

This observation is valid, however, only with regard to the three broad categories of economic activities — primary, secondary, and tertiary. There could well have been intra-sectoral changes, evidence of which is rather difficult to obtain. A few aspects of structural change within the primary sector may be noted on the basis of data on production and exports.[14]

Export of timber from Sabah increased by leaps and bounds during the postwar period. In 1951 the timber export was 18,300 tons (of 50 cubic feet).[15] The figure for 1969 was a staggering 3.4 million tons. In contrast, rubber exports stagnated during the postwar period up to 1967. An important reason for the stagnation is the fact that replanting with high yielding materials for 1961 – 69 showed a downward trend for yearly figures on acreage new planted and the acreage replanted even though there were marginal increases in the cumulated acreage under high yielding materials. At the end of 1960, only 40 per cent of the total acreage was planted with high yielding materials. At the end of 1969, of the total acreage under rubber (261,000 acres) 62 per cent was planted with high yielding materials. Improvement in rubber output and export of recent years will therefore continue in future.[16] As for other primary sector activities, rice output fluctuated from year to year, but a remarkable increase took place in oil palm production and export. Palm oil exports started in 1963 with an export of only 56 tons, but by 1969, 25,500 tons were exported. Fisheries has been another growing activity.[17] We can thus summarize that currently the leading sectors of Sabah are timber, oil palm, and fisheries. The important point to note is that, in spite of the changes within the primary sector from time to time, the sector as a whole has continued to be the growth leader.[18]

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14. The data are from *Annual Bulletin of Statistics, Sabah* and *Annual Bulletin of Statistics, Sarawak*, various issues.
15. It is not inappropriate to mention here the structure of land resources as it exists at present. Of the total area of 29,388 square miles, 10,633 square miles is under "reserved forests" and 12,687 square miles is under "other state forests". Of this 23,350 square miles forest area, 8,000 square miles is classified as "inaccessible dipterocarp".
16. Between 1955 and 1967 rubber exports fluctuated within the range of 19,000 to 23,000 tons. Exports in 1968 and 1969 amounted to 24,500 and 29,400 tons.
17. Fish catch increased from around 20,000 tons in the early 1960s to 34,000 tons in 1969.
18. If data at constant prices for sectoral G.D.P. were available, we would probably have found an increase in the percentage contribution from the primary sector.

The case of Sarawak in general is no different from Sabah even though changes in the production structure are qualitatively different from those of Sabah. Thus while the primary sector is always of importance, there have been considerable changes within the sector. These include the stagnation or reduction in output of rubber and bauxite,

TABLE 15
PERCENTAGE SECTORAL COMPOSITION OF G.D.P. AT FACTOR COST, EAST MALAYSIA, 1961, 1967 – 71

Sector of Economic Activity	1961	1967	1968	1969	1970	1971
Primary	50.5	46.4	46.8	48.0	47.2	49.4
Secondary	9.5	10.7	11.1	11.3	10.1	11.6
Tertiary	40.0	42.9	42.1	40.7	42.7	39.0
Total — All Sectors	100.0	100.0	100.0	100.0	100.0	100.0
G.D.P. at Factor Cost ($ Million)	713	1,312	1,418	1,569	1,668	1,810
Population ('000)	1,236	1,488	1,534	1,582	1,632	1,684
G.D.P. Per Capita ($)	577	882	924	992	1,022	1,075

Sources:

(1) 1967 – 71: *National Accounts, 1960 – 1968.*

(2) For 1961, the estimates are mere approximations supported by data in the following sources:
(a) *National Accounts, 1960 – 1966.*
(b) Chen Fu-Sen, "The National Income of North Borneo, 1956 – 1958" (Ph. D. diss., University of London, 1962), p. 230.
(c) Government of Sarawak, *Report on Gross Domestic Product and Gross Capital Formation for the Year 1961,* Kuching, 1963.
From (a), we have the G.D.P. at market prices for Sabah and Sarawak. From (b) and (c) we have the composition of G.D.P. We have made minor adjustments to arrive at G.D.P. at factor cost and its composition for 1961.

(3) The population estimates are derived separately for Sabah and Sarawak and then summed up. The estimates are based on the 1960 and 1970 Census population totals and the derived inter-censal population growth rates. During 1960 – 70, Sabah's population growth rate was 3.72% per annum. Sarawak's was 2.76%. Both rates were geometric growth rates.

TABLE 16

SECTORAL COMPOSITION OF G.D.P. AT 1959 FACTOR COST, WEST MALAYSIA, 1947 – 71

Year	Percentage of total G.D.P. originating from:		
	Primary Sector	Secondary Sector	Tertiary Sector
1947	49.4	6.4	44.2
1948	50.0	7.5	42.5
1949	51.4	7.2	41.4
1950	51.4	8.3	40.3
1951	49.9	8.3	41.8
1952	49.6	8.7	41.7
1953	48.3	8.3	43.4
1954	46.8	8.3	44.9
1955	52.9	9.5	37.6
1956	49.6	9.5	40.9
1957	49.8	9.2	41.0
1958	48.9	8.9	42.2
1959	48.6	9.2	42.2
1960	50.9	10.2	38.9
1961	48.0	10.1	41.9
1962	46.3	10.9	42.8
1963	45.5	11.2	43.3
1964	43.5	11.8	44.7
1965	44.3	12.3	43.4
1966	45.2	12.4	42.4
1967	45.3	12.9	41.8
1968	45.9	13.0	41.1
1969	46.0	12.8	41.2
1970	45.6	12.9	41.5
1971	45.0	13.2	41.8

Source: Rao, *National Accounts, 1947 – 1971.*

sporadic or marginal improvements in the production of rice and pepper, gradual increase in output of timber, and a tremendous increase in recent years (94 per cent during 1969/70 and 282 per cent during 1970/71) in the production of crude petroleum. Much of the recent economic growth of Sarawak is attributable to timber and crude petroleum.[19]

Postwar Trends in Production Structure: West Malaysia

Data on the sectoral composition of G.D.P. for West Malaysia for the 1947 – 71 period are given in Table 16. A summary of the production structure for the two sub-periods 1947 – 58 and 1959 – 71 is provided in Table 17. Compared to the first period, the share of the primary sector in G.D.P. is smaller in the second period, and the share of the secondary sector is larger. Rubber planting and mining, two traditional export activities, had relatively lower shares during 1959 – 71 than during 1947 – 58. In the primary sector, activities other than rubber planting and mining had a slightly higher share in G.D.P. during 1959 – 71 than during the earlier period. In recent years, timber, oil palm and fishing have registered very high growth rates of output.[20] In the secondary sector, manufacturing other than rubber processing and construction improved their shares in G.D.P. during 1959 – 71 compared to 1947 – 58. The manufacturing sector received a "big push" in 1958 with the inauguration of the Pioneer Industry policy. Under this

19. According to the estimates of G.D.P. at market prices for 1955 made by K.R. Chou, the percentage contribution to G.D.P. of the then principal activities are as follows:

Rubber	20
Rice	13
Pepper	8
Timber	8
Petroleum	10
All Others	41
Total	100

There is no doubt that in more recent years timber and petroleum must have contributed much higher percentages to G.D.P. The estimates of Chou are appended to T.H. Silcock, *Fiscal Survey Report of Sarawak*, Kuching, 1956. The appendix also contains rough and ready estimates of G.D.P. by three broad sectors for 1947 through 1955. These show that in any year, about 70% of G.D.P. is from the primary sector.

20. The following growth rates computed at 1970 prices for the period 1966 – 70

policy, industries qualified as "pioneers" were accorded tax exemption on profits for periods of between two and five years depending on the level of investment, were allowed duty-free import of necessary raw materials in some cases, and were provided with tariff protection as and when considered necessary. Incentives such as these, and provision of infrastructure factilities (including the development of industrial estates), contributed a great deal to the growth of the manufacturing sector.

Changes in the production structure on an annual basis and with references to the three broad sectors can be studied from Figure 2. The overall upward trend in the percentage share of the secondary sector in G.D.P. (at constant factor cost) and the overall downward trend in the share of the primary sector are noticeable from the figure.[21] These trends are broadly in line with the *a priori* expectations on the pattern of economic development, namely, the decreasing relative contribution to G.D.P. of the primary sector and the increasing relative contribution to G.D.P. of the secondary sector as an economy progresses in terms of income per capita.[22]

– – for the whole of Malaysia broadly illustrate our point:

Sector	Average Annual Growth Rate (%)
Rubber	6.9
Palm oil and kernels	24.1
Padi	6.0
Fish	8.2
Timber	12.7
Aggregate Agricultural Production Index	8.0

Source: Second Malaysia Plan, 1971 – 1975, p. 121.

21. The following are the simple linear trends for the entire 25 years:

$$x_1 = 51.5 - 0.27\,t \; (r = -0.78)$$
$$x_2 = 6.5 + 0.27\,t \; (r = 0.98)$$

where "x_1" is the percentage share in G.D.P. of the primary sector, "x_2" is the percentage share in G.D.P. of the secondary sector and "t" is time.

22. The tertiary sector share has no clear trend. The linear trend has an "r" of only -0.01, and the value of intercept is approximately 42 indicating that secularly the tertiary sector share was constant at that level.

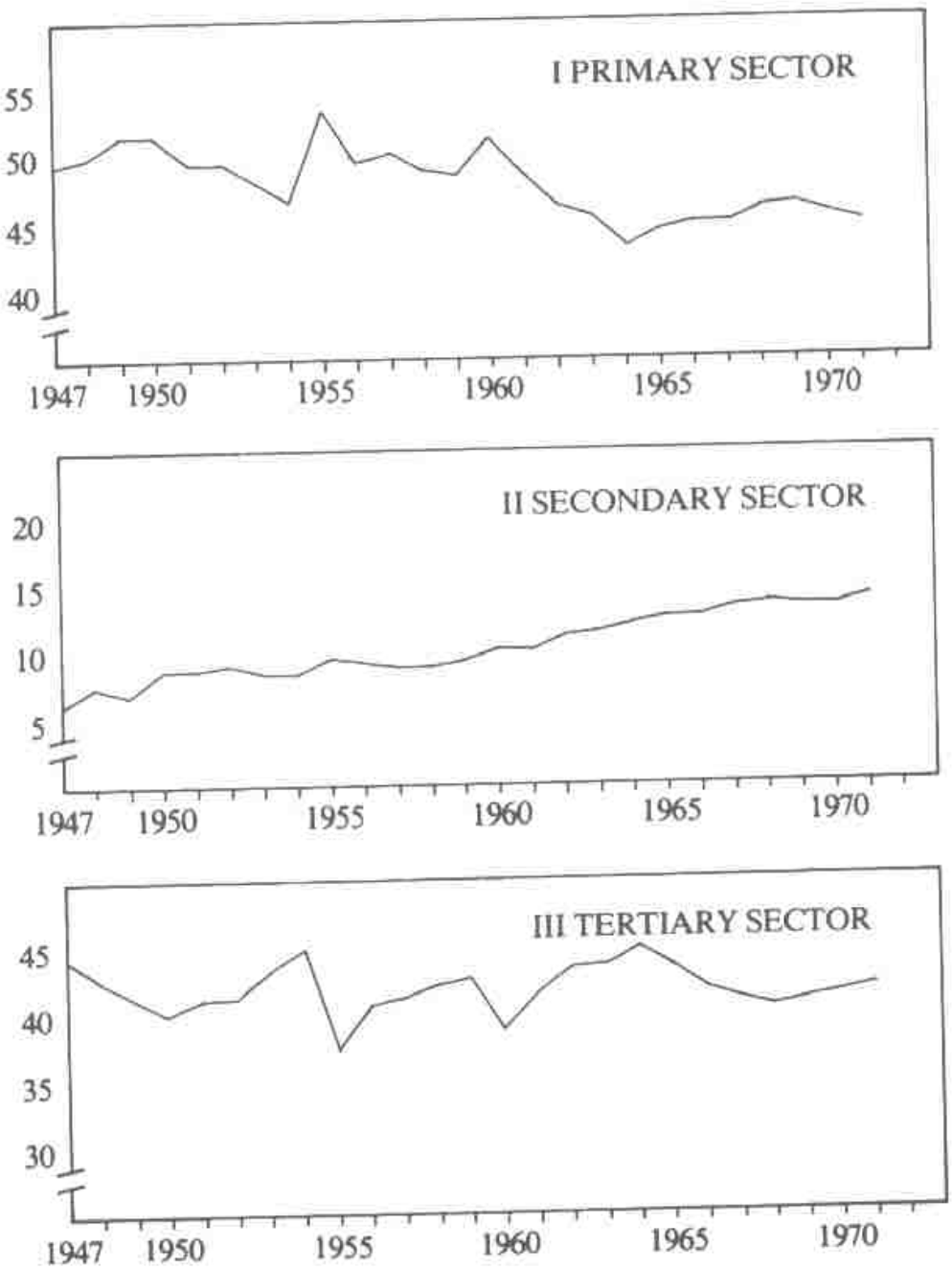

Figure 2. Percentage Contribution to G.D.P. at Constant Prices, Primary, Secondary, and Tertiary Sectors, West Malaysia, 1947 — 71

Econometric Analysis of Production Structure

An econometric analysis of production structure[23] is essentially an attempt to arrive at a summary picture of the interrelationship between the rates of growth of various economic activities and the rate of growth of per capita income. Such a summarization helps greatly in understanding the pattern of development over time and across space. Among the various past contributions to the subject, the most notable and often quoted works were those of H.B. Chenery and associates.[24]

TABLE 17

AVERAGE COMPOSITION OF G.D.P., WEST MALAYSIA, 1947–58, 1959–71

Sector of Economic Activity	Average Percentage Composition of G.D.P. at 1959 Factor Cost	
	1957–58	1959–71
Rubber Planting	26.9	22.2
Other Agriculture, Livestock, Forestry, and Fishing	17.2	18.9
Mining	5.7	5.2
PRIMARY SECTOR	49.8	46.3
Manufacturing: Rubber Processing	3.3	2.8
Manufacturing: Other than Rubber Processing	3.0	5.3
Construction	2.1	3.5
SECONDARY SECTOR	8.4	11.6
Utilities	1.2	1.8
Other Services	40.6	40.3
TERTIARY SECTOR	41.8	42.1
TOTAL	100.0	100.0

23. The results reported in this section have also appeared in the writer's "Development Pattern of a Primary-Export-Oriented Economy: West Malaysia's Postwar Experience", *The Developing Economies* 14, (1976): 37–46.

24. A recent study is H.B. Chenery and L. Taylor, "Development Patterns: Among Countries and Over Time", *Review of Economics and Statistics* 4 (1968); 391–416. For other references, see the paper cited in footnote 23 above.

One of the uses of the development pattern studies based on international data is to obtain the expected characteristics of the economic structure at different levels of per capita income. A tabulation giving these characteristics obtained from multiple regressions on a sample of 100 countries is reported in a recent article of Chenery.[25] In column (2) of Table 18, we present the expected pattern of output and labour force composition as given by Chenery for a hypothetical economy with an income per capita roughly comparable to that of West Malaysia in 1970. The expected pattern obtained from regression equations is referred to

TABLE 18
STRUCTURAL CHARACTERISTICS OF A HYPOTHETICAL ECONOMY AT G.N.P. PER CAPITA OF US$300 (CHENERY'S DATA) AND THE ACTUAL CHARACTERISTICS OF THE WEST MALAYSIAN ECONOMY IN 1970

Structural Characteristics (1)	Expected or Normal* (2)	West Malaysia† (3)
OUTPUT COMPOSITION		
1. Primary share of G.D.P. (%)	30.4	36.2
2. Industry share of G,D.P. (%)	23.1	18.5
3. Services share of G.D.P. (%)	39.2	45.3
4. Utilities share of G.D.P. (%)	7.7	2.7
LABOUR FORCE		
1. Primary labour as % of total labour force	49.9	51.6
2. Industrial labour as % of total	20.5	12.7
3. Utilities and services labour as % of total	29.3	35.7

Note: * The pattern relating to per capita income of US$300 at 1964 prices, obtained from Chenery, "Growth and Structural Change".

† Data relate to 1970.

25. H.B. Chenery, "Growth and Structural Change", *Finance and Development* 8, 3(1971): 16–27.

as "normal" by Chenery presumably to indicate that it is what one expects on the basis of international experience. In column (3) of the table, the actual West Malaysian data for 1970 are given to facilitate comparison with the expected pattern.

We note from the table that the West Malaysian pattern is neither very far from nor very close to the expected pattern. Given the primary export orientation of the economy, there is little basis to expect its pattern to fall exactly in line with an expected pattern derived from international experience. In fact, in their 1968 study, Chenery and Taylor have classified development patterns into three types in relation to (1) large countries, (2) small industry-oriented countries, and (3) small primary export-oriented countries. With regard to the third category Chenery and Taylor observe:

> The countries oriented toward primary exports have a development pattern that is notably different from the first two types. Primary production declines much more slowly and exceeds industry up to an income level of nearly [U.S.] $800. The effects of rich natural resources on the productive structure are illustrated in most extreme form by Venezuela, Malaya and Iraq — the countries having the highest indices of primary orientation.[26]

To serve as a bench-mark for our work, it is necessary to note some of the results of the Chenery-Taylor study. For a comparative analysis of time series and cross-section results the following equations were used by them:

Cross-Section Data (data of various countries)

$$\log x_i = \propto + \beta \log y + \delta \log N. \qquad (1)$$

Time-Series Data (data of individual countries)

$$\log x_i = \propto + \beta \log y \qquad (2)$$

where x_i = share of sector i (primary and secondary) in G.D.P.
y = per capita G.N.P. (in 1960 US$)
N = population (in millions).

For the sake of convenience, the coefficient β in the above equations may be called the sector share elasticity as it is equal to the following ratio:

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26. Chenery and Taylor, "Development Patterns", p. 400.

$$\beta = \text{Sector Share Elasticity} = \frac{(\%\text{ change in a sector's share in G.D.P.})}{(\text{given }\%\text{ change in G.N.P. per capita})}$$

In the Chenery-Taylor study, based on the sector share elasticity (β) obtained from the second equation for each country, the median elasticity was computed for comparison with the cross-section elasticity obtained from the first equation. For small primary oriented countries the estimates were as shown in Table 19. The secondary sector elasticity is the same from time series as well as cross-section data. Thus a one per cent increase in G.N.P. per capita is associated with a 0.34 per cent increase in the percentage contribution to G.D.P. of the secondary sector. The elasticity for primary sector differs between time-series and cross-section data. Time-series elasticity indicates a faster decline in primary sector share. No explanation was given by Chenery and Taylor for this discrepancy. A simple explanation may be that since the countries are primary oriented, the share of primary sector in G.D.P. when measured at current prices declines faster due to secular decline in primary product prices and the terms of trade turning in favour of the secondary sector and against primary production.[27] The cross-section elasticity is probably less influenced by such price variations.

We shall now pursue the Chenery-type econometric analysis of the West Malaysian production structure. The regression equation to be estimated is:

$$\log x_i = \alpha + \beta \log y$$

TABLE 19
SECTOR SHARE ELASTICITIES OF SMALL PRIMARY ORIENTED COUNTRIES FROM CHENERY-TAYLOR STUDY

Sector	Median from Time-Series Elasticities	Cross-Section Elasticity
Primary	−0.55	−0.37
Secondary*	0.34	0.34

Note: * Includes manufacturing and construction. In the source stated, the sector is referred to as "industry".

Source: Chenery and Taylor, "Development Patterns", p. 403.

27. Chenery and Taylor do not explicitly state whether they have used sectoral share data at current or constant prices. But, from the 1971 *World Tables* of the I.B.R.D., one would get the impression that current price data might have been used. An earlier issue of the *World Tables* was the primary data source for the Chenery-Taylor study.

identical to equation (2) above where x_i is the percentage share of a given sector in G.D.P. at constant prices, y is G.N.P. per capita at constant prices unless otherwise stated, and β is the sector share elasticity. The objectives of our analysis may be explicitly stated as follows:

(1) In the situation of a primary export-oriented economy, what is the appropriate independent variable y— per capita G.N.P. or per capita G.N.I.?[28] (Note that per capita G.N.P. was used in the Chenery-Taylor study.)

(2) How does the West Malaysian pattern compare with that of the small primary oriented countries in general?

(3) Are there any significant differences in results if the data on sectoral shares are at current and constant prices?

The First Question: In the situation of a primary export oriented economy, what is the appropriate independent variable — per capita G.N.P. or per capita G.N.I.? Log-linear relations are estimated for the primary, secondary, and tertiary sector shares in G.D.P. at 1959 prices for West Malaysia on the basis of 1947 – 71 data. Two independent variables have been used for each sector share regression equation. The correlation coefficients may be considered first (Table 20). For the period 1947 – 58, the correlation coefficients between the primary sector share and each of the independent variables, as well as the tertiary sector share and each of the independent variables, are not statistically significant. For the secondary sector share, even though the correlation coefficients with each of the independent variables are statistically significant, the coefficient is negative (unacceptable *a priori*) when the independent variable is G.N.P. per capita, and is positive and relatively higher when the independent variable is G.N.I. per capita. The second "relationship" is a better description of the growth pattern of the 1947 – 58 period. During this period, the average annual growth rate of G.N.I. (4.9 per cent) was more than twice the average growth rate of G.D.P. (2.2 per cent). The boost for the secondary sector share came, during 1947 – 58, essentially from the increase in domestic demand brought about by a relatively high rate of increase in purchasing power which in turn came from favourable terms of trade. It is thus apparent that the 1947 – 58 growth pattern is better described by G.N.I. per capita variations (and not variations in G.N.P. per capita) and their effect on the secondary sector growth.

28. G.N.I. refers to gross national income which is G.N.P. adjusted for the effect of terms of trade.

During 1959 – 71, the primary sector was favourably influenced by productivity improvements. The secondary sector became at least moderately outward-looking. Manufacturing exports constituted less than 4 per cent of total merchandise exports in 1960; but their share increased to 12.5 per cent in 1967, an indication of the change from an inward-looking to an outward-looking strategy of growth of manufacturing. The growth pattern thus differs between 1947 – 58 and 1959 – 71. The correlations between the primary share and G.N.P. per capita and the primary share and G.N.I. per capita (Table 20) do not differ much during 1959 – 71. Similarly there is only marginal difference between the two correlations with reference to the secondary share. These results show that from the point of view of the strength of the correlation coefficients, one can use either G.N.P. per capita or G.N.I. per capita as the independent variable. There is, however, the need to recognize that G.N.I. per capita rather than G.N.P. per capita portrays purchasing power and influences demand. On this score, one may consider G.N.I. per capita as the appropriate independent variable even if the correlations are slightly higher between sector shares and G.N.P. per capita. In conclusion, it may be stated that in respect of the study of development patterns of primary export-oriented economies, it is useful to consider both the variations in G.N.P. per capita as well as G.N.I. per capita in relation to structural changes.

TABLE 20
CORRELATIONS BETWEEN LOG x_i AND TWO VARIANTS OF LOG y, 1947 – 58, 1959 – 71

Dependent Variable: Log x_i	Independent Variable: Log y	Correlation Coefficients 1947 – 58	1959 – 71
Primary Sector	G.N.P. per capita	−0.2626*	−0.6928
	G.N.I. per capita	0.1465*	−0.6278
Secondary Sector	G.N.P. per capita	−0.5472	0.9403
	G.N.I. per capita	0.7096	0.9071
Tertiary Sector	G.N.P. per capita	0.4919*	0.1018*
	G.N.I. per capita	−0.4607*	0.0336*

Note: * Not statistically significant at 5% level.

The Second Question: How does the West Malaysian pattern compare with that of the small primary oriented countries in general? In the Chenery-Taylor study, it was found that a one per cent increase in G.N.P. per capita in the small primary oriented countries is associated with a *reduction* in the primary sector share by 0.37 to 0.55 per cent. The first figure was obtained from cross-section data and the second was the median elasticity from time series analysis of various countries. The primary sector elasticity we obtained for West Malaysia for the 1959 – 71 period was – 0.21, less than the Chenery-Taylor estimate.[29] The secondary sector elasticity in the Chenery-Taylor study was 0.34, the same for cross-section and time-series regressions. For West Malaysia, we obtained a secondary sector share elasticity of 0.79 on the basis of G.N.P. per capita and 1.24 on the basis of G.N.I. per capita. West Malaysian secondary sector elasticity is considerably high, and it simply shows that primary export orientation and continuation of primary export growth need not stand in the way of secondary sector expansion.

The Third Question: Are there any significant differences in results if the data on sectoral shares are at current and constant prices? West Malaysian sectoral shares used by us were derived from sectoral and total G.D.P. at constant prices. In the Chenery-Taylor study, while G.N.P. per capita was taken at constant prices, sectoral shares were (most probably) from current price data. Our third question therefore is concerned with the effect, if any, of price changes on the sector share elasticities.[30] The problem is of special significance in view of the oft-noted fluctuations in the prices of primary commodities (such as rubber and tin in the specific context of West Malaysia). For an insight into the problem, we compute the relevant regression equations using sectoral shares data for 1960 – 71 at current and constant prices. The results in Table 21 clearly show that the current price data give an upward bias to the regression coefficients. While the extent of bias may not be signifi-

29. The elasticity of – 0.21 was obtained on the basis of G.N.P. per capita as the independent variable. With G.N.I. per capita, the primary sector elasticity was – 0.31.

30. Kuznets in his *Modern Economic Growth* did recognize the problem. He says, "For the few countries for which we have shares in totals in both current and constant prices (Denmark, the United States, Canada, and Australia), the trends for the long periods covered in the two sets do not differ sufficiently to affect our broad conclusions." (pp. 95 – 96) The observation of Kuznets may not hold for primary oriented countries.

TABLE 21
REGRESSION RESULTS FROM CURRENT PRICE AND CONSTANT PRICE DATA ON SECTORAL SHARES, WEST MALAYSIA, 1960 - 71

Sector Share	Current Price Data		Constant Price Data	
	Regression Coefficient	Correlation Coefficient	Regression Coefficient	Correlation Coefficient
Primary Share	−0.7657	−0.9571	−0.2046	−0.6279
Secondary Share	1.3398	0.9714	0.7176	0.9213
Tertiary Share	0.2464	0.8223	0.0387	0.1381

Note: Regression of log of sector share on log of G.N.P. per capita.

cant for each and every country, it is likely to be important in the context of primary export-oriented countries.

Apart from the answers to the specific questions raised, it is apt to note the important conclusions arising out of the above analysis regarding the development pattern of the West Malaysian economy. The existence of a large primary sector and its extreme linkage with export demand imply that (1) the primary sector has to maintain a certain tempo of growth since through the sector the majority have to "earn" the livelihood — the primary sector share in G.D.P. cannot, therefore, decline too fast; (2) export orientation exposes the economy to terms of trade fluctuations, with consequences on domestic demand and hence inward-looking industrialization may be subject to unsteady growth; and (3) a policy of outward-looking industrialization alone makes sense right from the start for small primary export-oriented countries.

Functional Distribution of Income: Trends in West Malaysia

By the term "functional distribution of income", we refer to the distribution of national income between wages and salaries on the one hand and "property income" on the other. "Property income" as used here includes dividends, interest, rent (actual and imputed), and net corporate profits (excluding dividends). In several developed countries, historical series on the share of wages and salaries in national income showed an upward trend.[31]

31. Kuznets, *Modern Economic Growth*, p. 183. For the purpose of illustration,

An increasing share of wages and salaries in total income could lead to a reduction in the inequality of total income distribution. This effect is due to the fact that generally property income is more unequally distributed than wage and salary income.[32] In relation to the functional

— — we give the following data for the postwar period from the I.B.R.D., *World Tables, 1971* on the percentage share of wages and salaries in national income in the developed countries that currently enjoy a G.N.P. per capita above US$1,000.

Country	Percentage Share of Wages and Salaries in National Income in				
	1950	1955	1960	1965	1968 or 1969
Australia	51.1	61.3	64.5	61.6	64.7
Austria	55.4	58.4	59.5	64.9	68.6
Belgium	53.7	53.3	57.1	61.2	63.0
Canada	62.3	66.2	68.6	69.1	71.2
Denmark	53.0	57.6	57.9	63.1	67.7
Finland	58.3	56.0	56.7	61.9	64.7
France	52.2	57.2	57.2	62.2	62.3
Germany, Fed. Rep. of	58.9	58.8	60.8	65.4	64.5
Japan	37.2	49.8	51.1	56.1	53.7
Luxembourg	59.2	56.4	58.5	66.2	n.a
Netherlands	55.4	53.6	56.6	63.7	65.9
New Zealand	46.4	57.0	58.1	59.6	63.5
Norway	56.9	59.8	65.2	65.1	68.2
Sweden	56.8	62.3	62.7	67.8	72.1
Switzerland	60.8	60.3	60.7	64.0	62.8
United Kingdom	70.7	72.5	72.6	74.0	75.5
United States	63.6	67.2	70.9	69.9	71.9

32. "The secular growth of labour's share, which tends to be more equally distributed among persons than that of profits or property, has undoubtedly worked to reduce overall inequality of personal income." T. Paul Schultz, "Secular Trends and Cyclical Behaviour of Income Distribution in the United States, 1944 – 1965", in *Six Papers on the Size Distribution of Wealth and Income*, ed. Lee Soltow (New York: National Bureau of Economic Research, 1969), p. 83. That there is a reduction in income inequality in the advanced countries during the twentieth century has been observed by Kuznets in several of his studies. Special reference may be made to "Economic Growth and Income Inequality", *American Economic Review*, March 1955 and "Quantitative Aspects of the Economic Growth of Nations: Part VII, Distribution of Income by Size", *Economic Development and Cultural Change*, Jan. 1963.

TABLE 22
SHARE OF WAGES AND SALARIES IN NATIONAL INCOME, G.N.P. PER CAPITA, AND THE SHARE OF AGRICULTURE IN G.D.P., DATA FOR 47 COUNTRIES, 1967 OR 1968

S.No.	Country	Share of Wages and Salaries in National Income (%)	G.N.P. Per Capita in 1964 (US$)	Share of Agriculture in G.D.P (%)
1	Thailand	28.1	130	35.6
2	Uganda	29.7	101	52.1
3	Papua-New Guinea	32.7	189	66.1
4	Mexico	37.5	464	12.9
5	Korea, Republic of	37.9	159	32.3
6	Ivory Coast	39.4	200	38.2
7	Greece	40.2	663	21.2
8	Paraguay	43.5	200	32.5
9	Bolivia	43.8	138	19.2
10	Colombia	43.9	238	30.6
11	Ceylon	46.3	155	38.8
12	Taiwan	49.7	242	23.1
13	**West Malaysia**	**49.7**	**297**	**29.7**
14	Honduras	50.3	224	36.6
15	Malta	52.2	568	7.3
16	Costa Rica	52.5	403	23.8
17	Equador	53.7	200	31.6
18	Japan	53.7	1,096	10.1
19	Zambia	55.5	206	7.9
20	Italy	56.6	1,100	11.1
21	Venezuela	57.0	842	7.2
22	Spain	57.9	650	16.3
23	Mauritius	58.7	203	23.3

Source: I.B.R.D., *World Tables, 1971.*

TABLE 22 (*cont.*)

S. No.	Country	Share of Wages and Salaries in National Income (%)	G.N.P. Per Capita in 1964 (US$)	Share of Agriculture in G.D.P. (%)
24	Barbados	60.0	398	26.0
25	Rhodesia	61.0	214	15.8
26	Ireland	61.0	900	19.7
27	Jamaica	61.8	413	10.2
28	France	62.3	1,954	8.0
29	Upper Volta	62.9	48	31.7
30	Nicaragua	62.9	337	30.2
31	South Africa	63.0	580	9.8
32	Belgium	63.0	1,614	5.4
33	New Zealand	63.5	1,739	15.4
34	Guyana	64.2	276	21.0
35	Germany, Fed. Rep. of	64.5	1,750	4.0
36	Finland	64.7	1,532	15.3
37	Australia	65.4	1,855	8.3
38	Netherlands	65.9	1,437	7.2
39	Norway	68.2	1,777	6.8
40	Austria	68.6	1,174	8.9
41	Canada	71.2	2,191	5.9
42	United States	71.9	3,541	2.9
43	Puerto Rico	72.1	1,192	5.4
44	Sweden	72.1	2,331	6.0
45	United Kingdom	75.5	1,599	3.1
46	Liberia	77.7	188	22.6
47	Panama	82.4	533	24.4

distribution in West Malaysia, we wish to assess its current position compared to other countries and changes that have occurred during the postwar period. From now on we use the simple term "wage share" to denote the share of wages and salaries in national income.

The latest year for which wage share can be computed for West Malaysia is 1968. In that year the share was 49.7 per cent. To know how this compares with the wage share in other countries, we have assembled in Table 22 data for 47 countries. The data are taken from the *World Tables, 1971* issued by the Economic Programs Department of the World Bank. The lowest wage share of 28 per cent was that of Thailand. In most of the advanced countries the share ranged from 60 to 75 per cent. Among the 47 countries, the share of wages and salaries in national income of 13 countries was less than 50 per cent; and in the remaining 23 countries, it was higher. In Table 22 the 47 countries are arranged in the ascending order of the wage share and West Malaysia ranks thirteenth in the list.

For the 47 countries listed in Table 22, in addition to wage share data are also given on the per capita G.N.P. at factor cost in 1964 U.S. dollars. For explorative interest, we may attempt to explain the international variation in the wage share by the variation in the levels of G.N.P. per capita. The following simple log-linear regression equation is obtained: $\log w = 1.35 + 0.14 \log y \ (r = 0.59)$
where w is the share of wages and salaries in national income and y is G.N.P. per capita. The equation indicates that a one per cent increase in G.N.P. per capita is associated with a 0.14 per cent increase in the wage share. In other words, for the share of wages in national income to increase by 2 per cent, — for example, from 50 to 51 — the associated increase in G.N.P. per capita will have to be of the order of 14 per cent. This is enough to show that it is generally not possible to achieve a noticeable increase in the wage share during a short span of time.

For the relationship between log w and log y given above, we have obtained a correlation coefficient of 0.59. The square of the correlation coefficient which in our case approximates to 36 per cent indicates the extent to which the variation across countries in log w is explained by the variation in log y. Since the variation in income per capita has explained only 36 per cent of the variation in the wage share, we may try one more relationship, this time between log w and log x_1 where w is the wage share and x_1 is the percentage share of the agricultural sector in G.D.P. The variable x_1 reflects both the variation in per capita income and the

associated change in economic structure. The data on x_1 is also given for the 47 countries in Table 22. We have obtained the following regression equation:

$$\log w = 1.98 - 0.20 \log x_1 (r = -0.63).$$

The equation implies that a one per cent decline in the share of agriculture in G.D.P. is associated with a 0.2 per cent increase in the wage share. In general, just as structural change requires a long period of time, the increase in wage share also takes a long period of time.

In the case of the above relationship between log w and log y, the square of the correlating coefficient is approximately 40 per cent. This is almost as low as the 36 per cent observed in the case of the relationship between log w and log y. It is thus necessary to note that economic growth (increase in y) and structural change (decline in x_1 alone cannot satisfactorily explain the variation in the wage share. This statement can be further elucidated as follows. If the wage share in a given economic activity is the same across countries, then we are justified in stating that structural change is the most important cause of the changes in wage share, since the overall economy wage share is weighted average of the individual sector shares.[33] However, even in the same economic activities, the wage share may not be the same across countries due to differences in relative prices of factors of production and differences in capital intensity of production. Moreover countries with different natural endowments specialize in different products with the result that it is often not possible to make a realistic comparison of wage share by broad sectors of activities. For instance, the wage share in rice sector may be lower in country A than country B simply because country A uses a relatively more capital-intensive method of production. A similar explanation is difficult if country A produces rice and country B produces rubber.

To illustrate the wage share differences by sector, we put together in Table 23 the data available for six ECAFE countries. As an example of the wage share differences due to differences in product, we may note

33. We can write the wage share in national income as equal to:

$$\Sigma w_i x_i$$

where w_i = share of wages in income for sector i;

x_i = share of sector i income in total national income.

If w_i were to be the same across countries, then the international variation in the wage share is explained by changes in economic structure represented by changes in x_i.

that the relatively higher wage share (70 per cent or more) in the mining sector in Japan, Korea, and New Zealand is associated with the importance of coal mining and gold mining in mining production of these countries. In contrast, the relatively low wage share in the mining sector of West Malaysia is associated with the predominance of tin mining in West Malaysian mineral production. (Our objective here is just to note that the products differ rather than to pin-point the reasons for the higher wage share in coal mining and the lower wage share in tin mining.) The evidence on wage share differentials by sectors and countries in Table 23 is at best useful to point out that no simple generalizations can be made about the causes of wage share disparities across countries. While economic structure is an important source of wage share differentials, the causes of differentials arise due to several associated factors at work, notably the nature of products, the relative scarcity of labour compared to other factors of production, the capital intensity of production, the technological alternatives available, and so on — all of which are different aspects of economic organization.

We now turn to an examination of recent trends in the wage share in West Malaysia. The percentage share of wages and salaries in G.D.P. at factor cost (at current prices) is given in Table 24 for the period 1955 – 67. The percentage shares are also shown in the top panel of Figure 3. Even though the wage share has increased from 39.7 per cent in 1955 to 45.7 per cent in 1968, we are inclined to feel that much of this increase is a part of the anti-cyclical behaviour of the wage share.[34] As may be noted from panels A and B of Figure 3 the changes in wage share are generally in the opposite direction of changes in the export price index. Hence, we cannot firmly conclude that the wage share is on a stable increasing trend.[35]

34. Labour's share in the short run has an anti-cyclical behaviour. A detailed discussion of this and other aspects are covered in Tibor Scitovsky, "A Survey of Some Theories of Income Distribution", in *The Behaviour of Income Shares* (Princeton, N.J.: Princeton University Press for the National Bureau of Economic Research, 1964), pp. 15 – 31.

35. As a matter of fact, it is not right to expect relatively significant *trends* in the functional distribution of income during periods of ten or fifteen years. However, the impetus to an upward change in the wage share in a primary export-oriented economy like Malaysia may largely come from a possible long-run tendency for the terms of trade to be unfavourable to the primary export sector and the prospective changes in economic structure necessitated by such a tendency. We may note in this connection that the economic theory relating to functional distribution of income has been mostly developed in relation to

TABLE 23

PERCENTAGE SHARE OF WAGES AND SALARIES IN VALUE ADDED BY SECTOR, SIX COUNTRIES IN THE ECAFE REGION

Sector	Republic of Korea 1963	Philippines 1961	West Malaysia 1965	Japan 1965	Aus - tralia 1958/59	New Zealand 1959/60
Agriculture, Forestry, Fishing	10.4	51.2	30.4	14.1	16.8	26.9
Mining	72.8	54.4	27.9	70.0	57.7	88.0
Food, Beverages, and Tobacco Manufacturing	79.7	30.8	29.8	52.7	55.7	60.3
Textiles Manufacturing	52.7	53.8	46.0	72.2	69.5	72.6
Metal and Metal Products Manufacturing	52.8	41.8	48.9	59.5	70.6	68.3
Other Manufacturing	49.7	51.3	35.9	54.5	56.6	73.0
Construction	82.4	66.3	66.4	71.4	81.2	71.4
Utilities	66.9	57.6	41.3	46.1	44.1	32.2
Transport and Trade	60.9	32.5	64.8	83.7	50.8	55.6
Other Services	35.8	72.5	73.7	52.5	75.6	81.0
TOTAL ECONOMY	29.5	48.7	49.0	54.1	56.0	56.1

Source: Inter-Industry tables published in United Nations, ECAFE, *Statistical Yearbook for Asia and the Far East* (various issues).

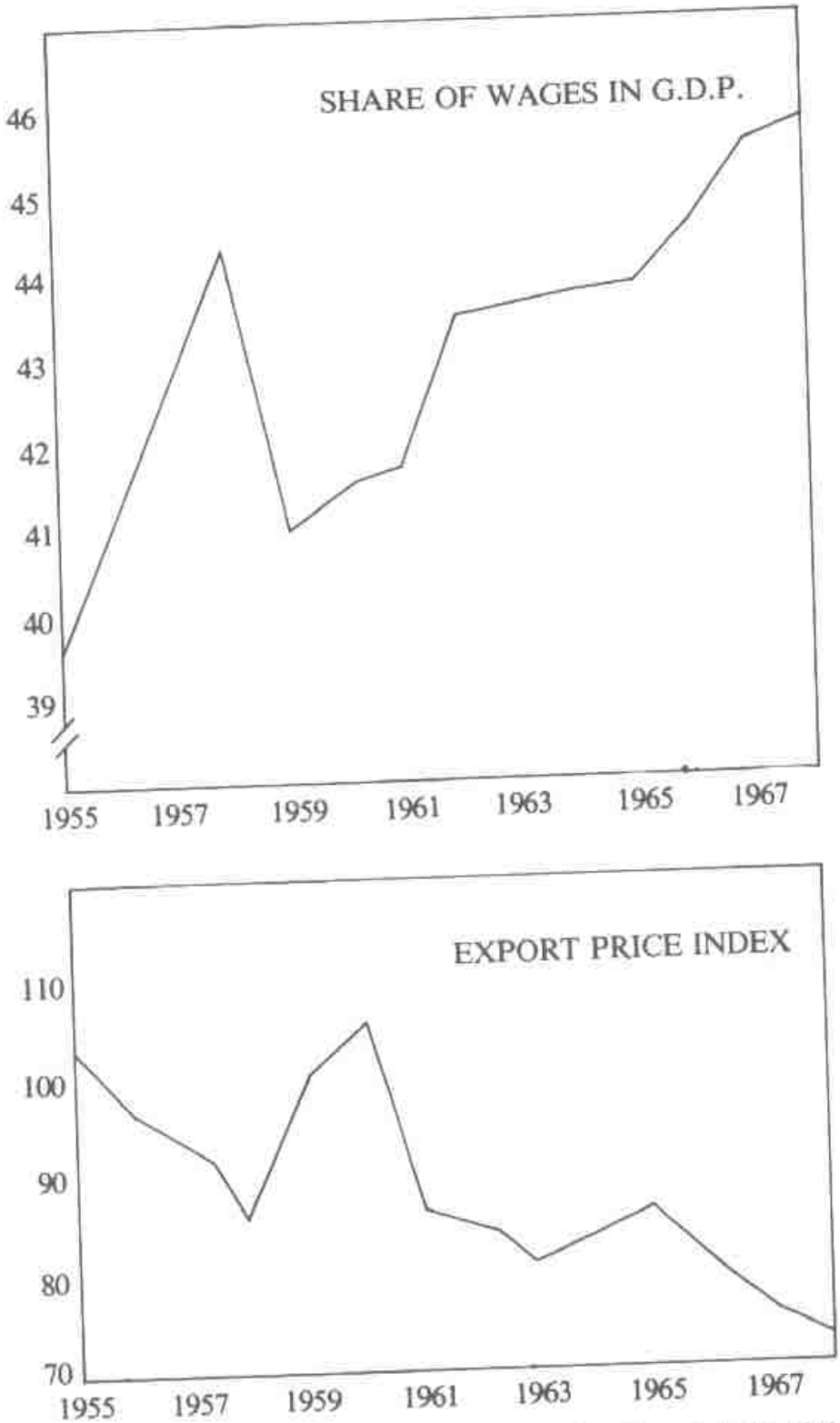

Figure 3. Wage Share in G.D.P. and Export Price Index, West Malaysia, 1955 – 68

Trends in Employment Structure and Sectoral Productivity

Changes in production structure are always associated with changes in the allocation of resources. In the pre-modern times, the agricultural sector of the presently developed countries absorbed more than half the total labour force.[36] The rate of absorption in these countries was less than 20 per cent in the 1950s. More up-to-date information on per

TABLE 24
FUNCTIONAL DISTRIBUTION OF INCOME, WEST MALAYSIA, 1955 – 68

Year	Percentage Share of Wages and salaries in G.D.P. at Current Prices
1955	39.7
1956	41.3
1957	42.7
1958	44.3
1959	41.0
1960	41.5
1961	41.6
1962	43.4
1963	43.5
1964	43.7
1965	43.8
1966	44.5
1967	45.4
1968	45.7

Sources: *National Accounts, 1955 – 1960.*
National Accounts, 1960 – 1968.

– – "growth economics" rather than "development economics". This is the impression one gets after consulting the theoretical literature on relative shares — a recent comprehensive work being C.E. Ferguson, *The Neoclassical Theory of Production and Distribution* (Cambridge: Cambridge University Press, 1969).

36. The rate of absorption was over 65% in the United States in 1840, Japan in 1872, and the Soviet Union in 1928. Kuznets, *Modern Economic Growth*, pp. 105 – 8.

capita income and labour force composition is given in Table 25 for selected countries. As we move down the income per capita scale, we find that the agricultural sector absorption increases to 50 per cent or more of the total labour force, manufacturing takes in less than 20 per cent, leaving the rest to all other sectors.

Trends in sectoral composition of employment in West Malaysia may be summarized on the basis of Table 26. The most notable changes in the postwar period are: (1) a decline in the agricultural absorption from 65.1 per cent in 1947 to 49.4 per cent; (2) an increase in the manufacturing absorption from 7.1 to 9.2 per cent; and (3) an increase in the services sector absorption from 23.2 to 35.7 per cent. The decline in the agricultural absorption was due mainly to the relative decline in the absorption of rubber and rice sectors. In 1947 the two sectors together

TABLE 25
LEVEL OF PER CAPITA INCOME AND LABOUR FORCE STRUCTURE, SELECTED COUNTRIES, 1969

Country	Income Per Capita (At Factor Cost in 1969 U.S. $)	Percentage of Labour Force in		
		Agriculture	Manufacturing	Others
United States	4,241	5	28	67
Sweden	2,915	9	31	60
France	2,461	16	29	55
New Zealand	2,253	13	28	59
Germany, Fed. Rep. of	2,192	10	39	51
Japan	1,434	19	27	54
Yugoslavia	575	50	25	25
Chile	509	25	22	53
Korea, Rep. of	213	51	14	35
Philippines	201	56	12	32
Ceylon	193	50	12	38

Source: World Bank Group, *Trends in Developing Countries*, Table 2.5.

TABLE 26
PERCENTAGE COMPOSITION OF EMPLOYMENT BY SECTOR, WEST MALAYSIA, 1947 – 70

Sector \ Year	1947	1957	1962	1965	1967	1970
Agriculture, Forestry, Fishing	65.1	56.9	55.4	52.1	51.1	49.4
Mining	2.5	2.8	2.3	2.5	2.5	2.2
Manufacturing	7.1	7.4	7.7	8.4	8.5	9.2
Construction	2.1	3.2	3.5	3.5	3.5	3.5
Services	23.2	29.7	31.1	33.5	34.4	35.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total Employment ('000)	1,904	2,149	2,394	2,590	2,727	2,940

Note: For sources of basic data, please see Appendix A.

contributed more than half of total West Malaysian employment. In 1967, their contribution declined to 39 per cent.[37] The increase in the employment contribution of the manufacturing sector was mainly the result of adding new industries year after year, a topic that will be dealt with in more detail in Chapter 4. With regard to the increase in the absorption of the services sector, the principal contributing activities to this trend were trade, transport, and government sectors. Their contribution to total West Malaysian employment increased from 18 per cent in 1947 to 28 per cent in 1967.

From the available data on sectoral G.D.P. at constant factor cost and the data on sectoral employment, we can attempt to trace the postwar trends in average productivity defined as G.D.P. per person employed. At the outset, we wish to emphasize the limitations of data so that the reader appreciates the rather tentative nature of our results. As far as sectoral G.D.P. data at constant factor cost are concerned, the most important point to note is that the data are not obtained by the procedure of "double deflation", that is, by deflating output and input separately. In general, our data on sectoral G.D.P. at constant factor cost refer to physical output, and not income in real terms. Thus an increase in sectoral productivity (G.D.P. per employee) cannot be interpreted as an increase in income per person or increase in economic welfare. With regard to data on sectoral employment, we have summarized, in Appendix A, the differences in concepts and definitions of the various censuses and surveys. Even though we have taken the best available employment estimates, it is not at all possible to assume that the estimates are extremely accurate and fully comparable. Two simple examples will suffice. Firstly, the employment data for 1947 are based on the "gainful worker approach" and the data for 1957 and later years are based on the "labour force approach". Secondly, the reference period and the timing of data collection differ from one enquiry to the other thus creating problems of comparability of data, some of the problems being peculiar to agricultural countries.[38]

37. In absolute terms, employment in all the activities has increased during the period. The exception is the rice sector where employment has declined from 471,000 in 1947 to 370,000 in 1967. Data in absolute terms are given in the appendix to this chapter.

38. Commenting on the reduction in employment in the rice sector (padi cultivation) in 1957 compared to 1947, Mr. H. Fell, the superintendent of the 1957 Census wrote as follows: "In 1947 about 470,000 persons were recorded as employed in padi cultivation. Ten years later the figure was 400,000, a drop of 70,000. Is this a genuine fall or, bearing in mind that the 1947 and 1957 cen-

It is also important to highlight another difficulty in the comparison of average productivity measured as G.D.P. per employee. The incidence of underemployment may differ across various economic activities[39] as well as over time in each activity. Due to lack of time-series data on number of hours worked in each activity we compute only G.D.P. per person and not the relatively more accurate productivity measure of G.D.P. per man-hour.

Sectoral G.D.P. per employee (productivity) for various years during the postwar period for West Malaysia is shown in Table 27. With regard to all sectors productivity, the magnitude of increase was less during 1947 – 57 (from $1,848 to $2,101) than during the 1957 – 70 period ($2,101 to $3,174). With regard to the productivity by sectors, the most notable increase occurred in the manufacturing sector. Productivity declined in rubber planting during 1947 – 62 but increased during

– – suses were held in different months, is it merely a seasonal phenomenon? The evidence supports the latter." H. Fell, *1957 Population Census of the Federation of Malaya*, Report No. 14, p. 32.

39. The extent of labour force underutilization by sector in West Malaysia can be gauged from the following data available for the year 1967.

Sector of Activity	Percentage of Employed Persons Working Less Than 25 Hours/Week
Agricultural products requiring substantial processing	14.0
Other agriculture, forestry, and fishing	20.7
Mining and quarrying	4.2
Manufacturing	10.7
Construction	5.9
Utilities	0.6
Commerce	4.7
Transport, storage, and communications	2.8
Services	4.3
All Sectors	11.3

Source: Malaysia, *Socio-Economic Sample Survey of Households, 1967 – 1968*, p. 149.

The incidence of underemployment is much more in the agricultural sector than in others. Thus the extent of sectoral productivity disparity will depend also on the way productivity is measured — per person or per hour.

TABLE 27
VALUE ADDED AT FACTOR COST PER EMPLOYED PERSON, WEST MALAYSIA, 1947–70
($ AT 1959 PRICES)

Sector \ Year	1947	1957	1962	1965	1967	1970
Agriculture, Forestry, Fishing	1,317	1,602	1,775	1,999	2,153	2,656
— Rubber Planting	2,206	1,842	1,795	n.a.	2,290	n.a.
— Others	703	1,374	1,753	n.a.	2,016	n.a.
Mining	2,479	5,017	6,339	5,788	5,667	5,937
Manufacturing	1,582	1,925	2,513	3,087	3,793	4,144
Construction	641	1,897	2,843	3,289	2,832	3,107
Services	3,478	2,848	3,278	3,351	3,154	3,477
All sectors: G.D.P./ Employed Person	1,848	2,101	2,444	2,684	2,749	3,174

Note: n.a. = Not Available

1962 – 67 reflecting the effect of large-scale rubber replanting in the estate sector in the years before 1962, the results of which can be obtained only after a gestation lag of some eight years. In view of the extension of replanting to smallholder sector during the 1960 – 70 period, one would expect a much higher increase in productivity in the rubber sector in the years to come.[40] In the agricultural sector, aside from rubber planting, there was almost a threefold increase in productivity during 1947 – 67. One of the reasons, of course, was the decline in employment in the rice sector which was either the result of reduction in disguised unemployment or the result of inaccurate measurement. Besides, double cropping, irrigation, and the use of modern inputs must have facilitated the increase in productivity. The rapid growth of production in oil palm, timber, and fisheries sectors also added to productivity growth in the agricultural sector. Productivity in the mining sector more than doubled during 1947 – 57 but stagnated in later years. As a matter of fact, the increase during 1947 – 57 was merely a reflection of the postwar reconstruction of the mining sector. The stagnation in later years was due mainly to the dwindling iron ore output. Productivity in construction increased during 1947 – 65 but not during 1965 – 70. Productivity in the services sector has neither increased nor decreased in a consistent manner. Productivity estimates of the construction and services sectors are probably influenced by some errors of measurement.

Intersectoral productivity disparity may be assessed by computing the coefficient of variation in the sectoral productivity data. The coefficients of variation for the different years are as follows:

Year	1947	1957	1962	1965	1967	1970
Coefficient of Variation:	0.53	0.65	0.74	0.55	0.52	0.42

For the purpose of computing the above coefficients, we have used the all sectors productivity as the "mean". In 1947, the economy had not yet recovered from the aftermath of the Japanese Occupation. Production and productivity were low in all the sectors and the coefficient of variation was also relatively low. During 1947 – 62, productivity increased in some sectors and declined in others, thus increasing intersectoral disparity. The extent of disparity was less in recent years. These statistical facts are of course subject to several limitations noted earlier.

40. "Productivity" here is used to refer to output per employed person. Trends in productivity in the sense of output per acre need not necessarily conform to trends in output per person.

3. *Inter-Industry Structure and Structural Change*

The principal mechanics of inter-industry analysis may be first summarized as follows. The extent of inter-sectoral dependence within an economy is represented by an input coefficient matrix, such as

$$A = \begin{matrix} \\ \text{I} \\ \text{II} \end{matrix} \begin{matrix} \begin{matrix} \text{I} & \text{II} \end{matrix} \\ \begin{bmatrix} a & c \\ b & d \end{bmatrix} \end{matrix}$$

where I and II are two sectors of activity, a is the input from sector I per unit of sector I output, b is the input from sector II per unit of sector I output, c is the input from sector I per unit of sector II output and d is the input from sector II per unit of sector II output. On the basis of the A matrix, we can compute the Leontief inverse

$$(I - A)^{-1} = \begin{bmatrix} p & r \\ q & s \end{bmatrix}$$

from which we can find the total output requirements by sector for a given final demand schedule.[1] If, for example, the final demand of sector I for export (or consumption or investment) is one unit, this would require p units of sector I output and q units of sector II output.

Substantial portions of this chapter have already appeared in the author's "Inter-Sectoral Relationship and Structural Change in West Malaysia, 1960 – 67", *Malayan Economic Review*, Oct. 1972, pp. 40 – 65.

1. The proposition may be explained with reference to a simple input-output coefficient matrix,

$$A = \begin{bmatrix} a & 0 \\ 0 & b \end{bmatrix}$$

for which we have

$$(I - A)^{-1} = \begin{bmatrix} 1/(1-a) & 0 \\ 0 & 1/(1-b) \end{bmatrix}$$

For demonstrating the significance of the study of inter-industry structure, we consider the structures of three types of hypothetical economies: (1) an extreme case of an entrepot economy; (2) an extreme case of an open dualistic economy; and (3) a general developing economy. For the extreme case of an entrepot economy, we assume that the imported goods are handed over to the final buyers without any additional processing, packaging, or even warehousing. The value added is simply the mark-up added to the value of imports. If we assume that the entrepot handles the products of only two sectors, the input-coefficient matrix will be of the form:

$$\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$$

which states that there is no intra-sectoral and inter-sectoral dependence.

The extreme case of an open dualistic economy also has two sectors: an export sector which produces for the world market, and a sector which caters to the domestic market. We assume that there is no inter-sectoral dependence, but there is intra-sectoral dependence; that is, each sector requires a portion of its own output in the production process, but does not require output from the other sector. The input coefficient matric here is of the type:

$$\begin{bmatrix} a & 0 \\ 0 & b \end{bmatrix}$$

so that there is a difference in the structure compared to the earlier extreme case of an entrepot.

– – $1/(1-a)$ signifies the output required from the first sector to meet a unit of final demand on the sector. The amount $1/(1-a)$ is derived as follows:

output for final demand = 1
input for producing 1 = a
input for producing a = a^2
input for producing a^2 = a^3
⋮ ⋮
input for producing a^{n-1} = a^n
Total output = $1 + a + a^2 + \ldots + a^n$
This sum to infinity equals $1/(1-a)$ for $0 < a < 1$.
For any given economy, the basic input-output relations are:
(1) $X = AX + D$
(2) $X(I-A) = D$
(3) $X = (I-A)^{-1}D$
where X is the vector of sectoral outputs, A is the input coefficient matrix, D is the vector of sectoral final demands and I is the unit matrix.

For the third case of a general developing economy, we assume both intra- and inter-sectoral dependence. The input-coefficient matrix is of the form

$$\begin{bmatrix} a & m \\ n & b \end{bmatrix}$$

which is different from the one mentioned for the case of an open dualistic economy.

The important point is to know the implications of the three different structures. It is intuitively clear that as we move from no interdependence to full interdependence, we find that the impact of a unit of final demand on domestic production increases. This is illustrated by the numerical examples of Table 28. In the examples, we assume that the only difference in the three economies considered is in their inter-industry structure, all other things remaining the same (for instance, the wage rates, the production sectors I and II, the production processes, etc.). It is assumed that the three economies face an identical set of prices. From the table, we find that the impact of a unit final demand for the output of sector I differs in the three economies. In the entrepot economy a unit of final demand will simply require the unit to be supplied — since the economy has no production activity. In the open dualistic economy, there is production activity, though it is limited to two independent sectors. In the third case of a developing economy, there is interdependence between the sectors so that meeting the demand for the output of sector I requires the output of both sector I and sector II.

It is clear from our hypothetical examples that the extent of sectoral interdependence is an important factor in determining the state of development and the potential for further development of an economy. The study of structural change, in terms of changing inter-sectoral relationships within an economy is an important supplement to the study of structural change with reference to the sectoral composition of G.D.P. because changes in sectoral composition of G.D.P. may not always represent a change in the inter-industry structure. Thus, for instance, given the inter-industry structure, if demand grows at different rates for two sectors within an economy, total output and hence value added by the sectors will also grow at different rates. Hence sectoral composition of G.D.P. may differ from time to time, depending on the differences in the sectoral growth rates of demand. Such a change in composition of

TABLE 28

STATEMENT SHOWING THE IMPLICATIONS OF THE INPUT–OUTPUT STRUCTURES OF THREE HYPOTHETICAL ECONOMIES.

Structure and Implications \ Type of Economy	Entrepot Economy	Open-Dualistic Economy	Developing Economy
Input Coefficient Matrix	$A = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$	$A = \begin{bmatrix} 0.2 & 0 \\ 0 & 0.3 \end{bmatrix}$	$A = \begin{bmatrix} 0.2 & 0.1 \\ 0.2 & 0.3 \end{bmatrix}$
Leontief Inverse	$(I-A)^{-1} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	$(I-A)^{-1} = \begin{bmatrix} 1.2 & 0 \\ 0 & 1.4 \end{bmatrix}$ *	$(I-A)^{-1} = \begin{bmatrix} 1.3 & 0.2 \\ 0.4 & 1.5 \end{bmatrix}$
Total Output Required if Sector I were to Deliver One Unit for Final Demand	Output of Sector I = 1 Output of Sector II = 0 Total = 1	Output of Sector I = 1.2 Output of Sector II = 0 Total = 1.2	Output of Sector I = 1.3 Output of Sector II = 0.4 Total = 1.7

Note: *The elements on the principal diagonal of $(I-A)^{-1}$ are greater than unity because the production of a unit of final output by any industry requires the production of some of its output for intermediate use also. For a simple explanation of the "inverse matrix", reference may be made to William I. Abraham, *National Income and Economic Accounting* (Englewood Cliffs, N.J.:Prentice-Hall, 1969), ch. 5.

G.D.P. need not necessarily mean a change in inter-industry structure.[2]

In the previous chapter, we noted the elements of the Malaysian economic structure and traced the essentials of postwar structural change on the basis of sectoral composition of G.D.P. In this chapter, we shall assess the economy's structure with the aid of input-output analysis. The analysis is based on data for 1960 – 67.

Inter-Industry Transactions Data, West Malaysia, 1960 – 1967

There are no inter-industry tables for Malaysia as a whole. The Department of Statistics of the Government of Malaysia has so far published two sets of tables for West Malaysia, one for 1960 and the other for 1965.[3] In these tables, all transactions are valued at prices received by producers. For the purpose of detailed analysis of structural change, we have prepared eight transactions tables covering the years 1960 through 1967. The basic data were collected from the unpublished national accounts work-sheets of the Department of Statistics.

For each of the years 1960 – 67, detailed inter-industry tables were first prepared on the basis of 70 to 72 production sectors. These were then condensed into tables having 29 production sectors and a residual sector. The system of aggregation was on the same lines as the tables published by the Department of Statistics for the years 1960 and 1965.[4]

Even at the 30 by 30 sectors level, the number of empty cells in the transactions tables was quite large. For instance, in the 1966 table, out of the 900 cells some 786 were empty. While part of these could be explained by "lack of knowledge" on the distribution of the "residual sector", it was felt that for facilitating temporal comparison as well as ease of computations, the 30 by 30 tables could be further condensed. This second stage of aggregation was undertaken to reflect, firstly, the *a priori* structural facts of the West Malaysian economy; secondly, the usual grouping of economic sectors into primary, secondary, and ter-

2. The proof of this proposition for a two-sector economy is given in the writer's paper, "Inter-Sectoral Relationship and Structural Change".

3. *National Accounts of the States of Malaya, 1955 – 1961* (Department of Statistics, States of Malaya, Kuala Lumpur); *West Malaysia Inter-Industry Accounts, 1965* (Department of Statistics, Malaysia, Kuala Lumpur).

4. The method of preparing the tables, the description of sectors of economic activities, and the details of valuation of output are all contained in the two publications of the Department of Statistics cited in the footnote above. Unless explicitly stated to the contrary, it should be understood that the data processing procedures behind our tabulations are similar to those of the 1960 and 1965 tables.

tiary; and thirdly, the practice of distinguishing consumer goods and services from others. This aggregation scheme that divided the economy into eight production sectors is explained below.

1. Primary 1 or P1 Sector which produces goods mostly for domestic use (both consumption and intermediary). Included are agriculture (other than rubber planting), livestock, forestry, and fisheries.

2. Primary 2 or P2 Sector which may be broadly defined as the export sector. Rubber planting and mining are included as also rubber processing and basic metals industry.

3. Secondary 1 or S1 Sector which includes manufacturing industries that basically produce consumer goods. The sector consists of Food, Beverages, Tobacco, Textiles, Footwear, Furniture and Fixtures, Leather Products, Rubber Products, and Miscellaneous Manufacturing.

4. Secondary 2 or S2 Sector which includes those industries that generally produce intermediate and investment goods. The following industries are included: Wood and Cork, Paper and Paper Products, Printing and Publishing, Chemical Products, Non-metallic Mineral Products, Metal Products, Machinery, Transport Equipment, and Petroleum Products.

5. Secondary 3 or S3 Sector which is the "construction" industry.

6. Tertiary 1 or T1 Sector which includes all services of a "consumption" nature. These activities are: Government Administration, Defence, Education, Health, Other Professional and Personal Services, and Ownership of Dwellings.

7. Tertiary 2 or T2 Sector which includes Utilities, Transport, Storage, Communications, Banking, Insurance, and Real Estate Services.

8. Tertiary 3 or T3 Sector which is "wholesale and retail trade".

The transactions tables compiled on the basis of the eight production sectors and an unspecified or "residual" sector are given in Appendix B. The sectoral value added data given in these tables are comparable with the data published by the Department of Statistics in their *National Accounts of West Malaysia, 1960 – 1966.*[5] The tables given in the appendix for 1960 and 1965 are not fully comparable with the already published transactions tables for the two years. The main dif-

5. Thus the sectoral value added data in Appendix B are not comparable with those in the *National Accounts, 1960 — 68.*

ference will be in the distributive trade and the residual sector allocations. The general basis for obtaining the allocations (the row) of the residual sector is as follows: on the one hand, we have the G.D.P. at factor cost as equal to

$$C + I + G + X - M - T$$

where C is consumption, I is investment, G is government consumption, X is export, M is import, and T is indirect tax net of subsidies; on the other hand, we have, for each sector and for the economy, the equality between value added and the value of output less the value of input. Prior knowledge, therefore, of C, I, G, X, M, and T on the one hand and the sectoral value added at factor cost and at market prices, sectoral output, and the allocations of imports on the other hand will altogether determine consistently the allocations of the residual sector. The residual sector, as may be seen from the tables in Appendix B, is just as prominent as some of the other production sectors. This large residual sector is the result of our ignorance as to the destination of part of domestically produced goods and services as also a good part of the imported inputs. The existence of such a large residual sector is an important limitation of the tables and analyses based on them.[6]

Apart from the *a priori* considerations mentioned above in favour of our aggregation scheme, a brief empirical exercise may also be conducted to see whether the aggregation scheme is acceptable from the point of view of structural analysis.[7] The exercise makes use of a comparison of output projections on the basis of a disaggregated model with output projections from an aggregated model. ECAFE has published

6. It may be noted that the residual sector's contribution was mostly intermediate goods and services. It also takes care of the "statistical discrepancy" usual in national income accounting.

7. Several authors have considered the problem of aggregation in the context of input-output tables. The rule of aggregation should be such as not to create any artificial instability in input-output coefficients. Some of the methods advanced are found, for instance, in M. Mukherjee, "A Method of Aggregating Sectors in an Inter-Industry Transactions Table", *The Econometric Annual of the Indian Economic Journal* 17, 6 (1970); and the paper by Kossov in *Contributions to Input – Output Analysis*, ed. A.P. Carter and A. Brody, Proceedings of the Fourth International Conference on Input-Output Techniques, Geneva, 1968 (Amsterdam: North-Holland Publishing Co., 1970). In the introduction to this volume, on page 5, P.N. Mathur notes, "It is becoming clear that no completely satisfactory method of aggregation can be developed except for special cases, where two rows or two columns of the input – output matrix are proportional, or where we consider aggregating a sector whose products are utilized only for intermediate demand, with all of its customers".

the output projections for 1970 on the basis of a 25 sector input-output table for 1965 and on the basis of projected final demand by sector for 1970.[8] ECAFE's projected final demand and projected output by sector can be reclassified into our nine sectors. Using the final demand for the nine sectors and our nine sector input-output tables, we can project sectoral output. The two sets of projections, set out in Table 29, do not differ very much except in the case of wholesale and retail trade sector (sector T3). This is because the row "wholesale and retail trade" in the published table for 1965 which ECAFE has used differs from the row in our table.[9]

Inter-Sectoral Relationship in a Two-Sector Model

One of the essential features of economic development is the changing inter-sectoral relationship between the agricultural and non-agricultural sectors. As a prelude to our analysis of such interrelationship in the West Malaysian economy, we shall first refer briefly to the observations of Karl A. Fox on the United States economy and of J.K. Sengupta on the Indian economy.[10]

From the 1947 input-output table for the United States, Fox constructs a two-sector table. The two sectors are designated "Agricultural Complex" and "All Other Industries". In the agricultural complex are included livestock products, crops, food processing, and fibre pro-

8. ECAFE, United Nations, "Sectoral Output and Employment Projections for Malaysia: 1970 – 1980", in *Sectoral Output and Employment Projections for the Second Development Decade,* Development Programming Techniques Series No. 8, Bangkok, 1970, pp. 186 – 209. Given the input coefficient matrix as A and final demand vector as D gross output is obtained from

$$X = (I - A)^{-1} D$$

If D refers to a future date the assumption that A is invariant over time is implied.

9. The difference arises because the row "wholesale and retail trade" in the published table includes import duties which are shown separately under a column "import trade". Imports in turn are shown at market prices. In our table, due to data limitations, import duty is allocated to the various production sectors just as any other input and imports are shown at c.i.f. value. These differences in one row also influence the inverse matrices and thus account not only for the variations in the projections for the T3 sector but also for the variations in other sectors.

10. Karl A. Fox, "The Food and Agricultural Sectors in Advanced Economies", in *Structural Interdependence and Economic Development,* ed. Tibor Barna, Proceedings of an International Conference on Input-Output Techniques, Geneva, Sept. 1961 (London: Macmillan, 1963); J.K. Sengupta, "Models of Agriculture and Industry in Less Developed Economies", ibid.

TABLE 29
PROJECTED GROSS OUTPUT BY SECTOR FOR 1970 AT 1965 PRICES IN MILLIONS OF DOLLARS

Sector*	ECAFE Projection Based on 25 × 25 Input-Output Table	Projection Based on 9 × 9 Input-Output Table†	Percentage Deviation
P1	1,996	1,997	—
P2	4,890	5,003	+ 2.3
S1	1,657	1,618	− 2.3
S2	1,541	1,577	+ 2.3
S3	1,301	1,322	+ 1.6
T1	2,259	2,262	+ 0.1
T2	1,179	1,202	+ 2.0
T3	2,329	2,577	+10.6
R	1,488	1,482	− 0.4
Total	18,640	19,040	+ 2.1

Note *P1, P2, ... T3 refer to production sectors, R is the residual sector.
† The table for 1965 in Appendix B.

cessing. All other production activities are included in the second sector. From the basic 2 by 2 input-coefficient matrix, the following Leontief inverse is obtained:

$$(I - A)^{-1} = \begin{bmatrix} 1.7811 & 0.0521 \\ 0.3649 & 1.6314 \end{bmatrix}$$

The above matrix indicates that if the agricultural complex were to deliver an extra dollar of output for final demand, this would call for 36 cents of output of all other industries. If, however, all other industries were to deliver a dollar of output for final demand, agricultural complex would have to produce only 5 cents worth of output. In sharp contrast to the U.S. structure is the Indian structure. The appropriate inverse matrix for India for the year 1960/61, once again considering the agricultural complex and the other industries, is as follows:

$$(I - A)^{-1} = \begin{bmatrix} 1.293 & 0.215 \\ 0.051 & 1.311 \end{bmatrix}$$

In the case of India, an increase in the final demand for the output of the agricultural complex by a rupee would only call for a small increase in other industries' output. Industry, however, depends relatively more on agriculture. Sengupta observed:

> As the process of development continues, the sector representing the Agricultural Complex is expected to increase its use of inputs from the Industrial Complex (e.g., more extensive use of fertilizers, mechanical power and nutrients), whereas the Industrial Complex is likely to use a lesser proportion of inputs from the Agricultural Complex.[11]

For analysing structural change in West Malaysia on the basis of a two-sector model, we identify the two sectors as primary and non-primary. The primary sector includes the P1 and P2 sectors defined earlier. The non-primary sector includes all other activities.[12] Since the P2 sector includes rubber processing and metal manufacturing, the primary sector defined here is broadly consistent with the concept of the "agricultural complex" in the earlier studies. The idea is to include the agricultural and mineral processing industries along with their "mother" industries, namely, agriculture and mining.

In terms of the primary and non-primary sectors, the first aspect that may be considered is how much of the total output of each sector is going for final demand and how much is contributed for intermediate de-

11. Sengupta, "Models of Agriculture and Industry", p. 84.
12. The non-primary sector includes the S1, S2, S3, T1, T2, T3, and R sectors. As the deliveries from P1 and P2 to R are insignificant, it is quite appropriate to include R in the non-primary sector.

mand. From Table 30, we see that there is an overall declining trend in the proportion of output going to final demand from the primary and non-primary output produced in West Malaysia. In other words, proportionally more and more output is allocated for intermediate use. This trend is what one can reasonably expect if the economy is developing.

TABLE 30
PERCENTAGE OF TOTAL OUTPUT PRODUCED IN WEST MALAYSIA AND MEETING FINAL DEMAND, 1960 – 67

Sector \ Year	1960	1961	1962	1963	1964	1965	1966	1967
Primary	58.4	57.0	58.1	57.1	56.3	55.8	55.0	55.6
Non-Primary	76.2	74.9	73.3	72.0	70.1	70.3	70.3	68.8

Next we consider the inter-sectoral relationship between the primary and the non-primary sectors. This is achieved by looking at the 2 by 2 input coefficient matrices and the appropriate inverses for the period 1960 – 67 presented in Table 31. The overall trends may be summarized as follows. Firstly, the primary sector has gradually increased its per unit purchases from the non-primary sectors. An increase in demand for primary output by a dollar would have stimulated the non-primary sector to the tune of 10 cents in 1960; the effect is 19 cents in 1967. Secondly, the primary sector's per unit purchases of its own output do not show any definite trend. Thirdly, the non-primary sector's per unit purchases of primary output show a declining trend. The appropriate element in the inverse matrix also shows the decline from 0.1392 in 1960 to 0.1229 in 1967. Fourthly, the intra-sectoral relationship of the non-primary sector also strengthened during 1960 – 67. The per unit purchases rose from 0.1911 in 1960 to 0.2604 in 1967. As a consequence the appropriate element in the inverse also increased.

Two reasons may be advanced to explain the growing sectoral interdependence. Firstly, the continued export-orientation of the economy requires the continuation and the strengthening of the inter-

TABLE 31

THE PRIMARY – NON-PRIMARY INPUT COEFFICIENT MATRICES AND THE INVERSES, WEST MALAYSIA, 1960 – 67

Year	A		$(I-A)^{-1}$	
	P	NP	P	NP
1960	P 0.3281	0.0751	1.4998	0.1392
	NP 0.0553	0.1911	0.1025	1.2458
1961	P 0.3411	0.0703	1.5290	0.1357
	NP 0.0548	0.2077	0.1057	1.2715
1962	P 0.3325	0.0654	1.5091	0.1270
	NP 0.0576	0.2230	0.1119	1.2964
1963	P 0.3382	0.0635	1.5232	0.1266
	NP 0.0636	0.2362	0.1268	1.3198
1964	P 0.3432	0.0609	1.5364	0.1251
	NP 0.0728	0.2518	0.1495	1.3487
1965	P 0.3477	0.0604	1.5459	0.1252
	NP 0.0671	0.2543	0.1391	1.3523
1966	P 0.3531	0.0594	1.5602	0.1238
	NP 0.0750	0.2512	0.1563	1.3479
1967	P 0.3367	0.0596	1.5250	0.1229
	NP 0.0938	0.2604	0.1934	1.3677

relationship between the exporting sector and the other sectors. Secondly, the level of per capita income in West Malaysia in any of the years considered is high enough to be generally consistent with the observed sectoral relations.[13] It should perhaps be mentioned here that

TABLE 32
INPUT COEFFICIENT MATRICES AND INVERSES, 1960 – 66, AT 1964 PRICES

Year	A at 1964 prices		$(I-A)^{-1}$ at 1964 prices	
	P	NP	P	NP
1960	P 0.3281	0.0639	1.4998	0.1185
	NP 0.0650	0.1911	0.1205	1.2458
1961	P 0.3411	0.0658	1.5290	0.1269
	NP 0.0585	0.2077	0.1129	1.2715
1962	P 0.3325	0.0634	1.5091	0.1231
	NP 0.0594	0.2230	0.1153	1.2964
1963	P 0.3382	0.0638	1.5232	0.1272
	NP 0.0633	0.2362	0.1262	1.3198
1964	P 0.3432	0.0609	1.5364	0.1251
	NP 0.0728	0.2518	0.1495	1.3487
1965	P 0.3477	0.0594	1.5459	0.1231
	NP 0.0682	0.2543	0.1414	1.3523
1966	P 0.3531	0.0617	1.5602	0.1285
	NP 0.0722	0.2512	0.1504	1.3479

13. "Industrial sectors become much more interdependent as income levels rise and ...interindustry analysis may be quite important for countries having per capita income of [U.S.] $200 - $300 ..." Hollis B. Chenery, "The use of Interindustry Analysis in Development Programming", *Structural Interdependence and Economic Development*, ed. Barna, p. 14.

industries such as fertilizers, manufactures, and petroleum refining have been established and have grown in recent years, thus paving the way for import substitution and tightening up of the intra-domestic sectoral relationships.

While we may hypothesize that the above trends in the primary – non-primary relationship have been a result of the establishment of various new industries and the growth of the existing ones, one important factor that has been ignored in the temporal comparison is the changes in relative prices. For instance, *ceteris paribus,* an increase in non-primary product prices and a decline in primary product prices are just enough to bring about the aforementioned temporal shifts in the various elements of the input coefficient matrices and the Leontief inverses. Thus it is essential to consider the input-output coefficients at constant prices. This is attempted in the next section.

The Two-Sector Model at Constant Prices

The input coefficient matrix at current prices and a vector of price indices give us the coefficient matrix at constant prices as follows:

$$A' = [P]^{-1}[A][P]$$

where A' is the matrix at constant prices and P is the diagonalized vector of price indices.

To meet our requirements for the West Malaysian 2 by 2 matrices, some rough and ready price indices for the two sectors are computed with 1964 as the base year.[14] The 2 by 2 input coefficient matrices and the inverses at 1964 prices are given in Table 32.

While it is difficult to evaluate the accuracy of the constant price matrices, some broad trends can be noted. Part of the structural change evident in the matrices of Table 31 is also noticeable from the matrices of Table 32. One of the features retained in the two sets of coefficient matrices is the upward trend of non-primary output. Thus the intra-sectoral interdependence of the non-primary sector is on the increase. This implies that the new industries in the non-primary sector that are set up use relatively more of the output of other industries producing

14. The sectoral value added data consistent with the input coefficient matrices in this chapter are comparable with the value added data of the report on *National Accounts, 1960–66* which contains sectoral value added at 1964 prices. The price indices for computing the input coefficient matrices are obtained from the implicit price deflators of sectoral value added. These price indices with 1964 as the base year are at best crude approximation to the correct output price indices.

both goods and services than the output of the industries of the primary sector. One of the trends observed in Table 31 (inverse matrices) that is somewhat reversed in Table 32 (inverse matrices) is in regard to the impact of a unit increase in final demand of the non-primary sector on the primary sector. In Table 31 we observed a declining trend. In Table 32, there is no clear trend though one may feel that the data point to a slight upward trend. Thus, even though the non-primary sector is increasing its purchases of its own output, it is either maintaining or increasing its links with the primary sector. This pattern of development may be considered typical of an industrializing, yet primary export-oriented economy.[15]

Analysis of the Eight-Sector Input-Output Tables: Introduction

The inter-industry transactions tables in Appendix B were drawn up for the period 1960 – 67 on the basis of eight production sectors and an unspecified or residual sector. The data in these tables may be analysed[16] for (1) sectoral sales for intermediate use, (2) sectoral purchases of intermediate goods, and (3) impact on the economy from a unit increase in the final demand of a sector. The existence of an all-pervading residual sector,[17] the consideration of aggregated activities and the lack of suitable price deflators will all impose limitations on our findings

15. (Recapitulation: In the U.S. economy as noted above, a dollar increase in final demand of "all other industries" would stimulate the "agricultural complex" only to an extent of 5 cents.) It may be hypothesized that a decline in this extent of stimulus is characteristic of an industrializing and relatively closed economy.

16. The discussion in this section comes under "structural analysis" illustrated well in Hollis B. Chenery and Paul G. Clark, *Inter-Industry Economics,* chs. 8 and 9 (New York: John Wiley, 1959). The West Malaysian analysis is based on input coefficient matrices and the Leontief inverses for the years 1960 through 1967. It may be noted that the transactions tables alone are given in the Appendix. The input coefficient matrices and inverses are not given to save space and minimize the number of tables. The two sets of matrices were prepared on the IBM computer of the University of Singapore.

17. A consequence of the existence of the residual sector is that it prevents the proper triangularization of the transactions and the coefficient matrices. But input-output tables of most countries are nearly triangular as pointed out in H.B. Chenery and T. Watanabe, "International Comparisons of the Structure of Production", *Econometrica* 26 (1958); and also David Simpson and Jinkichi Tsukui, "The Fundamental Structure of Input-Output Tables, An International Comparison", *Review of Economics and Statistics* 47 (1965).

TABLE 33
RATIO OF INTERMEDIATE DEMAND TO TOTAL DEMAND BY SECTOR, 1960 – 67

Sector \ Year	1960	1961	1962	1963	1964	1965	1966	1967
Higher than Total Economy								
R	0.75	0.72	0.77	0.85	0.91	0.90	0.84	0.92
T2	0.54	0.56	0.57	0.57	0.57	0.58	0.57	0.57
S2	0.47	0.50	0.51	0.49	0.53	0.49	0.49	0.48
P1	0.42	0.40	0.39	0.39	0.40	0.40	0.39	0.41
P2	0.41	0.44	0.43	0.44	0.45	0.45	0.47	0.46
Lower than Total Economy								
T3	0.18	0.21	0.24	0.27	0.28	0.29	0.31	0.33
S3	0.10	0.09	0.07	0.07	0.07	0.07	0.07	0.07
S1	0.07	0.07	0.07	0.07	0.07	0.09	0.10	0.12
T1	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.04
Total Economy	0.33	0.35	0.35	0.36	0.37	0.37	0.38	0.38

which are thus indicators of possible direction of structural change rather than the accurate magnitudes thereof.

Sectoral Sales for Intermediate Use

Since each production sector sells to other sectors as also final purchasers (consumers, investors, importers, and government) one of the criteria for inter-sectoral comparison and analysis of trends in production structure is the proportion of output of a sector going for intermediate use. This proportion, to a great extent, depends on the nature of the sector and also on the structure of the economy. From Table 33 we notice that the major producers of intermediate goods, apart from the residual sector, are the T2 and S2 sectors. P1 and P2 sectors also rank high in the production of intermediate goods. P2, the export sector, has slowly increased its contribution to intermediate use. By and large, T3, S3, S1, and T1 sectors, by their nature, sell mainly to final users. These characteristics, it should be noted, are actually implied in the way the different sectors are classified and aggregated. (The

TABLE 34
PROPORTION OF TOTAL SUPPLY ASSIGNED TO INTERMEDIATE USE IN DIFFERENT COUNTRIES

Country and Year*	Percentage for Intermediate Use	Exports as a Percentage of Total Supply†
Japan, 1951	46.1	4.6
Italy, 1950	41.1	5.0
United States, 1947	41.9	4.3
Norway, 1950	30.4	18.8
West Malaysia, 1967	**31.7**	**18.3**
Singapore, 1967‡	19.9	42.9

Notes: *The percentages for Japan, Italy, United States, and Norway are from Chenery and Clark, *Interindustry Economics*, p. 206. These are computed on the basis of total demand (or total supply) equal to domestic production plus imports.

† Computed from Chenery and Clark's data and Appendix B.

‡ From Chua Wee Meng, "An Export Propelled Growth Model of the Singapore Economy: An Interindustry Approach", *Singapore in the International Economy*, ed. Wong Kum Poh and Maureen Tang (Singapore: Singapore University Press, 1972).

TABLE 35

PROPORTION OF TOTAL SUPPLY ASSIGNED TO INTERMEDIATE USE AND EXPORTS AS A PERCENTAGE OF TOTAL SUPPLY, WEST MALAYSIA, 1960 — 67

	1960	1961	1962	1963	1964	1965	1966	1967
Output for Intermediate Use (%)	27.2	28.0	28.2	29.1	30.5	30.7	31.1	31.7
Exports to Total Supply (%)	25.7	22.8	21.3	20.6	20.0	20.6	19.8	18.3

TABLE 36

RATIO OF TOTAL PURCHASES (FROM DOMESTIC SECTORS) TO TOTAL PRODUCTION BY SECTOR, 1960–67

Sector \ Year	1960	1961	1962	1963	1964	1965	1966	1967
Higher than Total Economy								
S1	0.70	0.70	0.69	0.66	0.63	0.61	0.59	0.58
S2	0.57	0.54	0.54	0.51	0.46	0.47	0.45	0.47
R	0.50	0.50	0.52	0.54	0.58	0.60	0.62	0.64
P2	0.45	0.47	0.47	0.48	0.49	0.49	0.51	0.52
S3	0.44	0.42	0.41	0.44	0.49	0.48	0.49	0.51
Lower than Total Economy								
T2	0.20	0.20	0.21	0.21	0.23	0.22	0.22	0.23
P1	0.14	0.13	0.13	0.15	0.17	0.18	0.18	0.21
T3	0.09	0.11	0.12	0.15	0.17	0.18	0.16	0.16
T1	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05
Total Economy	0.33	0.35	0.35	0.36	0.37	0.37	0.38	0.38

aggregation scheme and the aggregation criteria have been mentioned earlier.)

For the economy as a whole, the proportion of total output devoted for intermediate use has been slowly increasing. In Table 34 we present some data on other countries and West Malaysia for comparison. The percentage of total supply devoted for intermediate use is high in the advanced countries, but the percentage itself seems to depend on the extent of export-orientation of the economy. The Norwegian percentages are closer to that of West Malaysia and both are export-oriented. (The closeness of the percentages, most probably, is a statistical accident. If it is not, we may say that structural similarities of some form exist among countries which are export-oriented, no matter what these exports are. In Norway of 1950, the leading export sector was "Transport". In West Malaysia of 1967 it was the P2 sector comprising rubber and tin.) The links between export orientation and the percentage of output for intermediate use are also well brought out by West Malaysia's own experience during 1960 – 67. From Table 35 we see the inverse relationship between the percentage of total supply assigned to intermediate use and the percentage of exports in total supply. Since the data in this table are at current prices, the fall of the ratio of exports to total supply is probably exaggerated by price changes such as the fall in the export price of rubber and the rise in prices of consumer goods and services during the period.

Sectoral Purchases for Intermediate Use

The sectoral ratios of intermediate goods purchases to production are given in Table 36. The service industries (T1, T2, T3) have relatively low ratios and the manufacturing industries (S1 and S2) have relatively high ratios. This once again reflects the nature of these industries.[18] All the production sectors except the two manufacturing sectors S1 and S2 have stepped up their purchases from the production within the economy. S1 and S2 sectors over time are relatively more influenced by the addition of new industries relying more and more on imported intermediate goods. This trend is evident from Table 37 where we find that the direct import coefficients of S1 and S2 sectors are on the increase. The direct import coefficients of all other sectors have generally declined. It is clear, therefore, that in respect of several industries, there has been some amount of import substitution from the input side. This type of import substitution is most evident in the primary export sector (P2), the con-

18. Chenery and Clark, *Inter-Industry Economics*, p. 207.

struction sector (S3), government and personal services (T1), and producer services (T2). Replacement of imported inputs in these sectors required the establishment of industries producing commodities such as fertilizers, cement and other building materials, plastics, paper products, and stationery. These industries in turn require imported inputs. Within the S1 and S2 sectors, the first sector produces consumer goods and the second sector produces intermediate and investment goods. From Table 37, we see that both the secondary sectors are absorbing imported inputs on an increasing level. The implication is that import substitution has been taking place in two spheres: the consumption goods sphere, and the intermediate goods sphere. We will consider industrialization and import substitution in more detail in the next chapter.

Analysis of the Inverse Matrices

From the $(I - A)^{-1}$ of a given input coefficient matrix A, we can obtain the column total for each sector. The total has the following interpretation: *ceteris paribus,* an increase in the final demand by a unit for the output of a sector will directly and indirectly cause an increase in the total output of that and all other sectors in the economy by an amount indicated by that sector's column total. Thus from Table 38 we note that the 1960 column total (from the appropriate inverse matrix) for the P2 sector is 1.789; that is, if final demand (mainly export demand) for the P2 (primary export) sector increases by $1 million, other things remaining the same, the total output in the economy as a whole would increase by $1.789 million. As the temporal trends in the column totals are definitely influenced by price variations, it is difficult to appraise them seriously. However, there are a few aspects worth mentioning about the export sector and its impact on the rest of the economy.

The impact on the total economy of the primary export sector is either the greatest, or at least as great as, that of the three secondary sectors. Contrary to popular beliefs, there is nothing seriously wrong in primary export orientation *per se.* In fact, an analysis of the development strategies of several countries which had experienced high rates of growth during the postwar period revealed to Chenery [19] that the success in the majority of the countries was brought either by capital inflow (moderate or high) or through a high rate of growth of primary exports.[20] Interestingly enough, capital inflows and primary exports went

19. H.B. Chenery, "Growth and Structural Change", *Finance and Development* 3 (1971): 24-25.
20. In Chenery's article, average annual G.N.P. growth rate 5.5% or more was

TABLE 37

DIRECT IMPORT COEFFICIENTS BY SECTOR, 1960–67

Sector \ Year	1960	1961	1962	1963	1964	1965	1966	1967
P1	0.074	0.073	0.090	0.094	0.075	0.071	0.066	0.064
P2	0.063	0.056	0.075	0.059	0.042	0.037	0.022	0.031
S1	0.120	0.125	0.125	0.154	0.175	0.183	0.190	0.199
S2	0.116	0.135	0.132	0.167	0.223	0.214	0.230	0.220
S3	0.227	0.235	0.237	0.212	0.174	0.164	0.158	0.149
T1	0.017	0.013	0.012	0.011	0.011	0.010	0.009	0.008
T2	0.080	0.089	0.087	0.068	0.042	0.042	0.047	0.039
T3	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
R	0.495	0.492	0.476	0.464	0.420	0.396	0.376	0.356

TABLE 38
COLUMN TOTALS FROM THE APPROPRIATE INVERSE MATRICES BY SECTOR AND YEAR

Year \ Sector	P1	P2	S1	S2	S3	T1	T2	T3
1960	1.212	1.789	1.951	1.775	1.673	1.058	1.305	1.124
1961	1.191	1.868	1.943	1.748	1.639	1.068	1.296	1.163
1962	1.193	1.847	1.945	1.751	1.619	1.075	1.318	1.182
1963	1.229	1.893	1.913	1.720	1.677	1.076	1.330	1.233
1964	1.277	1.930	1.910	1.677	1.768	1.081	1.374	1.273
1965	1.284	1.922	1.896	1.688	1.768	1.080	1.359	1.288
1966	1.282	2.000	1.871	1.659	1.774	1.080	1.349	1.258
1967	1.329	2.015	1.862	1.722	1.823	1.098	1.379	1.270

hand in hand historically in West Malaysia and other primary export-oriented countries. If some of these countries are not as modernized as West Malaysia, or not enjoying as high a per capita income as that of West Malaysia, the blame probably cannot be put on primary export orientation based on specialization and comparative advantage.

The primary sector is also prominent with regard to the impact of final demand on the value added at factor cost or on factor income. This is measured as follows: since we know the ratio of value added to output for each sector, the inverse matrix may be pre-multiplied by a row vector of these value added ratios, and the resultant column vector has elements which represent the increment to G.D.P. of the economy from a unit increment to final demand of each sector. These increments to G.D.P. are once again on the basis of *ceteris paribus* assumption. It is also possible to decompose the G.D.P. increment into "direct and indirect". These may be explained with reference to Table 39. Against P1 for 1960, the direct and indirect increment to G.D.P. is shown as 0.828. The indirect increment is shown as 0.051. The implications are as follows. If the final demand for P1 (agriculture, forestry, and fishing) goes up by a dollar, as a result of output increase of P1 as well as other sectors, G.D.P. will increase by about 83 cents. However, about 78 cents being the factor income generated in the P1 sector itself, the indirect income generation is only to the tune of about 5 cents. From Table 39, we notice that the primary and tertiary sectors generate relatively more total income but very little indirect income. The manufacturing and construction sectors generate relatively lower total income but their indirect income generation is more. The changes during 1960 – 67 are generally in the direction of increasing the indirect income contribution due to improved inter-sectoral relationships.

The data in Table 39 enable us to understand the great challenge a community faces in affecting transformation of economic structure. If entrepreneurial decisions on production were to be made on the basis of value added per unit of final demand, the preference will be for those activities which have a greater direct income increment rather than those with a greater indirect income increment. Thus there is a natural tendency to prefer the primary and tertiary sectors to the secondary sector. In the course of transformation, however, as the primary sector purchases

– – considered as "high growth". Seven countries were listed under the high capital inflow strategy and ten (of which Malaysia is one) under high primary exports strategy. There are only five countries listed under the strategy of low external dependence.

TABLE 39
DIRECT AND INDIRECT G.D.P. INCREMENT FROM A UNIT INCREASE IN FINAL DEMAND BY SECTOR, 1960, 1967

Year	1960		1967	
Sector	Direct + Indirect Increment to G.D.P.	Indirect Increment Only	Direct + Indirect Increment to G.D.P.	Indirect Increment Only
P1	0.828	0.051	0.828	0.074
P2	0.813	0.032	0.802	0.078
S1	0.648	0.468	0.604	0.365
S2	0.685	0.354	0.606	0.279
S3	0.620	0.290	0.659	0.314
T1	0.942	0.016	0.941	0.023
T2	0.722	0.085	0.742	0.106
T3	0.549	0.049	0.592	0.079

more and more inputs from the secondary sector, there will come about a decline in the value added to output ratio of the sector, an increase in the indirect income generation per unit of final demand, and a decline in the direct income generation per unit of final demand. Since these changes are contingent upon the purchase of modern inputs by the primary sector, and since such purchases are required only when the primary sector has to substantially increase production and productivity, the initial condition for transformation is a high rate of growth of the primary sector. If the size of the domestic market is a constraint on primary sector growth, the export markets have to supply the growth impulses. An unambiguous logical corollary of this discussion is that countries endowed with large natural resources should not only seek from the developed countries the transfer of capital and technology into secondary sector but, more importantly, they should if necessary seek

such a transfer into the primary sector.[21] Secondary sector in general and manufacturing activity in particular have to be more tuned toward serving the population engaged in the primary sector and the production activity therein. Once the initial stage of expansion of primary sector exports and related industries is complete, the manufacturing sector can take up the role of the exporter and growth leader.

As a brief summary of the discussion in this chapter, we may note that input-output analysis of the West Malaysian economy over the 1960 – 67 period has revealed that the structure of the economy has been changing, that import substitution in the sphere of intermediate goods has facilitated the structural change, and that the primary export sector continues to be of great significance to the economy. Since much of the structural change is attributable to the establishment of manufacturing industries catering to the domestic market, the patterns of industrialization and import substitution are discussed in detail in the next chapter.

21. For the economic growth of Southeast Asian countries, two major lines of policies were suggested by Hla Myint: "(1) They should permit freer entry of private foreign investment into their primary export industries and charge the foreign enterprises the full "economic rent" for the use of their national resources. This is a more profitable policy than restricting foreign investment and suffering the loss of income from royalties and taxes. (2) They should try to attract private foreign investment by making their resources (both natural and human) more attractive rather than by making their markets more attractive by tariff and tax concessions. This requires them, among other things, to devote a greater share of the royalties and taxes derived from their natural sources to investment in social overhead capital. This is the most important way of making their resources more attractive to foreign investment." Hla Myint, *Southeast Asia's Economy in the 1970's,* Overall Report, Manila, 1970, ch. 1, pp. 52 – 53.

4. *Industrialization and Import Substitution*

Two types of strategies to foster industrialization and economic development were widely debated in the past: the "balanced growth" strategy, and the "unbalanced growth" strategy. The rationale for balanced growth was obtained as follows: "Private investment in any single industry considered by itself is discouraged by the smallness of the existing market. The solution seems to be a balanced pattern of investment in a number of different industries, including agriculture, so that people working with more capital and better techniques become each other's customers. This is the so-called doctrine of 'balanced growth'."[1] The limitations of this strategy for practical implementation are obvious: they are, *inter alia*, scarcity of capital and scarcity of trained manpower. Thus, "we must go on to ask where the capital is to come from.[2] In contrast to balanced growth, unbalanced growth emphasizes the development of selected industries with priorities based on backward and forward linkages with the rest of the economy.[3] As an alternative to balanced growth and probably complementary to unbalanced growth, we have the strategy of import-substituting industrialization policy, the rationale for which might be elucidated thus: "a country engaged in foreign trade has established domestic markets presently supplied by imports from abroad. Import substitution, like export promotion, thus offers an opportunity of growth in happy disregard of the need for an investment package. The protective tariff has historically been a major alternative to the balanced investment package, in the early stages of development."[4]

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1. Ragnar Nurkse, "Excess Population and Capital Construction", *Malayan Economic Review* 2, 2(1957): 1 – 11.
2. Ibid.
3. This strategy was preferred by Albert Hirschman, in his *The Strategy of Economic Development* (New Haven: Yale University Press, 1959).
4. H.W. Singer, "The Concept of Balanced Growth in Economic Development Theory and Practice", *Malayan Economic Review* 4, 2 (1958): 9 – 11.

In their study of industrialization policies of developing economies, Little, Scitovsky, and Scott point out that three factors have led to the growth of import substitution. [5] First, the low primary product prices of the 1930s encouraged a move for diversification. [6] Second, the shortage of imported manufactured goods during the Second World War stimulated domestic manufactures. And third, the emergence of postwar balance of payments problems provided the justification for

5. Ian Little, Tibor Scitovsky, and Maurice Scott, *Industry and Trade in Some Developing Countries* (London: Oxford University Press for OECD Development Centre, 1970).

6. Diversification (industrialization, in fact) has been suggested by Nurkse as the long-run solution for the instability of the primary product exporting countries. According to him, "the instability of export markets for primary commodities makes any steady development policy difficult; discourages investment in primary production itself; generally limits the 'economic horizon,' and destroys the sense of continuity so necessary in private as well as public planning". "There are two fundamental remedies, one on the side of the industrial, the other on the side of primary producing countries. The first is to control the business cycle.... The other basic remedy is for the underdeveloped countries to make themselves less vulnerable to such fluctuations. This means filling the vacuum in their domestic economies through a diversified growth of mutually supporting activities catering largely for the home market. It means, in a word, industrialization." R. Nurkse, "Trade Fluctuations and Buffer Policies of Low-Income Countries", *Kyklos* 11, 2 (1958): 145. The economic crisis of the 1930s has influenced the thinking in the developed countries also. For, as Sir John Hicks pointed out, "The main thing which caused so much liberal opinion in England to lose its faith in Free Trade was the helplessness of the older liberalism in the face of massive unemployment, and the possibility of using import restriction as an element in an active programme of fighting unemployment. One is, of course, obliged to associate this line of thought with the name of Keynes. It was this, almost alone, which led Keynes to abandon his early belief in Free Trade." J.R. Hicks, *Essays in World Economics* (London: Oxford University Press, 1959), p. 48. Among the studies which focused attention on long-term changes in terms of trade, mention may be made of the following: R. Prebisch, "The Role of Commercial Policies in Underdeveloped Countries", *American Economic Review, Papers and Proceedings,* May 1959; M.K. Atallah, *The Long-Term Movement of the Terms of Trade Between Agricultural and Industrial Products,* (Rotterdam, 1958); Department of Economic Affairs, United Nations, *Relative Prices of Exports and Imports of Underdeveloped Countries* (New York, Dec. 1949); and League of Nations, *Industrialization and Foreign Trade* (Geneva, 1945). On the growth of exports of underdeveloped countries and the lack of spread effects, special mention may be made of Hla Myint's "The Gains from International Trade and the Backward Countries", *Review of Economic Studies* 22, 2 and "The 'Classical Theory' of International Trade and the Underdeveloped Countries", *The Economic Journal,* June 1958.

import restrictions which in turn provided protection to domestic industry.[7]

The motivation for import substitution in Malaysia derived largely from the secular decline of the rubber price and the consequent need for diversification,[8] as well as the need to absorb the growing labour force in productive employment. Import substitution thus has not been used in Malaysia either to correct a balance of payments disequilibrium or in pursuance of a policy of self-sufficiency,[9] the objective of self-sufficiency being limited to the rice sector in Malaysia.[10]

The policy of restricting imports by the use of tariffs or otherwise in an effort to industrialize has been severely criticized in recent years. It is alleged that the policy has led to one or more of the following problems:

7. Arguments relating to primary product prices and balance of payments have been considered in detail by Harry Johnson in his "Tariffs and Economic Development: Some Theoretical Issues", *Journal of Development Studies* 1, 1 (1964): 3 – 30. Actually Johnson brands the argument in favour of tariffs on the basis of deteriorating terms of trade as a non-argument (pp. 6 – 7).

8. The need to diversify recurs in all the five-year plans — that of Malaya as well as Malaysia.

9. Johnson, "Tariffs and Economic Development", points out that import-substitution is not the correct policy to achieve a balance of payments equilibrium. A simple empirical model of Nathaniel Leff and Antonio Netto shows that the progress of import substitution and deterioration in balance of payments may go hand in hand. Nathaniel H. Leff and Antonio Delfin Netto, "Import Substitution, Foreign Investment and International Disequilibrium in Brazil", *Journal of Development Studies* 2, 3 (1966): 218 – 33. As far as Malaysia is concerned, it had no need to use tariffs or import substitution to correct balance-of-payments disequilibria, for to some extent the currency, banking, and fiscal systems of Malaysia provide a tendency towards the automatic correction of balance-of-payments disequilibria. For more details, reference may be made to W.M. Corden, "The Malayan Balance of Payments Problem", in *The Political Economy of Independent Malaya*, ed. T.H. Silcock and E.K. Fisk (Berkeley and Los Angeles: University of California Press, 1963), pp.112 – 30.

   Johnson also notes that the objectives of self-sufficiency may be achieved through import substituting industrialization. However, as pointed out in his "Tariffs and Economic Development", protection for this purpose is inefficient instrument and subsidization of production is a better method.

10. "During the Great Depression the rubber/rice price ratio again fell steeply and Government became once more interested in, this time in fact obsessed with, the idea of stepping up domestic rice production. It was officially declared that Malaya must achieve self-sufficiency in rice, and ever since self-sufficiency in rice has remained the declared policy of the Government...." Lim Chong Yah, *Economic Development of Modern Malaya* (Kuala Lumpur: Oxford University Press, 1975), p. 175.

excess capacity, inflation, adverse balance of payments, wrong or unsuitable resource allocation, over-valued exchange rates, and inefficiency of various types. [11]

While there are no doubts about the economic significance attached to free world trade (and, one hopes, free factor movements) and eventual elimination of all trade barriers, [12] so long as such barriers exist it is but natural that a study of industrialization should encompass the study of import substitution through various incentives including tariffs. Considering protective tariffs, first, there is the need to know whether they are geared to achieve the stated or desired objective. Second, there is a need to know whether they are in the nature of creating factor market distortions, and if so their effect on trade. [13] Since the eventual growth

11. A review of literature is found in Derek T. Healey, "Development Policy: New Thinking About an Interpretation", *Journal of Economic Literature* 10, 3 (1972): 757 – 97. It may be noted that the criticism is directed towards import substitution as a policy aided by protective duties and other measures. It is not against import substitution *per se*. For, "where growth leads and import substitution follows as a consequence of demand elasticities, locational advantages, changing factor proportions, and improved technology, the decline in imports relative to national income is normal and appropriate. To start with import substitution, however, is to begin at the wrong end." Charles P. Kindleberger, *Economic Development* (New York: McGraw-Hill, 1965), p. 310.
12. Some reduction in tariffs or an adjustment of currency parity are required if protected industries were to compete in world markets. An interesting study of some of the required measures (especially devaluation) is by Daniel M. Schydlowsky. "From Import Substitution to Export Promotion for Semi-Grown-Up Industries: A Policy Proposal", *Journal of Development Studies* 3, 4 (1967): 405 – 13.
13. On the effect of differential tariffs: "The effect of implicit rates of protection of value added that rise sharply with stage of production is obviously to create a strong bias towards confining world trade as a whole predominantly to raw materials and semi-finished goods, and world trade in manufactures to capital goods and goods whose technological superiority or luxury nature enables them to overcome high protective barriers." Johnson, "Tariffs and Economic Development", p. 22. With regard to world trade, the observations of Hicks are similar to those of Johnson though Hicks has made them in a different context. "There does indeed seem to be a tendency for international trade to be settling into a form in which it consists of an exchange of capital goods for materials, of capital goods for other capital goods, and materials for other materials; each country endeavouring to make its own consumption goods for itself, but relying on trade to provide it with the *variety* of materials that it needs, and with the capital goods which it could not make for itself in the quantities it requires except at prohibitive cost." Hicks, *Essays in World Economics*, p. 185.

Since differential tariffs create distortions within an economy, a crude work-

of the economy depends on the extent to which the import substituting industries can export,[14] of significance therefore is the study of trends of industrial exports. These various aspects, namely, postwar pattern of industrialization and trends in import substitution in the Malaysian economy, are considered in the subsequent sections.

Malaysian Industrialization: A Brief Historical Outline

Industrial activity in Malaysia during the first half of the twentieth century was generally limited to processing of primary products, handicrafts, and a few essential goods produced on a small scale including those that cannot be economically imported such as ice and bricks. In the wider context of Pan Malaya which includes both West Malaysia and Singapore, even though the two important ports Singapore and Penang have become the essential links for world trade, manufacturing activity at the turn of the century was limited to the few activities stated above. Industries notably missing were in the fields of textiles, wearing apparel, footwear, paper and paper products, paints and varnishes, and chemical products except soap and candles, and metals other than tin smelting. [15] The reasons for the lack of industrial development were not

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– – ing rule appears to be not to have a differential tariff structure — a policy of a uniform tariff on *all* imports being described as the second-best optimum tariff structure. The case for uniform tariffs together with export subsidies has been briefly stated by Hicks as follows: "The scheme, which was put forward in 1930, of imposing a uniform tariff on all imports, the proceeds of which would be used to give a uniform subsidy to all exports, is especially interesting, whatever its practicability may have been. For it is strictly in accordance with Comparative Cost doctrine; it is designed to remedy the disequilibrium of money costs, without upsetting Comparative Cost relations." Hicks, *Essays in World Economics,* p. 49. Even this policy has its limitations as pointed out by Johnson, "Tariffs and Economic Development", pp. 13 – 18.

14. Of note is the following: "The establishment of a new industry as a dependency of some foreign industry is at the best a very early stage in a process of development. It may be a useful stage, but it is in the passage forward from that stage that the main difficulties commence. It is not so difficult to establish a few 'light industries' behind a tariff; but to build up such industries to the point where they can be a source of earning power on international markets is, in most cases, a very different matter." Hicks, *Essays in World Economics,* p. 194.

15. The *Straits Settlements Blue Book 1911* gives the number of establishments classified by activity for Singapore, Penang, Province Wellesley, and Malacca. This list has been re-arranged into the International Standard Industrial Classification by P.P. Courtenay. The missing industries noted in the text above were obtained from the footnote to Courtenay's table in P.P.

difficult to identify. [16] Firstly, the effective demand generated by foreign trade, which could have stimulated various economic activities, leaked abroad through the profits from mining, rubber planting, and trading paid to foreign shareholders and remittances of parts of wage and salary income to Europe, China, and India. Secondly, the fact that the two important ports of Singapore and Penang were free ports also acted as a deterrent to the establishment of diversified industrial activity. Thirdly, the small size of the population (2.3 million in West Malaysia and 0.3 million in Singapore 1911) and many possibly living at subsistence level contributed in all to the small size of the market. A fourth and more important factor that is not generally emphasized was the absence of government policies to encourage industrialization.

The position in regard to industrial activity in Malaysia was no different in the immediate postwar years. West Malaysian industry was still limited to tin smelting in Penang, rubber processing on the west coast of West Malaysia, other primary product processing activities, handicrafts, and small-scale manufacture of consumer goods. Reviewing the situation in the immediate postwar years of 1945–49, a report by the Central Office of Information in London had this to say: "Besides rubber processing and pineapple canning, the Federation's chief manufactures are rubber tubes, canvas and leather shoes, biscuits, soap and oil products, plywood and rattan furniture. There are also a number of traditional crafts producing a variety of pewter and silver wares and woven sarongs.... the nature and extent of these industries is an inadequate structure upon which to build up any real diversification of the country's economy though they make a valuable contribution." [17]

By 1949, the Malaysian economy had recovered fully from the aftermath of Japanese Occupation, and the Federation Government made an attempt to prepare a development plan. In 1949/50, a Six-Year Draft Development Plan was prepared covering the period 1950–55,[18] but the plan did not put any great emphasis on manufacturing activity even though it recognized the need to strengthen the processing of raw

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— — Courtenay, *A Geography of Trade and Development in Malaya* (London: G. Bell, 1972), pp. 110–11.

16. Some of the reasons noted here have also been discussed by P. P. Courtenay, ibid.
17. *An Economic Review of Malaya, 1945–1949,* Reference Division, Central Office of Information, London, 10 June 1950, p. 33.
18. Federation of Malaya, *Draft Development Plan,* Kuala Lumpur, 1950.

materials and the establishment of light manufacturing industries.[19] Thus, apart from the establishment of a Cement Works near Batu Arang in 1953, manufacturing activity was still heavily biased towards the traditional sectors. The 1955 Economic Survey of the Colonial Territories reported on manufacturing activity as follows: "Much of the industry in the Federation consists in the initial processing of locally produced raw materials — and, in the case of the Penang tin smelter ... of imported raw materials. Thus there are factories for the manufacture of palm oil, coconut oil, various kinds of rubber sheet, and so on... There are a fair number of manufacturing establishments in the Federation, most of them on a very small scale, many being family concerns. Manufactured products include various kinds of ships and small boats, industrial gases, wire and wire netting, pottery, bricks, aerated waters, various kinds of foodstuff, furniture, rubber articles (including rubber shoes), soap and matches. The main centres of industry are around the Klang – Kuala Lumpur district of Selangor and in Penang."[20]

Two important developments have taken place after 1955. The first is the appointment, in May 1956, of a Working Party on industrial development; and the second is the inauguration, in 1958, of the Pioneer Industry policy. The Working Party on industrial development made the case for industrialization on the basis of reducing undue dependence of the West Malaysian economy on a few primary products and the need to absorb increasing labour force. The Working Party recognized that active Government assistance in various directions will be necessary both to stimulate the establishment of industry, and in appropriate cases to protect it.[21] Under the pioneer industry policy, industries that qualified as "pioneers" were accorded tax exemption on profits for periods of between two and five years depending on the level of investment, were allowed duty free import of necessary raw materials in some cases, and were provided with tariff protection as and when considered necessary. The impact of these measures was most visible during the years after 1957. As may be noted from Table 41, employment growth in manufacturing was much faster in the post-1957 period than during 1947 – 57.

19. A discussion and appraisal of Malaysian economic planning is taken up in Chapter 5.
20. Colonial Office, *An Economic Survey of the Colonial Territories,* vol. V (London: H.M.S.O., 1955), p. 29.
21. Federation of Malaya, *Report of the Working Party on the Encouragement of Industrial Development in the Federation of Malaya,* Kuala Lumpur, 1957.

TABLE 40
EMPLOYMENT IN MANUFACTURING, WEST MALAYSIA, 1947 – 67

Industry	1947	1957	1962	1967
Food	20.7	17.7	25.0	35.0
Beverages	1.1	3.4	3.6	2.5
Tobacco	2.8	4.1	4.5	5.4
Textiles	4.3	2.8	5.0	7.7
Footwear and Apparel	14.6	22.8	25.5	30.0
Wood Products	38.1	28.8	26.4	30.0
Furniture	3.4	6.6	8.0	10.0
Paper and Products	0.3	0.3	0.8	3.2
Printing and Publishing	3.9	4.3	6.2	9.6
Leather Products	0.2	0.2	0.3	0.4
Rubber Products	2.3	2.1	5.7	7.3
Chemicals and Products	1.4	6.1	8.1	9.5
Non-Metallic Mineral	2.4	4.3	6.0	9.0
Basic Metals	2.7	0.9	1.5	3.0
Metal Products	5.4	8.1	8.5	11.7
Non-Electrical Machinery	1.9	2.3	2.3	4.2
Electrical Machinery	1.2	1.8	2.8	4.5
Transport Equipment	12.8	15.9	18.2	21.2
Miscellaneous Manufacturing	10.0	10.0	10.0	10.3
Rubber Processing	4.3	17.5	17.0	17.2
Petroleum and Coal Products				0.4
Total (in thousands)	134.0	160.0	185.4	232.1

Source: Donald R. Snodgrass, "The Growth and Utilization of Labour Supply in West Malaysia".

TABLE 41
AVERAGE ANNUAL EMPLOYMENT GROWTH IN MANUFACTURING, WEST MALAYSIA, 1947–67, SELECTED PERIODS

Manufacturing Industry	Average Annual % Growth in Employment		
	1947–57	1957–62	1962–67
Food	–1.7	8.2	8.0
Beverages	20.9	1.2	–8.8
Tobacco	4.6	1.9	4.0
Textiles	–5.3	15.7	10.8
Footwear and Apparel	5.6	2.4	3.5
Wood Products	–3.2	–1.8	2.7
Furniture	9.4	4.2	5.0
Paper and Products	0.0	33.3	60.0
Printing and Publishing	1.0	8.8	11.0
Leather Products	0.0	10.0	6.7
Rubber Products	–0.9	14.3	5.6
Chemicals and Products	33.5	6.6	3.4
Non-Metallic Mineral Products	7.9	7.9	10.0
Basic Metals		13.3	20.0
Metal Products	5.0	1.0	7.5
Non-Electrical Machinery	2.1	0.0	16.5
Electrical Machinery	5.0	11.1	12.1
Transport Equipment	2.4	2.9	3.3
Miscellaneous Manufacturing	0.0	0.0	0.6
Rubber Processing	30.7	0.6	0.2
Petroleum and Coal Products	–	–	*
Manufacturing Industries	1.9	3.2	5.0

Note: *New Industry.

From the standpoint of employment growth in individual industries, it is significant that the high growth industries during 1947 – 57 were beverages, furniture, chemicals, and rubber processing, the highest growth rate being in rubber processing. During the 1957 – 67 period, these industries were not the high growth industries. Food, textiles, paper and paper products, printing and publishing, leather products, rubber products, non-metallic mineral products, machinery, and petroleum products were all responsible for the higher employment growth in the manufacturing sector during 1957 – 62 and 1962 – 67.

To further substantiate that industrial activity has grown especially after 1957, it may be stated that a World Bank Mission under the chairmanship of Rueff has noted a spurt in industrial activity during 1959 – 61, and in the Report it was stated: "The Mission has concluded, on the basis of its survey of the trends in, and policies affecting, industrial development, that two factors stand out as being responsible for the recent spurt in manufacturing industry which has occurred mainly in the Federation of Malaya; the first of these is the provision of tariff protection for the domestic market in some manufactured goods and the second is the set of policies with which the Government has maintained a very favourable investment climate."[22]

In contrast to West Malaysia, Sabah and Sarawak have insignificant manufacturing activity. In 1971, whereas 16 per cent of G.D.P. at factor cost of West Malaysia originated in manufacturing, only 5 per cent of G.D.P. of East Malaysia was from manufacturing. Sabah's traditional industries were those concerned with the procesing of timber. In addition, there were a few rice mills, copra mills, and units that manufacture some construction materials. Sawmilling continues to be the most important industry. In 1951, one per cent of the economically active population was engaged in manufacturing and the percentage increased to 3.8 in 1960.[23] The 1960 data on manufacturing employment reveal that more than a quarter of the total are employed in sawmilling and related activities; and food processing, footwear and apparel, rattan and attap products, and "machinery and equipment repair" industries

22. *Report on the Economic Aspects of Malaysia* (by a Mission of the I.B.R.D., July 1963), Kuala Lumpur, 1963, pp. 30 – 31.
23. The 1951 and 1960 censuses data are not strictly comparable. The percentages were obtained from the 1960 Census Report. L.W. Jones, *North Borneo, Report on the Census of Population Taken on 10th August, 1960*, Kucing, 1962, p.118.

absorb over half the total manufacturing employment.[24] The tendency in recent years appears to be towards greater concentration in sawmilling. In 1968, for instance, sawmills and plywood factories accounted for over 30 per cent of manufacturing employment. Food processing and motor-vehicle repairing were the next in order of importance.[25]

In Sarawak, the economically active population in manufacturing as a percentage of the total increased from 0.8 in 1947 to 3.9 in 1960.[26] In 1960, nearly half the manufacturing employment is generated in the sawmilling and related activities, the industries next in importance being food processing, footwear and apparel, rattan and attap products, and "machinery and equipment repair" and allied activities.[27] A somewhat peculiar feature of Sarawak manufacturing in recent years is the significance of oil refining in regard to value added and the significance of wood products in regard to employment. Thus, in 1970, petroleum products accounted for 40 per cent of manufacturing value added, but supplied only 7 per cent of jobs in manufacturing; and value added by wood products was only 30 per cent of the total value added but the industry generated half the total employment.[28]

In West Malaysia of prewar and early postwar years and in East Malaysia of past and present, we note that the manufacturing activities that have been established and developed are generally those relating to the processing of primary products, small-scale food processing industries, handicrafts, and manufacturing industries ancillary to various types of repairing activities. All these activities have a great necessity in the smooth functioning of even an otherwise not so developed economy, and most of these activities are free from competition from imports. A move away from these traditional industries occurred in recent years in West Malaysia. Some of the features of West Malaysian manufacturing structure are considered in the next section.

West Malaysia: Structure of Manufacturing

In order to know the extent of manufacturing diversification that has occurred in recent years, we shall consider the comparison of the com-

24. Ibid., pp. 260–61.
25. Malaysia, *Second Malaysia Plan, 1971 – 1975*, p. 150.
26. The data are from L.W. Jones, *Sarawak, Report on the Census of Population taken on 15th June, 1960*, Kuching, 1962, p. 114. Mr. Jones made some adjustments to the 1947 data to achieve rough comparability with the 1960 figures.
27. Ibid., p. 260.
28. Malaysia, *Second Malaysia Plan, 1971 – 1975*, p. 150.

TABLE 42
PERCENTAGE COMPOSITION OF VALUE ADDED BY MANUFACTURING, WEST MALAYSIA, 1960, 1968

Industry	Percentage Contribution to Manufacturing Value Added at Factor Cost	
	1960	1968
Food Products	18.2	18.5
Chemicals	16.3	13.7
Metal Products, Machinery, etc.	13.8	11.8
Wood and Cork	12.3	10.1
Printing and Publishing	8.6	7.3
Non-metallic Mineral Products	5.6	6.8
Rubber Products	5.6	5.2
Tobacco Products	4.5	5.8
Beverages	4.1	3.8
Basic Metals	3.7	4.9
Furniture	3.3	2.1
Textiles	0.7	2.2
Footwear and Apparel	0.7	0.2
Paper and Paper Products	0.4	1.4
Petroleum and Coal Products	–	4.1
Leather Products	–	0.1
Miscellaneous	2.2	2.0
Total (%)	100.0	100.0
Total Value Added ($ Million)	269	851

Note: Data for rubber processing not included.
Source: *National Accounts, 1960 – 1968.*

position of manufacturing value added in 1960 and 1968. The rubber processing industry will not be included in manufacturing so as to facilitate better comparison.[29] From Table 42, we note that in terms of the contribution to value added the four most important industries both in 1960 and 1968 are food products, chemicals, metal products, and wood products. These four industries together have contributed 60 per cent of total manufacturing value added in 1960. Their contribution declined to 53 per cent in 1968. The industrial base in 1968 is wider than in 1960 with the addition of petroleum products and leather products industries, and with the rising importance of non-metallic mineral products industry, basic metals industry, and textile manufacturing. The threefold increase in the manufacturing value added in 1968 compared to 1960 was essentially due to the addition of new industries over the period, as the contribution of pioneer industries to manufacturing value added was less than 10 per cent in 1960; but in 1968 they contributed over a third of the value added.[30] In 1960, there were only 32 establishments with pioneer status. In 1968, the number was 146 with further increases in recent years.[31]

On the basis of the 1968 census of manufacturing data, some of the structural features of West Malaysian industry may be noted. Of the 9,013 establishments covered by the census, 7,042 fall under the category of small-scale enterprises employing less than 10 full-time paid employees. These small enterprises contributed only 8 per cent of the total manufacturing value added. The bulk of the value added thus came from a relatively small number of larger enterprises. Enterprises with a majority shareholding by Malaysians numbered 8,468 with a contribution to value added of 52 per cent and a contribution to full-time employment of 69 per cent.[32] A total of 545 establishments with ma-

29. In 1960, the value added at factor cost by rubber processing was $156 million or more than a third of the total manufacturing value added. Because of the decline of the rubber price, and in spite of increase in the volume of output, the value added by rubber processing was only $60 million in 1968. It would be therefore better to exclude rubber processing in the comparative study of the composition of manufacturing output.

30. That data are from the *Census of Manufacturing Industries*, 1968.

31. In 1971, the number was 246. A detailed study of pioneer industries is taken up in the next section.

32. The 1968 *Census of Manufacturing Industries* asked the question "Who holds the majority (above 50%) of the share capital in this establishment?" The respondents were asked to identify the citizenship of the majority shareholders. In this context, it is of interest to note that until 8 May 1973 Malaysia and Singapore had a common stock exchange and the effective ownership of

jority shareholding by non-Malaysians contributed 48 per cent to total value added and 31 per cent to manufacturing employment. Small-scale and family enterprises abound in food processing, footwear and apparel, rattan and attap products, and furniture industries and various types of repair shops. Half of the value and half of the employment were from 791 private limited companies. Of the total of 9,013 establishments, 5,785 were proprietorship organizations contributing about 8 per cent of the value added. There were 399 cooperatives which contributed only 0.3 per cent to value added and 0.7 per cent to employment. The data in Table 43 summarize the industrial structure by legal organization.

TABLE 43
INDUSTRIAL STRUCTURE BY LEGAL ORGANIZATION

Legal Status	No. of Establishments	Percentage Contribution to Value Added	Percentage Contribution to Full-time Employment
Individual Proprietorship	5,785	8.5	14.8
Partnership	1,948	13.2	20.8
Private Limited Company	791	50.3	51.0
Public Limited Company	77	27.0	11.6
Co-operatives	399	0.3	0.7
Others	13	0.7	1.1
Total	9,013	100.0	100.0

– – establishments could change almost every day. This applies to companies listed on the stock exchange.

TABLE 44

A COMPARATIVE STATEMENT OF PIONEER AND NON-PIONEER ESTABLISHMENTS, WEST MALAYSIA, 1968

Industry*	No. of Establishments		Average Full-time Employees Per Establishment		Employment Contribution (%)		Contribution to Value Added (%)	
	Pioneer	Non-pioneer	Pioneer	Non-pioneer	Pioneer	Non-pioneer	Pioneer	Non-pioneer
Food Manufacturing	23	2,800	128	5	16	84	47	53
Beverages	2	72	202	26	18	82	51	49
Textiles	11	49	366	17	83	17	89	11
Wood Products	7	800	254	22	9	91	10	90
Chemicals and Chemical Products	31	282	85	10	48	52	55	45
Petroleum and Coal Products	4	2	97	2	99	1	100	–
Non-Metallic Mineral Products	7	315	166	18	17	83	12	88
Basic Metal Industries†	5	72	449	11	74	26	71	29

TABLE 44 (*cont.*)

Industry*	No. of Establishments		Average Full-time Employees Per Establishment		Employment Contribution (%)		Contribution to Value Added (%)	
	Pioneer	Non-pioneer	Pioneer	Non-pioneer	Pioneer	Non-pioneer	Pioneer	Non-pioneer
Metal Products	14	1,189	117	5	21	79	24	76
Non-Electrical Machinery	3	448	66	12	3	97	5	95
Electrical Machinery and Appliances	12	302	108	2	63	37	73	27
Other Industries	27	‡	145	‡	‡	‡	‡	‡
Total (All Industries)	146	8,867	155	11	19	81	32	68

Notes: *Processing of primary commodities excluded.
†Tin smelting excluded.
‡Not possible to obtain figures for "other industries".

During 1963 – 68, whereas the larger enterprises have shown great progress, quite in line with government incentives, there is considerable retardation in smaller enterprises. On the employment size criterion, the number of establishments with less than 10 full-time workers declined from 7,238 in 1963 to 7,042 in 1968. Their contribution to total manufacturing value added declined from 14 per cent in 1963 to 8 per cent in 1968. On the criterion of legal status of enterprise, the number of proprietorship establishments declined from 6,126 in 1963 to 5,785 in 1968. The number of partnership and private limited companies increased respectively from 1,691 to 1,948 and 563 to 791. There is no direct data to check whether the establishment of larger firms with various incentives and better organizational practices have led to the closure of smaller establishments or whether the smaller establishments have grown into larger establishments.

With regard to geographical location of industry, of the eleven West Malaysian states, only four, namely, Selangor, Johore, Perak, and Penang, accounted for 83 per cent of value added and 83 per cent of full-time paid employment in 1968. The situation was about the same in 1963. The four states mentioned were all on the west coast of West Malaysia and they were historically the most developed states — with economic development aiding and aided by infrastructure development.[33] The extreme concentration of industry was not only at the state level — it becomes more apparent when towns are considered. Of over 60 towns listed in the 1968 Census of Manufactures, eight towns, namely, Johore Bahru, Prai, George Town, Butterworth, Ipoh, Kuala Lumpur, Petaling Jaya, and Klang, accounted for a little over 60 per cent of manufacturing value added. One of the reasons for the concentration of industrial activity in these towns is the location of industrial estates at or nearer to these towns.[34] In spite of the wider base of the industrial estates, Kuala Lumpur and Petaling Jaya, which are so close that they can be identified as just one large city, account for 41 per cent

33. Generally, development of transport followed the tin belt of the west coast and the existence of infrastructure attracted rubber to the west coast. Development of rubber, in turn, further necessitated the development of infrastructure. For a full discussion of infrastructure development, reference may be made to Lim Chong Yah, *Economic Development of Modern Malaya*, ch. 10.

34. Of the eleven industrial estates in West Malaysia, ten are located in the west coast states. Full details of the industrial estates are available in the various publications of the Federal Industrial Development Authority. An example of such publications is *Malaysia: Your Profit Centre in Asia*, issued in 1970.

of total manufacturing value added. Of note therefore is the fact that there is high concentration of industry at just one location.

Pioneer Industries: Contribution to West Malaysian Manufacturing

The measures to encourage industrialization in West Malaysia included the development of infrastructure especially in the form of industrial estates, tariff protection where necessary, and tax reliefs for pioneer industries. In terms of the Pioneer Industries (Relief from Income Tax) Ordinance of 1958 and the later Investment Incentives Act of 1968 which replaced the former, several enterprises were granted pioneer status that enabled them to get income tax exemptions and other reliefs for sepcified periods.[35]

The primary objective of the pioneer industry policy, namely, encouraging diversified industrial growth, was certainly achieved. The policy attracted various new industries over the years. In 1959, there were 18 pioneer establishments. In 1971, the number was 246. Employment in the pioneer firms increased from 1,296 in 1959 to 43,096 in 1971. Gross sales increased from $10.7 million in 1959 to $1,364 million in 1971.

Table 44 brings out the comparative data on pioneer and non-pioneer firms in 1968. The average size of the pioneer firms was much larger than the average size of the non-pioneer industries. For manufacturing as a whole, the pioneer firms contributed a third of the value added. In some of the specific industries like textiles, petroleum products, basic metal industries, and electrical machinery and appliances, the pioneer firms contributed three-quarters or more of the value added, thus indicating that these industries probably would not have been established but for the encouragement and attractions offered to them. In spite of the larger average size, the pioneer firms employed only 19 per cent of the full-time paid employees of the manufacturing sector. Thus the small-sized non-pioneer firms are of great importance in providing a livelihood for the majority of people engaged in manufacturing.

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35. It is not necessary to reproduce here the various provisions of the 1968 Act. The Act provides for two types of alternative incentives: (1) pioneer status, and (2) investment tax credit for non-pioneer companies and other forms of export incentives. Depending on the nature of the industry, pioneer status would qualify it for relief from development and payroll taxes for a period of two to eight years. The pioneer company may carry over losses incurred during the tax holiday to subsequent years. Dividends paid out of profits earned during the tax holiday are exempted from income tax.

TABLE 45
FOOD MANUFACTURES, WEST MALAYSIA, 1963, 1968

S. No.	Industry	Number of Establishments				% of Value Added Generated	
		1963		1968			
		Total	Pioneers	Total	Pioneers	1963	1968
1	Ice Cream	56		61		3.3	2.2
2	Dairy Products	3	3	4	4	7.3	16.7*
3	Blachan Manufacturing and Canning	20		16		0.3	0.1
4	Small Rice Mills	905		910		5.2	3.2
5	Sago and Tapioca Factories	96		65		5.2	1.6
6	Large Rice Mills	78		97		13.2	3.8
7	Other Grain Milling	33		39	3	0.6	9.6*
8	Biscuit Factories	180		169		10.5	5.9
9	Bakeries	510		412		8.4	4.6
10	Cocoa, Chocolate, and Confectionery	42		40		1.9	2.1
11	Meehoon, Noodles, Related Products	255		238		4.0	1.9
12	Spices and Curry Powder	112		114		0.8	0.5
13	Soyabean Products	167		134		0.8	0.3
14	Coffee Factories	200		191		5.5	3.1

TABLE 45 *(cont.)*

S.No. Industry	Number of Establishments				% of Value Added Generated	
	1963		1968			
	Total	Pioneers	Total	Pioneers	1963	1968
15 Ice Factories	52		51		6.5	3.9
16 Prepared Animal Feeds	30	5	34	4	4.5	5.8*
17 Meat Canning, Preparation, and Preservation	13		10	1		0.2
18 Pineapple Canning	3		4			9.3*
19 Pickles and Sauces; Other Canning and Preservation of Fruits and Vegetables	170		151			2.9
20 Canning, Preparation, and Preservation of Fish and Other Sea Foods	24	2	19	4	22.0	1.5
21 Rice Flour and Polishing Mills	21		19			
22 Coconut Shredding, Grinding, and Scraping	16		20			
23 Sugar Factories and Refineries, and Edible Vegetable Oils and Fats and Miscellaneous Food Preparations	25	2	25	7		20.8*
Total	3011	12	2,823	23	100.0 $mill.64.6	100.0 $mill.140.1

Note: *High Growth Industries.

Sources: (1) *Census of Manufacturing Industries in the States of Malaya, 1963.*
(2) *Census of Manufacturing Industries, West Malaysia, 1968.*

In order to obtain an accurate picture of the industries that have grown as a result of pioneer industry policy, we have to take a look at specific industries rather than groups of industries. First, we consider the various individual industries within the major group of "Food Manufacturing". In Table 45, the structure of food manufacturing in 1963 and 1968 is shown. Dairy products, grain milling other than rice and sago milling, prepared animal feeds, sugar factories, and miscellaneous food industries were the main industries which were granted pioneer status. The percentage contribution of these industries to the value added of food manufacture in 1968 is substantially higher than in 1963. Blachan manufacturing, sago and tapioca factories, biscuit factories, bakeries, manufacturers of meehoon, noodles, and related products, manufacture of soya bean products, coffee factories, ice factories, manufacture of pickles and sauces, and vegetable canning factories have a reduced number of establishments in 1968 compared to 1963 and, generally, their contribution to value added has declined noticeably in 1968 compared to 1963. Most of these industries come under small-scale and family enterprises, and are not influenced by the addition of pioneer establishments. They mostly cater to domestic demand and, because of the large number of geographically dispersed establishments, they are unlikely to be provided with either governmental incentives or the technical and marketing expertise. They are an excellent example of individual entrepreneurship and self-help, and they represent a sector which requires assistance to develop.

More up-to-date information on the structure of food manufacturing may be obtained by assembling comparable data for 1968 and 1970.[36] The data are presented in Table 46. The number of pioneer establishments increased from 23 in 1968 to 27 in 1970. The industries affected are prepared animal feeds, sugar factories and miscellaneous food manufacturing, and the manufacture of meehoon, noodles, and related products. A major portion of the increase in value added during 1968 – 70 came from large rice milling and sugar factories and miscellaneous foods. On the basis of the data in Tables 45 and 46, within food manufacturing we can observe that in terms of contribution to value

36. The 1968 *Census of Manufacturing Industries* covered all establishments in all industries. The 1970 survey of manufacturers had complete coverage in respect of some industries and covered only establishments with five or more workers in respect of others. 1968 data were reconstituted to achieve comparability with 1970 data. The establishments not covered, of course, make only some 10% contribution to value added in manufacturing.

added, the most important industries are: (1) dairy products, (2) other grain milling, (3) prepared animal feeds, (4) sugar factories and miscellaneous food products, (5) large rice mills, and (6) pineapple canning. The first four industries included, and were influenced in their growth by, the addition of pioneer establishments. The last two — rice milling and pineapple canning — did not include any pioneer industries. The six industries mentioned above together contributed a little over two-thirds of value added by food manufacturing in 1968.

In beverages manufacturing, we can distinguish three sub-groups of industries. These are (i) distilling, rectifying, and blending of spirits, (ii) breweries, and (iii) manufacture of soft drinks and carbonated beverages. The first and the third groups did not have any pioneer establishments. In the second group, there were two breweries and both were pioneer establishments.[37] Under the first group, there were 8 establishments in 1963 and the number declined to 6 in 1968. Under the third group there were 86 establishments in 1963 and the number declined to 68 in 1968. The two breweries together contributed over half the value added of beverages industry. In 1970, the contribution was over two-thirds of the value added by beverages manufacturing. The distillers and the large number of soft drinks manufacturers were the lagging sectors.

The tobacco industry never had any pioneer establishments. There were 136 establishments in 1963 and the number decreased to 114 in 1968. In 1963 and in 1968, a large proportion of value added was generated in a few large establishments. In 1968, two establishments employing over 250 paid workers on the average accounted for over 90 per cent of the value added. The number of establishments declined in almost all employment size groups — small as well as medium — thus indicating the monopoly of the industry by just two factories. A comparison of the average product prices and material costs of 1963 and 1968 proves interesting. In general, the average material prices declined. With regard to products, the average ex-factory price of cigarettes increased from $11.85 per pound in 1963 to $14.91 per pound in 1968. Prices of other tobacco products, namely, cigars and cheroots, Chinese variety tobacco, cut and chewing tobacco, and snuff, declined in 1968 compared to 1963. These are mostly products of the smaller and medium-sized tobacco factories, and the price decline could very well be

37. Guinness Malaysia Bhd., and Malayan Breweries (M) Sdn. Bhd. ("Bhd." is the abbreviated form of Berhad, equivalent to Limited. "Sdn." is the abbreviated form of Sendirian, equivalent to Private.)

TABLE 46
FOOD MANUFACTURING, WEST MALAYSIA, 1968, 1970

S. No.	Industry	No. of Pioneer Establishments		Percentage of Value Added Generated	
		1968	1970	1968*	1970
1	Ice Cream	4	4	2.2	1.6
2	Dairy Products			18.6	11.0
3	Blachan Manufacturing and Canning			NC	NC
4	Small Rice Mills			NC	NC
5	Sago and Tapioca Factories			1.5	1.6
6	Large Rice Mills	3	3	4.3	9.5
7	Other Grain Milling			10.4	10.1
8	Biscuit Factories			6.0	4.0
9	Bakeries			3.7	2.0
10	Cocoa, Chocolate, and Confectionery			1.4	1.8
11	Meehoon, Noodles, Related Products		1	1.3	0.9
12	Spices and Curry Powder			0.3	0.3
13	Soyabean Products			NC	NC

TABLE 46 *(cont.)*

S. No	Industry	No. of Pioneer Establishments 1968	1970	Percentage of Value Added Generated 1968*	1970
14	Coffee Factories			2.3	1.3
15	Ice Factories			4.3	2.5
16	Prepared Animal Feeds	4	5	6.3	5.6
17	Meat Canning, Preparation, and Preservation	1	1	0.2	2.7
18	Pineapple Canning			10.3	6.7
19	Pickles and Sauces; Other Canning and Preservation of Fruits and Vegetables			2.5	1.2
20	Canning, Preparation and Preservation of Fish and Other Sea Foods	4	4	1.6	2.0
21	Rice Flour and Polishing Mills			NC	NC
22	Coconut Shredding, Grinding, and Scraping			NC	NC
23	Sugar Factories, Refineries; Edible Vegetable Oils and Fats; and Miscellaneous Food Preparations	7	9	22.8	35.2
	Total	23	27	100.0 $mill 126.1	100.0 $mill 189.6

Note: NC: Not Covered in 1970
*Data comparable to 1970

Sources: (1) *Census of Manufacturing Industries, West Malaysia, 1968.*
(2) *Survey of Manufacturing Industries, West Malaysia, 1970.*

an indicator of slow growth in demand for these products caused by the increasing addiction of the population to cigarettes.

The textile industry was very much influenced by the addition of pioneer establishments — as shown in Table 47. Value added in textiles industry increased from $4 million in 1963 to $19.5 million in 1968 and $26.6 million in 1970.

TABLE 47
NUMBER OF PIONEER ESTABLISHMENTS: TEXTILES

	1963	1968	1970
No. of establishments	45	60	75
No. of pioneer establishments	5	11	20

The footwear and apparel industry consists of four minor industry groups defined as follows: (1) footwear, except rubber and wooden, (2) wooden clogs and sandals, (3) clothing factories, and (4) miscellaneous wearing apparel. In 1963 there were no pioneer establishments in any group. By 1968, two clothing factories and one under miscellaneous apparel with pioneer status were added. By 1970, two pioneer factories were added under the footwear industry. The value added of footwear and apparel industry is dominated by clothing factories. The footwear industry did not grow appreciably during 1963 – 68 but, with the addition of two pioneer establishments, there was some growth during 1968 – 70. The group that suffered was "wooden clogs and sandals" where the number of establishments declined from 101 in 1963 to 67 in 1968. With increasing consumer preference for factory-made leather and plastic (imitation leather) shoes, wooden sandals do not seem to have any growth potential.

The wood products industry has two major industries, namely, sawmills and plywood and particle board mills. The two industries contributed nearly 90 per cent of the total value added of wood products industry. There was one pioneer establishment under plywood and particle board mills in 1963. The number increased to 6 by 1968 and 14 by 1970. The Government of Malaysia in recent years was encouraging the export of semi-finished and finished wood products in place of the export of sawn timber only. An advantage of the policy is the assured growth of sawn timber mills in addition to the growth of plywood and particle board mills. During 1968 – 70, yet another development was the

granting of pioneer status to 3 factories which were planning mills and window and door mills, and an additional factory manufacturing prefabricated wooden buildings. While the sawmils and semi-finished and finished wood product industries have a growth potential from export demand, there are several minor industries that are bound to lag behind. These include coffin manufacturers, carpentry shops, and rattan, mengkuang, and attap product enterprises.

The principal industries under furniture and fixtures are (1) furniture of wood and unstated materials, (2) rattan and cane furniture, (3) metal furniture, (4) mattress manufacturing, and (5) furniture finishing, repairing, and miscellaneous industries. Noticeable decline in the number of establishments occurred in the case of rattan and cane furniture from 61 in 1963 to 50 in 1968 and in the case of finishing and repair, etc., from 51 in 1963 to 38 in 1968. Household furniture of wood and unstated materials contribute the bulk of value added. In 1968 there were 3 pioneer establishments under metal furniture manufactures. Rattan and cane furniture industry would have to be considered as a lagging activity, and wooden and metal furniture are the leading activities.

In the paper and paper products industry, the principal activity is the production of cardboard and paper containers. There is no noticeable decline in the number of establishments. Two had pioneer status. Due to the growth of dairy products and related types of consumer goods industries, there was a steady growth of demand for paper containers of various types. Value added by the paper products industry increased from $3 million in 1963 to $6.2 million in 1968.

The printing and publishing establishments increased from 325 in 1963 to 371 in 1968. Value added increased from $29 million in 1963 to $52.5 million in 1968. There was only one firm which had pioneer status. Given the fact that in any growing economy, printing and publishing activity has growth potential, there was probably no need to give pioneer status to a firm in this industry. In fact, there was no addition of any more pioneer firms during 1963 – 70 and the potential of the industry for steady growth cannot be doubted.

Under the leather and leather products group, the two sub-groups are tanneries and leather products. The latter includes imitation leather products but excludes footwear and apparel. In 1968 there was one tannery with pioneer status. Even though the total number of establishments increased from 27 in 1963 to 32 in 1968, the value added was neither significant nor had grown faster. Value added in 1963 was $0.7 million which increased to $1 million in 1968.

In the rubber products industry three sub-groups may be identified on the basis of product classification. These are footwear, tyres and tubes, and other rubber products. In 1963 there was one factory under "tyres and tubes" with pioneer status. In 1970 two factories under "tyres and tubes" and two under "other rubber products" had pioneer status. Table 48 shows the gross sales values (ex-factory) of the three products in 1963, 1968, 1970. It is clear that, for the most part, the tyres and tubes factories contribute the bulk of total sales of the industry. Since West Malaysia is a leading producer of natural rubber, it is quite logical that it should have a strong rubber products industry. However, much innovation has to take place before export substitution from primary rubber to rubber products can take place at an appreciable pace. The value added by the rubber products industry increased from $20 million in 1963 to $47 million in 1968 — a high order of growth facilitated by the establishment of import-substituting tyres and tubes factories — the demand for which is ensured by the growing use of automobiles.

TABLE 48
GROSS SALES VALUE OF RUBBER PRODUCTS, 1963, 1968, 1970

	Sales Value (ex-factory) in $ million		
	1963	1968	1970
Footwear	23	25	25
Tyres and tubes	13	39	55
Other rubber products	14	32	31

Data on the number of establishments and value added for chemicals and chemical products group of industries are given in Table 49. All the industries in the group except coconut oil refineries and vegetable and animal oils and fats had some pioneer establishments. Over the period 1963 – 70, there was considerable broadening of the industry. In 1963, a third of the value added came from soaps and washing compounds. In 1968, the proportional contribution of soaps and washing compounds to value added declined to 25 per cent. The high growth industries in recent years are industrial chemicals and chemical fertilizers, paints and

varnishes, medicinal and pharmaceutical products, and perfumes and cosmetics. These industries have grown mainly as import substitutes, not only as consumer goods but also as producer inputs.

Under the industry group "Products of Petroleum and Coal", in 1963 there was one refinery and 3 factories producing miscellaneous products of petroleum and coal. The ESSO refinery at Port Dickson was a pioneer establishment. In 1968, there were 3 refineries and one miscellaneous products factory with pioneer status. The total number of establishments was 6. By 1970, the total number of establishments increased to 9, with 4 refineries and 2 miscellaneous products firms with pioneer status. Value added data on a comparable basis are not available for 1968 and 1970.

Data on number of establishments and percentage contribution to value added in respect of three major industry groups are given in Table 50. In the non-metallic mineral products group, the most important industry is cement production. The four cement factories contributed more than half of the total value added of non-metallic mineral products. The basic metals industry data in Table 50 exclude tin smelting. Thus in basic metals other than tin smelting, the principal industries are iron and steel milling and iron and steel products. The establishment of a primary iron and steel mill (Malayawata Steel Limited) also stimulated iron foundries whose number increased from 24 in 1963 to 54 in 1968. In the metal products group, over a fifth of the value added was generated by the tin cans and metal boxes industry. The other leading industries are the producers of architectural metal products and fabricated structural shapes. Tin smelting and hardware, tools and cutlery have declined in relation to the number of establishments and relative contribution to value added. With the addition, in 1970, of a pioneer establishment in the hardware group the industry might have picked up in recent years.

The industry group "non-electrical machinery" consists of (1) industrial machinery and parts, (2) general engineering and machinery repair shops, (3) manufacture and repair of refrigerating, exhaust, ventilating, and airconditioning machinery, and (4) agricultural machinery and implements, and manufacture and repair of household, office, and commercial equipment. Since 1963, in all the sub-groups, the number of establishments increased. In 1963 there was one pioneer establishment each under office, commercial, and household equipment, and refrigerating, exhaust, ventilating, and airconditioning machinery. By 1970, two more pioneer establishments were added in the latter group.

TABLE 49
CHEMICALS AND CHEMICAL PRODUCTS INDUSTRY, WEST MALAYSIA

Industry	No. of Establishments		No. of Pioneer Establishments			Value Added ($ million)		
	1963	1968	1963	1968	1970	1963	1968	1970*
1. Compressed and Liquified Gases	3	4		1	1		7.0	10.4
2. Industrial Chemicals	10	15	3	7	10		3.7	7.7
3. Chemical Fertilizers	7	13		2	1		10.6	16.7
4. Refined Coconut Oil	20	20				1.5	2.1	1.2
5. Vegetable and Animal Oils and Fats, n.e.c.	23	22					0.6	
6. Paints, Varnishes, and Lacquers	10	13	6	6	6	4.6	10.2	10.9
7. Soaps, Washing, and Cleaning Compounds	56	37	2	2	2	13.4	20.0	
8. Medicinal and Pharmaceutical Preparations	53	56	1	2	2	3.9	6.8	

TABLE 49 *(cont.)*

Industry	No. of Establishments		No. of Pioneer Establisments			Valued Added ($ million)		
	1963	1968	1963	1968	1970	1963	1968	1970*
9. Perfumes, Cosmetics, and Toilet Preparations	41	36	6	4	4	8.8	10.6	
10. Candles, Incense, Joss sticks, etc., and Miscellaneous Chemical Products	74	92	1	4	7		4.8	
11. Matches and Others	3	5	3	3	4	1.7	3.0	
Total	300	313	22	31	37			
Total Other Industries						8.0		
Total Value Added						41.9	79.4	

Note: *For selected industries only.

Sources: As for Tables 45 and 46.

TABLE 50
NON-METALLIC MINERAL PRODUCTS, BASIC METALS, AND METAL PRODUCTS INDUSTRIES, WEST MALAYSIA

Industry	No. of Establishments		No. of Pioneer Establishments			Percent Contribution to Value Added	
	1963	1968	1963	1968	1970	1963	1968
Non-Metallic Mineral Products							
Structural Clay Products	73	81	1	1	3	27.2	15.5
Glass and Glass Products	31	34	1	1	1	2.8	5.7
Pottery, China, and Earthenware	43	39				3.2	1.8
Structural Cement and Concrete Products	79	79				24.9	17.1
Hydraulic Cement	2	4	2	3	3		57.5
Cut Stone and Stone Products	60	64		1	1	41.9	0.8
Others	27	21	1	1	2		1.6
Total	315	322	5	7	10	100.0	100.0
Basic Metals							
Iron Foundries	24	54		1	2	21.9	8.6
Other Iron and Steel Basic Shapes	8	14	2	2	5		35.3
Primary Iron and Steel Milling & Other Basic Metal Industries	7	9	1	2	2	78.1	56.1
Total	39	77	3	5	10	100.0	100.0

TABLE 50 *(cont.)*

Industry	No. of establishments		No. of Pioneer Establishments			Percent Contribution to Value Added	
	1963	1968	1963	1968	1970	1963	1968
Metal Products							
Architectural Metal Products	108	145	3	3	3	14.5	16.8
Wire and Wire Products	28	38	1	1	2	7.9	8.7
Hardware, Tools, and Cutlery	252	226			1	5.3	2.4
Tin Cans and Metal Boxes	26	31	2	3	3	16.9	21.6
Tinsmithing	559	496				8.1	4.8
Brass, Copper, Pewter, and Aluminium Products	43	59	2	2	2	11.1	13.5
Black Smithing and Welding	98	128				3.7	4.5
Other Stamped, Pressed and Coated Metal Products	9	12	3	4	5	32.5	7.5
Fabricated Structural Shapes	22	30	1	1	1		15.0
Boilers, Tanks, and Platework	22	13					4.4
Other Metal Products	30	25					0.8
Total	1,197	1,203	12	14	17	100.0	100.0

Sources: As for Tables 45 and 46.

An important development during 1968 – 70 was the addition of 3 pioneer factories to manufacture agricultural machinery and implements. With regard to the structure of value added, two-thirds of the value added of "non-electrical machinery" was obtained from industrial machinery and parts manufacture in 1963 as well as in 1968.

The next industry group for consideration is electrical machinery, appliances, and repair. Value added of the group as a whole increased from $4.7 million in 1963 to $20.8 million in 1968. In 1968, 58 per cent of the value added was contributed by electrical machinery and appliance manufactures, 38 per cent by manufacture and repair of dry cells and batteries, and 4 per cent by electrical repair shops. The machinery and appliance industry had one pioneer establishment in 1963, 10 in 1968, and 15 in 1970. Dry cells and batteries industry had 2 pioneer factories in 1963 and there were no later additions. As a matter of fact, the growth of machinery and appliance industry ensured the growth of both dry cells and batteries and electrical repair shops. The number of electrical repair shops increased from about 140 in 1963 to 238 in 1968.

In the transport equipment industry three main groups of industries may be identified: (1) shipbuilding, boat building and repair, and marine engines, (2) manufacture and assembly of automobiles and lorries, and (3) all other industries including manufacture of bicycles, tricycles, and trishaws, manufacture of their parts and accessories, and manufacture of other parts and accessories. In 1963, about 60 per cent of the value added of transport equipment was generated in shipbuilding and boat building. In 1968, a third of the value added was generated by automobile assembly plants which did not exist in 1963. Pioneer status, however, went to bicycle and trishaw manufactures. In 1970, there were 2 pioneer factories in the manufacture of bicycles and trishaws and one factory for the manufacture of bicycle and trishaw parts and accessories.

The structure of pioneer factories in miscellaneous manufacturing can be assessed from the figures in Table 51, which represent the number of establishments. In 1968, plastic products accounted for 62 per cent of the total value added of $13.6 million of miscellaneous manufactures.

The overall picture emanating from the above discussion may be summarized as follows:

1. The pioneer industry policy was built around the classical notion of

TABLE 51
MISCELLANEOUS INDUSTRIES:
NUMBER OF PIONEER ESTABLISHMENTS, 1963, 1968, 1970

	1963	1968	1970
Plastic Products	5	7	12
Surgical, Medical, and Dental Supplies	2	2	2
Watches and Clocks	—	—	3
Brooms, Brushes, and Maps	1	1	1
Pens, Pencils, Office and Artist Supplies	—	1	2
Other Miscellaneous	—	1	2
Total	8	12	22

a labour surplus economy attracting foreign capital under the canopy of free enterprise.

2. The policy was fairly successful in diversifying the industrial structure in a relatively short span of time.

3. While most of the industries were import-substituting in nature and depended on imported inputs, there were some which depended on domestic inputs and export markets, notable among the latter category being rubber products manufactures, plywood and particle board mills, and tin cans and metal boxes.

4. Some of the industries set up in the early years, notably in the food processing and beverages group did not have any linkages with already existing domestic industries and hence some of the domestic industries could have suffered due to lack of government incentives and non-expanding markets. The industries set up in later years especially those in the metals, machinery, and transport equipment group have aided further industrialization through backward and forward linkages.

TABLE 52
SUMMARY DATA ON PIONEER FACTORIES, WEST MALAYSIA

Year	No. of Establishments	Average Earnings Per Employee* ($)	% of Wages to Value Added	Annual Percentage Increase in		% Increase in Value Added
				Value Added	Full-time Employment	% Increase in Employment
1959	18	1,278	38.5			
1960	32	1,470	31.8	140.5	71.2	2.0
1961	44	1,762	30.5	80.5	43.4	1.8
1962	68	1,873	26.7	79.1	50.9	1.5
1963	85	2,313	22.9	116.1	51.5	2.2
1964	91	2,507	20.5	68.4	40.0	1.7
1965	101	2,600	20.3	27.8	21.2	1.3
1966	114	2,552	20.3	30.7	33.0	0.9
1967	126	2,677	23.4	8.6	18.2	0.5
1968	146	2,736	22.7	25.9	20.6	1.2
1969	175	2,424	21.2	28.2	33.7	0.8
1970	210	2,504	21.7	19.1	19.6	1.0

Note: *Includes part-time and full-time paid employees.

Sources: As For Tables 45 and 46.

5. The way the pioneer establishments were added for every conceivable industry — from brooms and brushes to cement factories and steel mills — would lead to the observation that the production of any new product was welcome. With the passing of the 1968 Investment Incentives Act, the pioneer industry policy had been given a somewhat clearer perspective in terms of employment creation and export promotion.[38]

On the basis of the summary data in Table 52 on pioneer industries, a few additional observations could be made. We would like to divide the period 1959 – 70 into two sub-periods 1959 – 65 and 1965 – 70. The contrasts between the two sub-periods are noted in Table 53. The contrasting experience of the two sub-periods would indicate that during the first sub-period, employment growth was more or less incidental, with value added growth taking the lead. In the second sub-period, employment growth took the lead.

TABLE 53
PIONEER INDUSTRIES: CONTRASTS BETWEEN TWO SUB-PERIODS

	Sub-Period 1959 – 65	Sub-Period 1965 – 70
1. No. of Establishments	Increased 5½ times	Increased 2 times
2. Average Earnings per Employee	More than doubled	No Change
3. % of Wages to Value Added	Declined	No Trend
4. Ratio of Value Added Growth Rate to Employment Growth Rate	Generally > Unity	Generally < Unity

38. The principal incentives embodied in the Act are of two types: double deductions from income tax for certain expenses incurred in the promotion of exports, and accelerated depreciation allowance for exporting more than 20% of production. These incentives do not apply to primary product exporters and companies that benefit from incentives such as pioneer status and investment tax credit.

Trends in Import Substitution and Export Promotion

One of the major factors that assisted the process of West Malaysian industrialization was import substitution.[39] Data for 1960 and 1967 by industry in Table 54 are the best available material to show the extent of import substitution and export promotion.[40] In 1960 tobacco products, wood products, furniture, and printing and publishing activities had domestic production comprising over two-thirds of total supply. By 1967, food processing, beverages, rubber products, chemicals, and non-metallic mineral products joined the group of industries with over two-thirds of total supply met by domestic production. All these industries, as noted earlier, had important pioneer establishments.[41] Considering the fact that in 1967, tobacco products, wood products, and furniture had over 90 per cent self-sufficiency, we may say that for all intents, the

39. In addition to import substitution within West Malaysia, since 1963 Sabah and Sarawak have become dependable export markets. The gradual extension of West Malaysian tariff structure to Sabah and Sarawak meant that within the Sabah and Sarawak markets, West Malaysian industries can compete with others. In cases where there is a common Federation tariff West Malaysian industry can freely export to Sabah and Sarawak. In 1963 imports from West Malaysia to Sabah comprised less than 2% of Sabah's total imports. In 1971, more than a fifth of Sabah's imports came from West Malaysia. Sabah's exports are mainly to Japan and the Republic of Korea, timber being the main export. In regard to Sarawak, if we consider total imports excluding crude oil from Brunei, we find that in 1963 imports from West Malaysia comprised 2.2% of the total which increased to 28.5% of the total by 1969. Exports from Sarawak to West Malaysia are of no significance. In 1969 they amounted to $12.8 million of a total of $642 million. It is therefore reasonable to say that West Malaysia has indeed benefited to a great extent from the expanded market through the federation arrangement.

40. Broad trends in import substitution and export augmentation for Malaysia as a whole may be observed from the structure of imports and exports by SITC sections. The data are in Tables 55 to 57. As a percentage of total imports, a decline during 1960–71 was observed in respect of food and live animals, beverages and tobacco, crude materials, and miscellaneous manufactured goods. We can thus say that for Malaysia as a whole also, there was considerable import substitution — especially in regard to consumer goods (Table 56). In regard to export structure, the trends are somewhat less significant except for the increase in the percentage contribution of manufactured exports — from an average of 2% up to 1966, to 4.2% in 1971.

41. Notably, dairy products, animal feedstuffs, sugar refineries, and miscellaneous food products (in food processing), the two breweries (in beverages), rubber tyres and tubes (in rubber products), fertilizers, paints and varnishes, etc. (in chemicals), and cement factories, structural cement products, etc. (in non-metallic mineral products).

import substitution phase based on the domestic market in these sectors is almost completed. Whereas tobacco and furniture have not entered the export business, and these might never be able to do so because of competition from other producers, tariffs, and other reasons, wood products have great promise in so far as the activity amounts to export substitution from sawn timber to finished products such as plywood, particle board, etc. The exports under food processing are mainly canned pineapples and juice. These are traditional export items of West Malaysia. The industries that have further import substitution

TABLE 54
MANUFACTURING*: IMPORT SUBSTITUTION AND EXPORT PROMOTION, WEST MALAYSIA 1960, 1967

Industry	Percentage of Domestic Production in Total Supply		Exports as Percentage of Domestic Output	
	1960	1967	1960	1967
Food Processing	43	63	11	13
Beverages	36	71	Nil	11
Tobacco Products	74	96	Nil	Nil
Textiles	7	30	43	21
Footwear	10	13	Nil	16
Wood Products	94	94	29	36
Furniture	87	93	Nil	Nil
Paper and Paper Products	9	23	Nil	13
Printing and Publishing	68	73	1	3
Leather Products	40	45	Nil	5
Rubber Products	62	88	27	18
Chemicals	55	66	49	40
Non-Metallic Mineral Products	50	73	4	11
Metal Products, Machinery, etc.	17	25	1	6
Miscellaneous Manufactures	44	46	12	10
Petroleum Products	Nil	47	Nil	30

Notes: *Rubber Processing and Basic Metals (representing tin smelting mostly) are excluded.

Nil = Either zero or insignificant.

Source: Department of Statistics, Malaysia.

TABLE 55
PERCENTAGE DISTRIBUTION OF IMPORTS BY COMMODITY SECTIONS, MALAYSIA, 1960–71

Year	Food and Live Animals	Beverages and Tobacco	Crude Materials Inedible	Mineral Fuels	Animal and Vegetable Oils and Fats	Chemicals	Tin Metal	Other Manu-factured Goods	Machinery and Transport Equipment	Miscel-laneous Manufac-tured Goods	Other Exports	Total	Exports in $ Million
1960	3.6	0.4	67.8	8.0	2.4	0.5	13.9	1.1	0.9	0.5	0.9	100.0	3,632.6
1961	4.6	0.6	62.3	7.0	2.8	0.6	17.0	2.0	1.4	0.6	1.1	100.0	3,238.2
1962	4.6	1.0	59.7	7.3	2.8	0.7	18.9	1.6	1.6	0.7	1.1	100.0	3,259.6
1963	4.4	1.3	60.0	6.3	2.8	0.9	19.2	1.4	1.6	0.8	1.3	100.0	3,330.0
1964	4.8	0.8	56.8	7.0	2.8	1.0	21.4	1.7	1.7	0.8	1.2	100.0	3,381.9
1965	5.3	1.1	54.6	6.5	3.3	1.0	22.9	1.8	1.7	0.6	1.2	100.0	3,782.5
1966	5.3	0.5	56.6	7.1	3.7	0.9	20.3	2.0	1.8	0.6	1.2	100.0	3,845.8
1967	5.7	0.6	55.3	7.9	3.8	0.9	20.0	2.2	1.5	0.8	1.3	100.0	3,723.7
1968	5.3	0.3	54.8	8.5	4.0	0.9	19.9	2.4	1.8	0.8	1.3	100.0	4,122.6
1969	4.6	0.3	59.4	6.7	3.5	0.8	18.5	2.7	1.7	0.7	1.1	100.0	5,054.7
1970	5.5	0.4	53.8	7.2	6.0	0.7	19.5	3.4	1.6	0.8	1.1	100.0	5,162.4
1971	6.3	0.4	47.7	10.0	8.4	0.8	18.0	4.2	1.7	1.0	1.5	100.0	5,016.0

Sources: Bank Negara Malaysia, *Quarterly Economic Bulletin*, Dec. 1972.

possibilities are textiles,[42] footwear, paper and paper products, metal products, and miscellaneous industries. In fact, if data were available on the degree of self-sufficiency in 1970 and after for these industries, we would probably conclude that for West Malaysian industry as a whole the import substitution phase has just been completed.[43] With regard to export performance of the industries, textiles and rubber products appear to have had (in 1967 compared to 1960) setbacks in exporting. In the case of chemicals too, the proportion of exports to domestic production declined in 1967 compared to 1960. These declines, however, should not be taken too seriously because, since new industries catering to the domestic market are added every year, the decline in proportion exported reinforces the continuing import substitution process. In fact, these industries have done well on the export front in recent years, as the following discussion will point out.[44]

The percentage composition of net manufacturing exports for Malaysia as a whole for 1968, 1970, and 1972 is given in Table 58. It will be noted that the most promising export sectors during these years were textiles and apparel and wood products. Food products were also significant. The retarding sector was petroleum products. As mentioned earlier, Malaysia's natural advantage in timber is now being capitalized to promote the export of wood products. According to the 1972 Report of the Bank Negara Malaysia, the major markets for Malaysian wood products were the United Kingdom, the United States, Japan, and Singapore; and "besides the booming world economy, the move by Japan to lift gradually the 20 per cent import duty on Malaysian plywood would help stimulate the market".[45] Cotton fabrics, clothing, and footwear were also sent to

42. With the addition of a synthetic fibre factory as a pioneer firm during 1968–70, probably the degree of self-sufficiency in textiles was somewhat higher in 1970 and after, than in 1967.

43. The Finance Minister of Malaysia, in his 1973 budget speech, said "Industrialization in Malaysia has now reached the stage where greater efforts must be made to export our manufactured goods. This is obvious when we have gone as far as we are likely to go in the matter of import substitution."

44. The data in Table 54 were obtained from the inter-industry transactions tables prepared by the author based on unpublished worksheets of the Malaysian Department of Statistics. At the time of writing, it was not possible to get the data so as to compile the inter-industry tables for the years after 1967.

45. Bank Negara Malaysia, *Annual Report 1972*, p. 104.,

the United Kingdom, United States, and Singapore. In the food products group, whereas pineapple and pineapple juice faced the tariff walls of the European Economic Community, dairy products and animal feedstuffs went mainly to Singapore. Retardation in petroleum exports was mainly a reflection of the downward trend in the export of motor and aviation fuels, and diesel and fuel oils from Sarawak to Singapore. Singapore was the main market for chemicals and chemical products, non-metallic mineral products, iron and steel products, and machinery and transport equipment. A substantial portion of the non-metallic mineral products and iron and steel products was made up of building materials, which were in high demand by the construction sector in Singapore.[46] Having noted these trends, we can conclude that wood products and textiles alone will be the export leaders in the next few years. Since most other products are exported to Singapore either for its own use or for re-export, it is not inappropriate to emphasize the need for Malaysia and Singapore to come together and decide on the extent of complementary and competitive industrialization of the

TABLE 56
COMPOSITION OF MALAYSIAN IMPORTS

Goods	Percentage Distribution				
	1961	1966	1968	1970	1972
Consumption Goods	46.7	39.6	36.2	28.2	25.8
Investment Goods	17.0	23.5	21.1	26.1	32.9
Intermediate Goods	27.9	31.8	32.6	36.9	36.3
Imports for Re-export	7.8	4.9	9.3	8.3	4.9
Miscellaneous	0.6	0.2	0.8	0.5	0.1
Total (%)	100.0	100.0	100.0	100.0	100.0
Total ($ million)	2,816	3,380	3,552	4,340	4,632

Source: Bank Negara Malaysia, *Annual Report, 1972.*

46. Ibid.

TABLE 57
PERCENTAGE DISTRIBUTION OF EXPORTS BY COMMODITY SECTIONS, MALAYSIA, 1960 – 71

Year	Food and Live Animals	Beverages and Tobacco	Crude Materials Inedible	Mineral Fuel	Animal and Vegetable Oils & Fats	Chemicals	Manufactured Goods Classified by Materials	Machinery and Transport Equipment	Miscella-neous Manu-factured Goods	Others	Total	Imports ($ mill.)
1960	23.4	3.9	13.6	14.9	0.6	5.9	15.2	14.2	5.4	2.9	100.0	2,786.4
1961	23.6	4.5	11.0	12.7	0.6	6.5	16.8	16.3	5.7	2.3	100.0	2,815.7
1962	21.9	4.1	11.8	12.3	0.5	5.7	17.5	18.4	5.6	2.2	100.0	3,056.3
1963	24.5	4.1	9.6	11.1	0.5	5.9	17.1	19.2	5.9	2.1	100.0	3,192.6
1964	26.0	3.5	7.5	11.4	0.5	6.3	17.0	19.7	6.0	2.1	100.0	3,205.3
1965	22.3	3.7	7.1	11.6	0.5	7.0	17.8	21.7	6.1	2.2	100.0	3,356.1
1966	22.1	2.7	4.8	12.9	0.4	7.5	18.0	23.7	5.6	2.3	100.0	3,379.9
1967	22.9	2.7	5.0	13.4	0.5	7.5	17.8	22.1	5.8	2.3	100.0	3,325.0
1968	21.6	2.2	8.0	14.1	0.6	6.7	17.3	22.3	5.3	1.9	100.0	3,551.6
1969	20.2	2.4	8.4	13.5	0.5	7.6	17.3	23.3	5.1	1.7	100.0	3,605.0
1970	18.2	2.2	7.4	12.0	0.5	7.3	17.8	28.4	4.7	1.5	100.0	4,340.1
1971	16.6	2.1	6.0	13.0	0.5	7.9	17.6	30.6	4.4	1.3	100.0	4,424.7

Source: Bank Negara Malaysia, *Quarterly Economic Bulletin, Dec. 1972.*

future. In 1963, the Rueff mission, commenting on the industrialization of Malaysia and Singapore, noted: "In some cases the result has been the establishment of branch plants of manufacturing enterprises both in Singapore and the Federation, with all the social costs which this implies, as well as a tendency for both new and existing firms to locate in the Federation to gain the benefits of a protected market. The Mission is convinced that the growth of the Malaysian manufacturing sector can best be assured by (i) creating a common Malaysian market in domestically produced goods; and (ii) judiciously using tariffs to protect this market."[47] Singapore joined the Federation of Malaysia in 1963, but became an independent republic in 1965. However, the need for Malaysia and Singapore to work together would arise so often in the future that both nations might take advantage of their present much broadened industrial base to cooperate.[48]

In the final analysis, the ability of an industry to export depends on how cheaply it can produce and thus how much it can compete in the world markets. When the initial development of an industry was made feasible due to import substitution through protective tariffs, the industry might have produced at a price higher than the price prevailing in the rest of the world. This, however, should not be taken to hinder the prospective export capability of the industry because eventual lowering of costs and prices could be achieved under certain conditions. Firstly, economies of large-scale production could lead to lower costs and prices. Secondly, export subsidies, if used, could reduce the export price. Thirdly, tax exemptions on profits might allow the exporting industry to operate at a lower price, for a higher price and a higher level of tax-payable profit might mean the same thing as a lower price and a lower level of tax-exempt profit. The identification of the influence of protection on value added and the export capability of various West Malaysian industries will now be attempted.

In Appendix C the percentages of nominal and effective protection rates and the percentage bias against exporting are given for

47. *Report on the Economic Aspects of Malaysia* (by a Mission of the I.B.R.D., July 1963), Kuala Lumpur, 1963, pp. 30–31.

48. This can also be achieved in the wider context of ASEAN. However, cooperation is administratively easier between two countries than five, and Singapore and Malaysia are in the best position to set an example to ASEAN.

TABLE 58
PERCENTAGE COMPOSITION OF NET MANUFACTURING EXPORTS, MALAYSIA, 1968, 1970, 1972

Industry	Percentage of Exports		
	1968	1970	1972
Food	20.2	17.4	16.3
Beverages and Tobacco	1.6	2.5	3.1
Textiles, Clothing, Footwear	5.9	6.0	12.5
Wood Products	9.4	17.2	27.6
Rubber Products	2.5	3.1	3.2
Chemicals and Chemical Products	7.3	5.8	6.0
Petroleum Products	37.7	30.6	15.3
Non-Metallic Mineral Products	2.3	3.4	2.2
Iron and Steel Products	1.0	2.0	2.0
Metal Products	1.0	1.6	1.6
Machinery and Transport Equipment	4.6	3.9	3.5
Other Manufactures	6.5	6.5	6.7
Total (%)	100.0	100.0	100.0
Total ($ million)	451.8	520.2	602.3

Source: Bank Negara Malaysia, *Annual Report, 1972*

1969 for 29 selected manufacturing industries of West Malaysia.[49] Several industries are characterized by negative percentage rate of effective protection, and a negative or zero bias towards exporting.

49. The concepts and methods underlying the computations are explained in Appendix C. An earlier attempt to study the structure of West Malaysian tariff structure was made by John H. Power for the years 1963 and 1965. The results were reported in his "The Structure of Protection in West Malaysia", in Bela Balassa and Associates, *The Structure of Protection in Developing Countries* (Baltimore: Johns Hopkins Press, 1971), pp. 203–22. Generally speaking, Power's results were derived on the basis of the assumption that domestic prices of outputs and inputs differ from world market prices to the extent of the respective rates of duty, whereas ours were based on direct price comparisons. The general pattern of results remains essentially the same — except in the case of industries which have entered export markets in recent years and industries affected by price hikes of domestic inputs.

These industries fall under two categories — the first comprising industries whose product prices are lower than the world market prices in spite of protection through import duties; and the second category consists of industries whose products are not protected, but which are penalized through higher prices of inputs supplied by protected domestic industries. Dairy products, pineapple canning, sago and tapioca products, biscuit factories, soft drinks and carbonated beverages, plywood and particle board mills, rubber products, and manufacturers of paints and varnishes fall under the first category. These industries have already entered the export markets. While some of them — namely, pineapple canning, plywood and particle board, and rubber manufacturing — are based on inputs which are primary export products of West Malaysia, industries such as dairy products using imported milk powder, and paints and varnishes using imported resins and pigments also developed into exporting industries. In the second category of industries with a negative effective protection rate and no nominal protection, we find iron foundries, manufacturers of boilers and tanks, manufacturers of tin cans and metal boxes, industrial machinery and parts manufacturing, boat building and repairing, and motor-vehicle body builders. All these industries had to purchase inputs such as pig iron, iron and stell plates and sheets, paints and varnishes, and hardware products whose domestic prices are somewhat higher because of the tariffs and the protected domestic market.

Industries with a positive bias against exporting typically fall under the category of those using high-priced domestic inputs and dutiable imported inputs. For example, tobacco products will never stand the test of competition because the imported tobacco is subject to duty of approximately 300 per cent.[50] Industries which suffer from purchasing high-priced domestic inputs include structural cement and concrete products and some of the metal products industries. Among the industries with a positive effective protection rate and positive export bias, two industries have both low effective protection and bias against exports.

50. The heavy duty on imported tobacco and tobacco products is not governed by any import substitution motivation, but by the revenue motive. Historically, the three principal import duties in West Malaysia were on tobacco, liquor, and petroleum. The changes in import taxation over the years, the relative importance of various duties, the pattern of incidence, etc., were discussed in detail by C.T. Edwards in "The Structure of Import and Excise Duty Taxation in the States of Malaya and Singapore", *Malayan Economic Review* 10, 2 (1965): 83 – 101.

These are textiles and soap and washing compound manufactures. The textile industry enjoys duty-free import of raw materials, and the soap industry depends on domestic manufactured inputs such as coconut oil and palm oil produced at competitive prices. Chemical fertilizers enjoy a 29 per cent nominal protection and a 34 per cent effective protection, and a 34 per cent bias against exporting. The inputs of the industry are not subject to duties.

From the above discussion, we may note three important observations in relation to West Malaysian industrialization and industrial export capability.

1. Industries that depend on material inputs which themselves are exportable will have little difficulty in exporting.

2. Industries dependent on imported inputs will have to reduce product prices either through economies of scale or through higher productivity or through lower wages and lower profit margins backed by incentives of one type or other. In general, these industries will have an uncertain future in any case since they depend on imported inputs.

3. Industries which depend on domestically manufactured inputs that receive protection may seek protection for themselves too, thus reducing their export capability; but, in the event of their receiving cheaper inputs, they may well have the capability to export. This implies that the Government should not grant protection to industries that use high-priced domestic input but, instead, should grant a temporary subsidy on input account if there is reasonable ground to expect the input prices to fall with economies of scale in the input-producing industries.

Policy Considerations

Our discussion here will be concerned with the pioneer industry policy, tariff protection and import substitution, and related aspects.

In the early sixties when the pioneer industry policy was being implemented, there were some doubts about the policy. Apart from the classical doubts about the efficacy of the decisions of private enterprise, there is one important criticism on tax concessions that go along with the pioneer industry policy. For example, established firms may organize new affiliates or subsidiary companies primarily to take advantage of tax concessions so that the parent organization, having no pioneer status, minimizes its own profits or even carries losses on a number of items and credits its profits to the new affiliate which enjoys

the tax concessions. Tax concessions, therefore, may foster manufacture of new products rather than the growth of established lines of production. Since much of the increase in value added of West Malaysian manufacturing has been due to the increased contribution of pioneer establishments, one may wonder whether there is any misuse of incentives. However, the fact remains that the pioneer industry policy has been successful in developing various export industries. With increasing emphasis on granting pioneer status only to export-oriented industries, the pioneer industry policy has obtained the necessary shift from import substitution to export promotion. Whether the policy provided and would provide opportunities for tax evasion by multinational firms should be considered an aspect for investigation, the evidence on which could be ascertained only through cooperation among various countries.[51] A vigilant and incorrupt government should be able to keep at bay any undesirable practices that could result from any policy.[52]

With regard to tariff protection and import substitution, in the early sixties, it was alleged that tariff protection was not widely used by the Malaysian Government and that there were some important interests opposing industrialization behind protection.[53] Over the years, the tariff net has spread and the rates of duty which generally remained between the 10 per cent and 25 per cent levels,[54] with the exception of the revenue earners (the duties on tobacco, liquor, and petroleum), also increased to somewhat higher levels in some cases such as assembled motor-vehicles, chemical fertilizers, and so on. Today it is difficult to say that the Malaysian Government is too hesitant to levy import duties — especially when we note that the 1973 budget increased the duty on fruits from

51. One would note the existence of six ex-pioneer oil refineries in Singapore and three pioneer oil refineries in West Malaysia as a development that should be a matter of in-depth study. Once again, the need is for cooperation between governments and coordination of governmental policies — possible if and only if governments do not behave like "petty traders". It should be realized that for Singapore factories to move to, say, Johore or for those in Johore to move to Singapore would not be very difficult if the manufacturing operations do not involve excessive installation costs.
52. It is often stated that foreign investors bring second-hand machinery, overvalue it, and make a capital gain. This can be avoided by a vigilant and incorrupt government, endowed with the necessary technical manpower.
53. E.L. Wheelwright, "Industrialization in Malaya", in *Political Economy of Independent Malaya*, ed. Silcock and Fisk.
54. The limits were noted by C.T. Edwards in his "The Future of Import and Excise Duty Taxation in the States of Malaya and Singapore", *Malayan Economic Review* 11, 1 (1966).

$448 per ton or 20 cents per pound to $896 per ton or 40 cents per pound.[55]

As for the efficacy of import duties in promoting industrialization, the results have been noted earlier and a commendable degree of success has been achieved. In this context, one of the general warnings for the policy may be noted. In a short comparative statement on the industrialization policies of Malaysia and the Philippines, Professor Douglas Paauw observed: "One conclusion seems stronger for Malaysia than for the Philippines: unless export diversification occurs, Malaysia's open, dualistic pattern of development appears likely to falter. Import-dependent import substitution may very soon produce foreign-exchange bottlenecks similar to those which have plagued development and yielded very low growth rates in many Latin American economies."[56] This warning is of considerable significance even though foreign exchange problems have not yet appeared on the Malaysian economic scene primarily because of the continued significant contribution of primary product exports. The entry of several of the manufacturing industries into export markets is an encouraging sign, and assuming that nothing untoward happens in the world markets and assuming further that the world will not tend towards more protectionism, there is no reason why Malaysia's export-oriented manufacturing industries, especially those based on the traditional primary commodities, cannot continue to prosper.

There are a few emerging problems, however, that call for attention, enquiry, and effective action. As noted earlier, some of the import-dependent industries such as fertilizers, while obtaining duty-free imports and enjoying pioneer status, seem to have a positive bias against exporting. These industries supplying inputs to other industries within the economy have the utmost priority in reducing costs and prices. Protection in principle will have to continue, to arrest any sporadic inflow of goods, but in respect of most industries the duties should not have a

55. Proposing this, the Malaysian Finance Minister, in his 1973 Budget Speech, told the Parliament: "Honourable Members will recall that in my last Budget Speech I announced suspended import duties on fruits with a view to encouraging more extensive cultivation of our own fruits which are as good as imported fruits in every sense of the term. This has not produced the desired results and I therefore feel that we should go further."

56. Douglas S. Paauw, "Comment on Part III" in *Economic Interdependence in South East Asia*, ed. Theodore Morgan and Nyle Spoelstra (Madison: University of Wisconsin Press, 1969), pp. 280 – 81.

permanent impact in raising domestic prices. There is another related aspect of serious concern. As and when domestic import-substituting industries expand the scale of operations and achieve reduction of costs and prices, there is a natural tendency for competitive imports to be completely wiped out. This implies that whatever import duty revenue has been collected earlier is also wiped out. The Malaysian Government, in such circumstances, has been doing one of two things: (1) levying import duties on imported raw materials (as in the case of imported tobacco) to make good the loss of revenue from imported final products; and/or (2) levying other indirect taxes, notably excise duties, so that the domestic consumer continues to pay a high price for what he buys and continues to contribute tax dollars to the Treasury. The latter strategy of levying excise duties has been increasingly put into practice in Malaysia in recent years. What is more, there has been the practice, sometimes, to increase excise duties and, in order to prevent imports, increase import duties also.[57] Such measures could contribute to rising living costs directly or indirectly. Unless the demand for a product is perfectly inelastic, the effect of an excise duty is to reduce production since a part of the tax is borne by the producer and a part by the consumer. Thus prospective economies of scale and hence the potential for export may suffer a setback due to the levying of excise duties. Our recommendation, therefore, is not to levy excise duties on an industry when it has even the slightest promise of exporting its products. In general, the revenue motive should be subservient to the efficiency motive, and the temptations to augment revenue by levying excise duties on intermediate goods and essential consumer goods should be resisted.[58]

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57. For example, the 1973 budget contained a number of commodities on which fresh excise duties were levied, and import duties increased. The affected commodities are gas-operated stoves, air-conditioners for use in road vehicles, batteries for motor-vehicles, electric irons, electric rice cookers, electric ovenettes, and gramophone records. The excise duty on private motor-cars was raised and the import duty was also raised.

58. From 1970 there was an excise duty on sugar. This is totally unjustified because it is an essential commodity and a source of carbohydrates. The retail price of a pound of sugar in 1969 was 26¢. Comparing this with the world market price of 13¢, the retail price was higher by 100% of which import duty on raw sugar and the effect of protection to domestic sugar refineries amounted to 80%. The remaining 20% was the mark-up. Retail price of sugar went up to 27¢ in 1970 and 30¢ in 1971 by which year the effect of excise duty was well visible. The point we should therefore bear in mind is that the excise duty may well add to

A general and somewhat universal problem concerning the tariff structure relates to the conformity of practice to theory. It is well known that the second best optimum tariff structure essentially involves the levy of uniform rates of import duties. Thus, as and when possible, a government's endeavour ought to be directed towards a uniform tariff structure. On this count, the Malaysian Government appears to be going backwards, for the tariff net is spreading ever wider and the rates of duty are increasing. Continued spread and increasing dispersion of tariff rates in the future may well produce price distortions of a magnitude that will shatter the hopes of continued growth of manufacturing exports and long-run maintenance of the strength of the currency. In this context, we may refer to the suggestions of Helen Hughes for the Southeast Asian economies for the 1970s:

> Policies determining the level of protection are the key to changes in industrial strategy. For most Southeast Asian countries this means lowering tariffs, but revenue requirements and pressure from existing manufacturers make a reduction in tariffs extremely difficult. In most countries the first step towards a new policy therefore means not so much tariff reduction as holding the line against further tariff increases.... The next steps lie in the introduction of a logical tariff structure. At its simplest this should be a low uniform *ad valorem* tariff of not more than 20 to 25 per cent.... The arrangement of restructured tariffs in broad bands by industry groups rather than by individual products would also remove the temptation to reintroduce made-to-measure tariffs for particularly high-cost products in the future as pressure from manufacturers builds up.[59]

In sum, therefore, the general tendency of a Government should be to move away from differential tariffs.

Before concluding the chapter, a few very specific recommendations may also be noted. Firstly, it is essential that the Government enquires into the nature and causes of business failures in the small-scale sector. This would be especially useful in the context of the proclaimed objective of the Government to promote labour-intensive industries. Second-

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the price which is already very high due to protective tariffs. A small-scale producer of sugar confectionery may not be able to buy his raw material and be in business.

59. Helen Hughes, "The Manufacturing Industry Sector", in Asian Development Bank, *Southeast Asia's Economy in the 1970s* (London: Longmans, 1971), pp. 233 — 34.

ly, there appears to be the need to conduct a full-scale enquiry into the growth of various pioneer establishments during and after the pioneer status —for, whereas firms *can* operate on a lower margin of profit with tax concessions, they may not do so once the concessions lapse. Thirdly, a careful look into the prospects of input producers like cement factories and primary iron and steel plants is very timely. If these two industries, in particular, remain perpetual infants requiring continued protection, they could well turn out to be the "white elephants" of West Malaysian industrial sector and could be a primary source of the future downfall of construction industry on the one hand, and consumer and producer durables industries on the other.

In terms of the Investment Incentives Act of 1968, a scheme of export incentives has been introduced. According to the 1973 budget, the scheme would be liberalized, and export allowance would be given by way of a deduction from gross income in arriving at adjusted or taxable income. The amount of the allowance is 5 cents for every dollar of the increase in the export sales of a taxpayer. If the export increase were based on the products incorporating not less than 50 per cent of domestic materials or components, the allowance would be 8 cents for every dollar increase in export. Except the industries undertaking the initial processing of primary products, all other manufacturing industries are eligible for benefits under the scheme. The scheme has the virtue of providing incentives to increase exports and of using domestic inputs. Yet there are two snags of some significance. Firstly, at a time when the need is to provide more and more jobs to prevent further increases in the already high rate of unemployment (about 8 per cent in 1972), the scheme may foster, in order to increase export, more and more capital-intensive industries and a certain amount of substitution of capital for labour in the already established industries. Secondly, the scheme may encourage some of the export industries to change names, faces, and products too often, since the incentive is tagged to export *increase*. While there is no way of preventing the first problem, the second can be prevented by linking the incentives not only to the increase in exports of a product but also to the maintenance of a certain volume of export of the product by a firm. Further, industries which have a comparative advantage such as wood products, industries with a very high capital intensity and hence the capacity to rationalize production methods such as oil refineries, and industries with a very low value added content (low income generation effect) such as assembly plants might well be excluded from the scheme's benefits.

5. *Review of Economic Planning*

This chapter encompasses a discussion of the targets, investment allocations, and achievements of various Malaysian plans. The Federation of Malaysia came into existence in 1963 and after Singapore's separation from the Federation in 1965, planning activity embraced the three constituent elements of Malaysia. Prior to 1966, plans were independently formulated for West Malaysia, Sabah, and Sarawak. For Malaysia as a whole, for instance, there were the *First Malaysia Plan, 1966 – 70* and the *Second Malaysia Plan, 1971 – 75.* To begin with, a review of each individual plan is made, followed by an overall review of development strategy, plan methodology, and related aspects.

Planning Before 1966

Attempts to prepare a development plan for West Malaysia started in the early postwar years in response to the United Kingdom Colonial Development and Welfare Act in 1945. The Act provided a sum of £120 million for schemes of development and welfare in Colonial and Dependent territories and set a ten-year period up to 31 March 1956 for assistance from the funds available under the Act. The allocation from the fund for the Federation of Malaya and Singapore was to be $42.8 million (£5 million). Towards the end of 1946, steps were initiated to prepare proposals for assistance from Colonial Development and Welfare funds and to formulate an overall ten-year development plan in

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We are concerned here with a review of the various development plans formulated and implemented by the Malaysian Government. Of note here is the following observation: "A country was considered to be engaged in development planning if its government made a deliberate and continuing attempt to accelerate the rate of economic and social progress and to alter institutional arrangements which were considered to block the attainment of this goal." Albert Waterston, *Development Planning: Lessons of Experience* (Baltimore: Johns Hopkins Press, 1965), p. 21.

accordance with the general direction of the Secretary of State for Colonies.[1] The final outcome was a six-year development plan covering the period 1950 – 55[2] and covering the geographical region of West Malaysia (then Federation of Malaya). The Plan envisaged a total capital expenditure of $215 million.[3] In its original form the Plan consisted of 543 development schemes and was confined to direct government expenditure, thus excluding the statutory bodies (for example, Central Electricity Board, Malayan Railway, etc.) as well as the private sector. Later when the Plan was revised in 1951, some projects pertaining to statutory bodies in the fields of electricity and railway development and projects of the Rural and Industrial Development Authority were included.[4] The total capital expenditure estimate was revised upwards from $215 million to $557 million, mostly to take care of new projects. Revision of estimates was again done in 1952. This time the capital expenditure estimate of the Plan was raised to $856 million because of "the general increase in costs of labour and materials", an effect of the Korean War boom and the high prices of imports.[5]

The main hurdle in the smooth implementation of the Six Year Plan was the emergency which started in 1948 and continued during the 1950 – 55 period covered by the Plan.[6] According to a Government

1. According to the Colonial Development and Welfare Despatch of 12 November 1945, "each colonial dependency should first draw up a plan covering all the objects of development and welfare which are thought desirable...." Quoted in Lee Soo Ann, "Economic Growth and the Public Sector in Malaya and Singapore, 1948 – 1960" (Ph.D. diss., University of Singapore, 1968), p. 133.
2. Federation of Malaya, *Draft Development Plan,* Kuala Lumpur, 1950.
3. To be exact, the amount was $214.643 million. The principal items of expenditure were: public works ($67.7 million), education ($35 million), telecommunications ($29.6 million), drainage and irrigation ($28.8 million), and medical services ($16.9 million). These five items add up to $178 million.
4. In the Revised Plan, the Malayan Railway Administration was allocated $117 million, the Central Electricity Board $188 million, and RIDA $3 million. Full details of the schemes were given in *Progress Report on the Development Plan of the Federation of Malaya, 1950 – 1952,* Kuala Lumpur, 1953.
5. Ibid., pp.21 and 6 – 7.
6. During the period of the emergency, two somewhat interrelated problems were tackled: firstly, the control of Communist activities and, secondly, the relocation of a large number of "squatters" who, on the one hand, were helping the Communist terrorists and, on the other, required to be shifted to safer areas. The resettlement of squatters was accomplished through the establishment of over 550 "new villages". A detailed account of the nature, causes, and effects of the emergency is given in Rhoderick Dhu Renick, Jr., "The Emergency

report issued in 1952, "The Federation development programme has seriously fallen behind schedule owing to the diversion of finance, materials and skilled manpower to emergency works, of which resettlement is the most important".[7] The development of over 550 new villages with appropriate economic and social facilities and the relocation of over 600,000 squatters could be regarded as tasks of considerable developmental significance even though these were achieved within the general framework of the emergency regulations.

Economic planning on a slightly more formal basis than during 1950 – 55 was undertaken with the establishment of an Economic Committee of the Executive Council in terms of a recommendation of the London Constitutional Conference held in 1956. The Committee, established in April 1956, had the Chief Minister of the then Federation of Malaya as the Chairman and the following as members: the Ministers of Finance, Commerce and Industry, Natural Resources and Local Government, and Agriculture; and the Economic Advisor. An economic secretariat was set up under the Economic Advisor. The functions of the Economic Committee and the Economic Secretariat were:[8] (1) to advise on matters of public policy in the economic field, (2) to prepare development and capital expenditure plans and programmes, (3) to plan and coordinate schemes for technical assistance from various sources, and (4) to liaise with Colombo Plan, ECAFE, etc. It was under these terms of reference that the *First Five-Year Plan, 1956 – 1960* was formulated for West Malaysia.[9]

The objectives of the *First Five Year Plan, 1956 – 1960* were categorized under four sets of priorities. Under the first priority were listed: (1) the re-development of the rubber industry,[10] (2) general agricultural development, (3) mining development, (4)

Regulations of Malaya: Causes and Effects", *Journal of Southeast Asian History* 6, 2 (1965): 1 – 40.

7. Federation of Malaya, *Resettlement and the Development of New Villages in the Federation of Malaya, 1952*. Command Paper No. 33 of 1952, Kuala Lumpur, p. 8.
8. Federation of Malaya, *Report on Economic Planning in the Federation of Malaya in 1956 and on the outcome on the Financial Talks held in London from December the 21st, 1956, to January the 10th*, Kuala Lumpur: 1957,p.1.
9. Ibid.
10. The set of policies pursued by the Government in the early postwar years were at best useful to the rubber estate sector and not the smallholders. An excellent review of the policies and their differential impact on estates and smallholders

determination of a sound policy of land utilization, (5) stimulation of industrial development, and (6) the construction at North Klang Straits of an adequate port for the Federal capital (Kuala Lumpur). Items (1), (2), and (3) were slightly elaborated. The rubber industry development was to embrace replanting (with high yielding clones) and other measures so as to enable the industry to meet the challenge of competition from synthetic rubber. General agricultural development was aimed at reducing the dependence of the country on imported food; increasing the income and output of the small farmer, fisherman, and forester by providing more land, by diversifying and intensifying production, by providing better inputs, and by encouraging better methods of production. Mining development was to be assisted by making land available and by providing geological information useful in the prospecting for and development of new deposits.

Educational and health services were put under second priority; housing, transport, and power under the third priority; and the capital projects relating to government administration and defence under fourth priority. The Plan envisaged a total capital expenditure of $1,100 million for 1956 – 60 taking into account the capital expenditure programme suggested by the World Bank,[11] and the proposals of various government departments and other public authorities. The prinicpal means of financing were to be loans, aid, and if required withdrawals from external reserves.

Capital expenditure targets and actual expenditure estimates for the period 1956 – 60 are given by sector in Table 59. In terms of actual expenditure, first priority went to infrastructural development (transport, communications, utilities, and industrial sites). Agriculture received a second priority. Social services and government sectors received the status of residual claimants. Financial difficulties mainly caused by the emergency (which officially ended in 1960) and the worldwide recession of 1957 – 58 brought down the actual expenditure relative to targets by about 15 per cent. The cut was essentially borne by social services and the government sectors. As for physical targets and achievements,

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is available in Martin Rudner, "Rubber Strategy for Post-War Malaya, 1945 – 48", *Journal of Southeast Asian Studies* 1, 1 (1970): 23 – 36.

11. I.B.R.D., *The Economic Development of Malaya* (Baltimore: Johns Hopkins Press, 1955).

TABLE 59

GROSS PUBLIC INVESTMENT: TARGETS AND ACTUALS – FIRST PLAN, WEST MALAYSIA, 1956 – 60

Sector	Targeted Expenditure ($ mill.)	Targeted Expenditure % of Total	Actual Expenditure ($ mill.)	Actual Expenditure % of Total
Agriculture	265.6	23.1	227.5	23.4
Rubber Replanting	*160.0*	*13.9*	*153.4*	*15.8*
Drainage and Irrigation	*60.0*	*5.2*	*38.3*	*3.9*
Land Development	*15.0*	*1.3*	*16.7*	*1.7*
Other	*30.6*	*2.7*	*19.1*	*2.0*
Transport	235.5	20.5	230.1	23.7
Communications	63.3	5.5	51.6	5.3
Utilities	214.5	18.7	238.6	24.6
Industry	15.8	1.4	12.1	1.2
Site Development	*14.0*	*1.2*	*11.1*	*1.1*
Mining Survey	*1.8*	*0.2*	*1.0*	*0.1*
Social Services	212.7	18.5	138.8	14.3
Education	*95.4*	*8.3*	*60.9*	*6.3*
Health	*50.0*	*4.4*	*12.7*	*1.3*
Housing	*67.3*	*5.8*	*65.2*	*6.7*
Government Buildings, Police, etc.*	141.3	12.3	73.0	7.5
Total	1,148.7	100.0	971.7	100.0

Note: *Defence excluded (actual expenditure amounted to $35 million).

Source: Federation of Malaya, *Second Five Year Plan, 1961 – 1965*.

notable shortfalls occurred in the programmes on drainage and irrigation and land development.[12] Among the positive achievements during

12. For instance, the irrigation target was to increase the area under irrigation from 270,000 acres in 1975 to 500,000 in 1960. The estimated actual achievement was 390,000 acres. The reason for the shortfall was given as the lack of experienced engineers.

TABLE 60

GROSS PUBLIC INVESTMENT: TARGETS AND ACTUALS – SECOND PLAN, WEST MALAYSIA, 1961 – 65

Sector	Targeted Expenditure ($ mill.)	Targeted Expenditure % of Total	Actual Expenditure ($ mill.)	Actual Expenditure % of Total
Agriculture	549.8	21.1	467.9	19.4
Rubber Replanting	*140.8*	*5.4*	*130.9*	*5.4*
Drainage and Irrigation	*124.3*	*4.8*	*108.5*	*4.5*
Land Development	*156.9*	*6.0*	*129.8*	*5.4*
Others	*127.8*	*4.9*	*98.7*	*4.1*
Transport	573.9	22.0	588.5	24.5
Communications	129.2	5.0	112.8	4.7
Utilities	545.7	20.9	535.4	22.2
Industry	59.6	2.3	59.1	2.5
Social Services	442.2	17.0	413.6	17.2
Education	*231.4*	*9.0*	*236.5*	*9.8*
Health	*139.4*	*5.3*	*101.9*	*4.3*
Housing, etc.	*71.4*	*2.7*	*75.2*	*3.1*
Government Buildings, Police, etc.*	305.9	11.7	229.7	9.5
Total	2,606.3	100.0	2,407.0	100.0

Note: *Defence excluded (actual expenditure amounted to $245 million).

Sources: (1) Malaysia, *Interim Review of Development in Malaya under the Second Five Year Plan*, Kuala Lumpur, December 1963.
(2) Malaysia, *First Malaysia Plan*, 1966 – 1970.

the First Plan period, mention must be made of the development of the Petaling Jaya Industrial Estate and the siting of some 150 factories therein. Added to the development of the industrial estate was the inauguration, in 1958, of the pioneer industry policy. Thus a beginning was made in fostering industrial growth.

The financing of the plan expenditure of $1,007 million was achieved as follows: 48 per cent from current surpluses, 60 per cent from domestic borrowing, and 28 per cent from foreign loans and grants — which add up to 136 per cent of which 36 per cent were added to external reserves. Of note here is the fact that the Government, which originally planned for a possible run-down of reserves, ended up by adding some.

The Second Five Year Plan (1961 – 65) for West Malaysia[13] was much more formal than the first in so far as there were output and employment growth targets by broad sectors.[14] The set of objectives of the plan consisted of improvement in rural living standards, full employment, growth of per capita output, diversification of production, and social development. Quantitative targets were set up by broad sectors for employment and output growth. With regard to crops, land development, transportation, utilities, and social services, a variety of physical targets were set. Public investment targets (double the first plan size) and actual expenditure by sector are given in Table 60. Actual expenditure was nearly the same as the targeted expenditure. The broad pattern of expenditure is not different between the first and the second plans. Nearly half the expenditure was on infrastructure, and over a fifth went to agricultural development. For the overall targets, the achievements were impressive: (1) as against the target of a 22 per cent increase in G.D.P., the actual achievement was 32 per cent; and (2) the employment target was just achieved, keeping the rate of unemployment at 6 per cent both in 1960 and 1965, even though the data on employment then available were somewhat weak.[15] One important aspect of the employment target may be noted. The over-

13. Federation of Malaya, *Second Five Year Plan, 1961 – 1965*, Kuala Lumpur.
14. There was also the explicit reference to the incremental capital output ratio. The overall ICOR for the plan worked out to 4:1, and the Plan document commented that this was somewhat higher than similar ratios in other countries because of the longer gestation periods attached to rubber planting, irrigation, and similar investments.
15. According to more up-to-date information given in the *Second Malaysia Plan, 1971 – 1975*, the unemployment rate in 1965 was 6.5%. Thus we have to say

achievement of the growth target and yet the creation of just the targeted jobs would reveal the lack of full complementarity between output growth and employment growth. Part of the setback in employment creation was due to the lower than expected tempo of land development. The target for the Federal Land Development Authority (FLDA) was to develop 250,000 acres to cater for 24,000 families. The achievement was 145,000 acres and the settlement of 12,000 families.

Apparently, most of the physical targets of the plan, except the one under land development stated above, were achieved — this is all that can be said on the basis of plan expenditures and growth of output. More direct evidence on physical targets is difficult to obtain, since the reporting of progress was generally not consistent with the framing of targets. One example will suffice. The second plan target under irrigation was 300,000 acres. The progress report (contained in the First Malaysia Plan, 1966 – 70) stated the following:

Existing cultivated land improved	258,000 acres
Uncultivated land rendered cultivable	34,000 acres
Land rendered capable of being double cropped	155,000 acres

It is not an easy task to deduce from the above figures whether the original target referring to new acreage to be brought under irrigation has been achieved. A clear-cut tabulation of targets and achievements could have been easily provided by the planners — but this was never done, except in the case of expenditure allocations. Rather time-consuming exercises undertaken by this writer to tabulate the physical targets and achievements proved futile and frustrating.

With regard to the sources of investment funds for the second plan, once again the main sources were public sector current surpluses and domestic borrowing. The former supplied about 40 per cent of total development expenditure and the latter about 38 per cent. The remaining 22 per cent included about 13 per cent from foreign loans and grants and about 7 per cent from the liquidation of accumulated assets. The notable feature was the insignificant dependence on foreign loans and foreign aid in the financing of economic development.

Planning efforts in Sabah and Sarawak also started in the immediate postwar period. As in West Malaysia, the first North Borneo

now that the 1961 – 65 employment target has been achieved in terms of new job creation, but the achievement has not helped in preventing an increase in the rate of unemployment.

Reconstruction and Development Plan (1948 – 55) was drafted against the background of extensive damage and devastation caused by the Japanese Occupation.[16] Sterling £6 million was the envisaged expenditure of which £2.2 million was for reconstruction and £3.8 million for development. Development emphasis was on infrastructure. A "second" plan was later prepared covering the period 1959 – 64.[17] This plan was revised in 1963 and the expenditure allocation was increased from the original $71 million to $156 million. Items of emphasis were infrastructure and education. The third plan known as the *Sabah Development Plan, 1965 – 1970* was later integrated with and formed part of the First Malaysia Plan, 1966 – 70.[18]

For Sarawak, the first development plan was for the period 1947/48 to 1955/56.[19] The Plan, however, was approved only in 1950. The emphasis of the Plan was on reconstruction of the war-disrupted economy. A revised version of the Plan, this time covering the period 1951 – 57,[20] placed emphasis on infrastructure, education, and agricultural development. In 1954, the Plan was once again revised and extended to cover the period 1955 – 60.[21] This was further revised twice and a 1959 – 63 Plan came into operation.[22] This revision was not the end, however, for a supplementary Plan for the 1959 – 63 Plan was drawn up in 1960, in

16. Government of North Borneo, *Reconstruction and Development Plan for North Borneo, 1948 – 1955*, Jesselton, 1948.
17. There was no plan document as such covering the period 1959 – 64. In the report on *Sabah Development Plan, 1965 – 1970*, statements of capital expenditure pertaining to 1959 – 64 were reported as approved by the North Borneo Legislative Council (Paper No. 31 of 1959). The following quotation will give a general idea of the type of the Plan. "The 1959 – 1964 Development Plan was not prepared as a comprehensive document reviewing progress over the previous period and setting out the problems which have to be faced and the measures necessary to deal with them. It was merely a statement showing the resources which were expected to be available during the period, and disposition of expenditure under broad functional heads." Malaysia, State of Sabah, *Sabah Development Plan, 1965 – 1970*.
18. Of the total government capital expenditure of $156 million, the principal items of expenditure were: roads ($42 million), water supply ($7 million), education ($18 million), and buildings ($24 million). The data are from *Sabah Development Plan, 1965 – 1970*.
19. Government of Sarawak, *Development and Welfare Plan for Sarawak for the years 1947/48 to 1955/56*, Kuching, 1950.
20. Government of Sarawak, *Revised Development Plan of Sarawak, 1951 to 1957*, Kuching, 1952.
21. Government of Sarawak, *Development Plan of Sarawak, 1955 – 1960* Kuching, 1954.
22. Government of Sarawak, *Development Plan, 1959 – 1963*, Kuching, 1958.

effect revising the original Plan.[23] The 1959 – 63 Plan envisaged an expenditure of about $150 million. The actual investment expenditure of the Government during the 1959 – 63 period amounted to $160 million.[24]

In 1963, a new Plan for 1964 – 68 with an expenditure of $340 million was approved and the Plan was later incorporated into the First Malaysia Plan, 1966 – 70.[25]

First Malaysia Plan, 1966 – 1970

Apart from qualitative objectives such as integration of peoples and states by promoting welfare of all, the measurable and quantitative objectives of the First Malaysia Plan may be summarized as follows:

(1) steady increases in per capita income and consumption;[26]
(2) generation of employment opportunities at a rate sufficient to provide productive work for new entrants to the labour force and lowering of the rate of unemployment;
(3) stimulating new kinds of economic activity to reduce the nation's dependence on rubber and tin;
(4) laying the groundwork for less rapid population growth by instituting an effective programme of family planning;
(5) opening up of new land to keep pace with the formation of new farm families; and

23. Government of Sarawak, *Supplement to the Development Plan, 1959 – 1963*. Kuching, 1960.
24. The principal items of expenditure were: rubber planting ($18.5 million), roads and bridges ($44.6 million), ports and waterways ($9.3 million), water supply ($7.8 million), P.W.D. plant and equipment ($13.3 million), education ($17.4 million), and medical and health ($9.4 million). These items together accounted for $120.3 million. Thus government investment was mainly directed towards infrastructure, rubber planting, education, and health services. Of note is the following observation: "The concept behind the 1959 – 1963 Plan was basically that of a long-range budget to be adjusted from time to time in accordance with the availability of funds and the progress of various projects. The Plan was not framed in terms of targets for the economy as a whole and for this reason it is not possible to examine it (except project by project) with a view to finding out whether its aims have been achieved." Malaysia, Sarawak, *Development Plan, 1964 – 1968*, Kuching, 1963, p. 5.
25. Ibid.
26. From a United Nations Survey on plan targets during the 1960s in 10 African, 9 Asian, and 7 Central and South American countries, we found that Malaysia was the only country which was in the happier position of planning for an increase in the ratio of consumption to income. (United Nations, *Development Plans: Appraisal of Targets and Progress in Developing Countries*, New York, 1965, pp. 30, 124).

(6) provision of electric power, transportation facilities, and communication services to keep ahead of foreseen demands.

To begin with, an appraisal of the overall plan targets will be attempted. The sources of data are the original plan document, the document containing a mid-term review and revision of targets of the plan, and the Second Malaysia Plan (1971 – 75) document which contains a progress report on the First Plan.[27] Table 61 shows the overall growth targets (or projections) and accomplishments. The achieved growth rates are higher than the expected growth rates for G.N.P. and G.N.I. An important reason for this achievement is the better than projected performance on the export front. As an illustration, the projected and actual export earnings for the year 1970 are given in Table 62. Actual merchandise exports are 34 per cent higher than the projection made in 1965 and 16 per cent higher than the projection made in 1969. This benevolence of exogenous forces has resulted in a higher than expected growth rate of income and, consequently, contrary to the original Plan expectations of a resource gap, the Plan has ended with unused investable funds. The Plan expected an average investment/G.N.P. ratio of about 19 per cent and a savings/G.N.P. ratio of about 16 per cent, but the actual outcome was an average investment ratio of 16 per cent and an average savings ratio of 18 per cent. The original Plan expected the cumulative public sector investment over the 1966 – 70 period to be $3,570 million and private sector investment to be $6,160 million. When the mid-term review was conducted, public sector investment was slightly reduced to $3,154 million and private sector investment was increased to $6,449 million presumably on the belief that better performance on the export front would induce higher private investment. The actual outcome was that public sector invested $3,153 million as planned and the private sector spent only $5,051 million. The lower than expected level of private sector investment was probably due to the uncertainties of the period caused by the racial disturbances of May 1969.

The original Plan has as one of its objectives a proportionately greater growth in consumption than income. Even though this might sound ludicrous to hard-core economic planners who would call for "sacrifices" in the process of planned development, the objective should not be treated as a target in the real sense. It is more the result of

27. (a) Malaysia, *First Malaysia Plan, 1966 – 1970*, Kuala Lumpur, 1965.
(b) Malaysia, *Mid-Term Review of the First Malaysia Plan, 1966 – 1970*, Kuala Lumpur, 1969.
(c) Malaysia, *Second Malaysia Plan, 1971 – 1975*, Kuala Lumpur, 1971.

TABLE 61
G.N.P. AND G.N.I. GROWTH:
FIRST MALAYSIA PLAN, 1966 – 1970

Average Annual Growth Rate of	Original Target for 1965 – 68	Achieved for 1965 – 68	Revised Target for 1968 – 70	Achieved for 1968 – 70
G.N.P. at 1965 prices	4.5	5.2	5.5	7.1
G.N.I. at 1965 prices	3.5	3.8	5.6	7.6
Per Capita G.N.I. at 1965 prices	0.5	0.8	2.6	4.6

Sources: (1) *Mid-Term Review of the First Malaysia Plan, 1966 – 1970.*
(2) *Second Malaysia Plan, 1971 – 1975.*

TABLE 62
PROJECTED AND ACTUAL EXPORTS, MALAYSIA, 1970 ($ million)

Item	Projection for 1970		Actual for 1970‡
	1965*	1969†	
Rubber, Tin, Timber, Iron Ore, Palm Oil, and Palm Kernels	2,905	3,292	3,960
Canned Pineapple, Pepper, Copra, and Coconut Oil	112	n.a.	151
Sub- Total	3,017		4,111
Other Merchandise Exports	773		978
Total Merchandise Exports	3,790	4,381	5,089
Service Exports	443	n.a.	547
Total Exports of Goods and Services	4,233		5,636

Notes: *From the *First Malaysia Plan, 1966 – 1970.*
†From the *Mid-Term Review of the First Malaysia Plan, 1966 – 1970.*
‡From the *Second Malaysia Plan, 1971 – 1975.*

Plan assumptions and calculations. As may be seen from Table 61, the Plan originally expected only a 0.5 per cent per year growth in real per capita income. With population growth taking place at an average rate of 3 per cent per year, it is likely that per capita consumption will have to increase even in the face of poor per capita income growth. Thus the target on consumption growth is but a corollary of expected poor export performance, adverse terms of trade, and anticipated low growth in per capita earnings. Fortunately, none of these things happened as pointed out in our earlier discussion.

The second objective of the First Malaysia Plan (1966 – 70) was the absorption of the new entrants to labour force in productive employment and reduction in the rate of unemployment. Achievement of the objective in West Malaysia required the availability of an estimated 377,000 new jobs during the Plan period. As reported in the Second Malaysia Plan document,[28] actual achievements fell short of expectations and the rate of unemployment in West Malaysia increased from 6.5 per cent in 1965 to 8 per cent at the close of 1970. There are two principal factors that explain the somewhat unexpected increase in the unemployment rate. First of all, the annual rate of growth of labour force during 1966 – 70 averaged some 2.9 per cent as against the First Plan assumption of 2.7 per cent. Increase in the labour force thus amounted to 420,000 persons instead of about 370,000 persons originally assumed. Secondly, new jobs during the Plan period amounted to about 350,000 as against the expected 377,000. Even though the number of new jobs created in the non-agricultural sector exceeded Plan expectations, job creation in the agricultural sector did not take place as expected. The relatively slower growth of agricultural employment was explained as follows.[29]

> The slack in the growth of employment in this sector was due largely to the fact that rubber estates divested themselves of a good portion of their work force. In 1962 – 67 alone, some 54,000 workers, nearly 20% of the estate work force, were displaced from this sector. This decline in employment reflected some reduction in rubber estate acreage as well as efforts by estates to introduce cost savings in production.... Another factor contributing to the low rate of labour absorption in agriculture was the shortfall in land development....

28. *Second Malaysia Plan, 1971 – 1975*, p. 96.
29. Ibid., pp. 96 – 97.

Thus the two factors that contributed to the increase in the rate of unemployment during 1966 – 70 were the relatively faster than expected increase in the labour force and the shortfall in agricultural employment growth. With regard to the first factor — the faster growth rate of labour force — it is unfair to take the Government to task for inaccurate forecasting as some degree of error is inevitable in population and labour force projections. With regard to the second factor — the shortfall in agricultural employment growth — the direct role of the Government was limited to land development in the public sector whose targets were more or less achieved.[30] Private sector land development and all other aspects of agricultural development were areas not under the strict control of the Government and, as the agricultural sector pursued the (desirable) objective of productivity growth, employment growth slackened. In retrospect, therefore, it could only be said that the First Plan projection (target) on new job creation in agricultural sector was probably unrealistic.[31]

The third objective of the First Plan was to stimulate new kinds of economic activity to reduce the nation's dependence on rubber and tin. An examination of the data in Table 63 shows that in terms of real value added, the nation's dependence on rubber was by no means less in 1970 than in 1965. The percentage contribution to value added of the mineral sector has declined, no doubt, but this was not due to any planned reduction; the main reasons were the depletion of iron ore reserves and the slow-down in tin production. As regards the development of new lines of activity, manufacturing sector (especially manufacturing other than rubber processing) has been gaining importance in the structure of the economy. The Plan objectives of stimulating new kinds of activities and reducing the dependence on rubber and tin were, of course, largely dictated by factors such as the decline in the rubber price during most of the post – Korean War boom period, expected exhaustion of tin deposits, and generally unfavourable terms of trade. To be sure, stimulating new economic activities to achieve changes in economic structure is a natural objective of development planning, even though only limited achievement is generally possible within a single Plan period. Of note in the Malaysian context is the fact that reduction of

30. Land development targets and achievements are discussed later in this chapter.
31. The First Plan expected that 165,000 new jobs (or over 40% of 377,000 new jobs in all sectors) would be available in agriculture during 1966 – 70. The actual outcome was the availability of some 104,000 new jobs which constituted about 30% of the 350,000 new jobs in all sectors.

TABLE 63
PERCENTAGE COMPOSITION OF G.D.P., WEST MALAYSIA, 1965, 1970

Sector	1965	1970
Rubber Planting	15.1	15.5
Other Agriculture, Livestock, Forestry, and Fishing	16.5	18.1
Mining and Quarrying	9.0	7.2
Manufacturing — Rubber Processing		
Other Manufacturing	10.4	12.8
Construction	4.1	3.8
Utilities	2.3	2.6
Services	42.6	40.0
G.D.P. at Factor Cost (%)	100.0	100.0
($ mill.)	6,552	8,569

Source: *Second Malaysia Plan* for data at 1965 prices.

TABLE 64
NEW ACCEPTORS OF FAMILY PLANNING

Period	Number of New Acceptors	
	Target	Achievement
1967 (May – Dec.)	31,500	20,726
1968	54,100	74,935
1969	89,100	70,575
1970	114,800	55,981
1971	118,200	55,081
Total	407,700	277,298

Sources: (a) *Mid-Term Review*, p. 120;
(b) *Malaysia-Country Profile*, issued by the Population Council, New York, July 1970, p. 6.

dependence on rubber is specifically a long-term objective. Especially when the Government has embarked on a land development programme and when the land is partly planted with rubber, there is no point in going on emphasizing in every five-year plan, the need and urgency to reduce dependence on rubber.[32]

The fourth objective of the First Plan was to institute an effective family planning programme. Targets relating to population growth and family planning were incorporated in the Mid-Term Review of the Plan. According to the review, the long-term goal is the reduction of population growth from the present 3 per cent per annum to 2 per cent by 1985. The National Family Planning Act came into effect in June 1966 and the National Family Planning Board of Malaysia was established. The Board commenced clinical operations in May 1967. The targets and achievements with regard to family planning acceptors are as shown in Table 64. The family planning programme was well initiated and took off well, but the targets have not at all been achieved. In this context, it is quite in order to make a few observations relating to target setting. The long-term target for 1985 is a crude birth rate of 26 per thousand which together with a crude death rate of 6 per thousand would lead to the target 2 per cent population growth rate. The target is easy to understand and probably easier to appraise. However, the effect of family planning will eventually be judged by reduction in completed family size and reduction in positive fertility indicators. This point is made clear by the data for West Malaysia shown in Table 65. With regard to the reduction in crude birth rate, Malays have progressed as much as the Chinese, but this observation has no significance. Other indicators show that fertility has been controlled mostly by the Chinese and the Indians. Thus the situation would call for more intensive family-planning activity within the Malay community. Some of the pertinent recommendations that can be made for family planning are: (1) the targets for all the ethnic groups should be in terms of achieving an acceptable average completed family size, after a reasonable length of time; (2) the targets for new family planning acceptors should be specified by towns and villages and by ethnic group so that the field workers and family planning personnel will know clearly whom to approach and whom to con-

32. A typical land development scheme which provides for 400 settler families will have about 3,200 acres planted with rubber and 4,000 acres planted with oil palm. This information is from Taib bin Haji Andak, "Smallholders and the Federal Land Development Authority", *Development Seminar*, Kuching, Apr. 1964.

TABLE 65
INDICES OF FERTILITY CHANGE, WEST MALAYSIA, 1958, 1967

Ethnic Group	Crude Birth Rate*			Total Fertility Rate†		
	1958	1967	Percentage Change	1958	1967	Percentage Change
Malays	46.0	38.1	−17.2	5,785	5,640	−2.5
Chinese	39.5	32.5	−17.7	6,735	4,610	−31.5
Indians & Pakistanis	46.0	35.2	−23.5	6,370	5,230	−16.3
Total Population	43.3	35.2	−18.7	6,085	5,230	−14.1

Note: *Per 1000 population
†Per 1000 women in the age group 15 – 49.
Source: *Malaysia-Country Profile.*

TABLE 66
LAND DEVELOPMENT UNDER THE FIRST MALAYSIA PLAN

Region	Target (1966 – 70) Acres	Actual (1966 – 70) Acres
West Malaysia: FLDA	141,000	179,000
Others	260,000 to 310,000	151,000
Total	401,000 to 451,000	330,000
East Malaysia: Total	140,000	164,000

vince; (3) consistent with framing the targets in terms of completed family size, more extensive use of vasectomy and tubal ligation should be encouraged. The first and second proposals will, in the long run, help very much in preserving not only ethnic harmony but also in reducing interethnic economic and social imbalances.[33] The third proposal is

33. One of the most important causes of poverty in the rice sector (where the Malays predominate) was the pressure of population growth. The argument was most convincingly developed in Lim Chong Yah, *Economic Development of Modern Malaya* (Kuala Lumpur: Oxford University Press, 1967), pp. 173 – 74.

made because at present more than 90 per cent of family planning acceptors use the oral pill which may not be the best method to achieve a specific completed family size.

The fifth objective of the first Plan relates to land development. The targets and achievements are as shown in Table 66. The overall target was not achieved. The FLDA exceeded its target by a significant margin. The shortfall was mainly in the other public sector and private sector land development. The private estates sector which developed 140,000 acres in West Malaysia during 1961 – 65, reduced the tempo and developed only 46,000 acres during 1966 – 70. The sector concentrated more on production and productivity improvement and less on expansion of acreage. With regard to the FLDA targets, even though it exceeded the land development target, the cumulative number of settler families was 20,700 at the end of 1970 which was slightly less than the target of 21,250. The first Plan noted that at least 65,000 families should be settled on new land in West Malaysia by the end of 1970. No overall data were available from the progress report in the Second Plan document, but if FLDA which exceeded the land target did not achieve the settler target, it is anyone's guess as to what has happened to the overall target on settlers.

Projects closely related to land development and within the general field of agricultural development may also be considered here, the most important being irrigation and drainage. Once again, appraisal of targets and performance is a problem because of lack of consistency between the way targets are set and progress is reported. On the surface at least, it appears that the West Malaysian target has not been achieved in time. The First Plan target was to improve over 600,000 acres through irrigation and 290,000 acres through drainage. Without a reference to targets, the Second Plan document reported as follows: "In 1966 – 70, the productivity of about 375,000 acres of cultivated land in West Malaysia was increased by drainage and irrigation improvement programmes".[34] A careful reading of the First and Second Plan reports on the matter revealed that probably the First Plan document assumed the full operation of the then proposed Muda and Kemubu schemes (the two largest drainage and irrigation works in West Malaysia) by the end of 1970. Actually the Muda project was virtually completed, but the

34. *Second Malaysia Plan*, p. 127.

full benefits did not yet accrue.[35] Construction of the Kemubu project began in 1968 and work was still in progress at the end of 1970. In the case of such vital projects (with an estimated cost of over $250 million), an appraisal of delays, if any, and reasons for such delays should have been an important part of a Plan's progress review.

Another aspect in the sphere of agricultural development is the programme to replant with rubber and other crops the acreage under old rubber trees. The overall replanting target was 585,000 acres and the achievement was 467,500 acres. The Plan envisaged 51 per cent replanting in the smallholder sector and 49 per cent in the estate sector. As it turned out, about 65 per cent of replanting was done on smallholdings and only 35 per cent on estates. Nearly all of the smallholder acreage replanted, mostly with rubber, was financed partly by Government assistance and partly by the replanting cess collected from the rubber industry. Whereas the smallholders replanted mostly rubber, the estates shifted from rubber to oil palm and other crops.[36]

The sixth and the final objective of the First Plan relates to the further development of infrastructure. Targets were set and achievements were reported in a varying mixture of physical and financial magnitudes, thus making an appraisal rather difficult. The revised allocation for transport and communication development during 1966 – 70 was $942.6 million. The actual expenditure was less by about 21 per cent. It was stated that "the shortfall on the revised target was due mainly to a shortage in implementation capacity, inadequate project preparation, particularly in respect of big projects requiring pre-investment studies, and also a deliberate slowdown in project implementation, pending the results of the General Transport Survey undertaken between September, 1967 and July, 1968."[37]

The discussion on the First Malaysia Plan will be rounded up with a consideration of the pattern of public development expenditure targets and achievements given in the first two columns of Table 67. The actual expenditure was less than the target by 12 per cent. The broad pattern of

35. Against an estimated 260,000 acres to be brought under double cropping under the Muda project, at the end of 1970, some 83,000 acres were double-cropped. (*First Malaysian Plan*, p. 116 and *Second Malaysia Plan*, p. 127.)

36. The estate acreage under rubber declined from 1.86 million acres in 1965 to 1.57 million acres in 1970.

37. *Second Malaysian Plan*, p. 181.

TABLE 67
PUBLIC DEVELOPMENT EXPENDITURE, TARGETS AND ACHIEVEMENTS, FIRST MALAYSIA PLAN (1966 – 70) AND TARGETS, SECOND MALAYSIA PLAN (1971 – 75)

Sector	Target, 1966 – 70		Actual, 1966 – 70		Target, 1971 – 75	
	($ mill.)	% of Total	($ mill.)	% of Total	($ mill.)	% of Total
Rubber Planting	193.6	4.0	168.9	4.0	269.1	3.7
Land Development	393.0	8.1	363.6	8.6	908.6	12.5
Drainage and Irrigation	349.9	7.2	342.6	8.1	256.5	3.5
Other agriculture and Rural Development	241.4	5.0	239.0	5.6	486.7	6.7
Mining	0.8	—	0.7	—	0.7	0.0
Industrial Development	133.9	2.8	141.3	3.3	614.0	8.5
Transport	705.7	14.6	544.9	12.8	1,188.4	16.4

TABLE 67 *(cont.)*

Sector	Target, 1966 – 70		Actual, 1966 – 70		Target, 1971 – 75	
	($ mill.)	% of Total	($ mill.)	% of Total	($ mill.)	% of Total
Communications	236.9	4.9	203.0	4.8	400.0	5.5
Utilities	793.5	16.4	681.4	16.1	747.1	10.3
Education	391.5	8.1	329.4	7.8	537.3	7.4
Health	178.9	3.7	146.6	3.5	213.6	3.0
Housing, etc.	323.8	6.7	276.1	6.5	316.5	4.4
General Administration	205.2	4.2	138.1	3.2	211.6	2.9
Defence	555.3	11.5	532.4	12.5	850.1	11.7
Internal Security	135.5	2.8	134.4	3.2	250.0	3.5
Total	4,838.9	100.0	4,242.4	100.0	7,250.2†	100.0

Notes: *We are using here the revised target reported in the *Mid-Term Review of the First Malaysia Plan, 1966 – 1970.* In the *Second Malaysia Plan, 1971 – 1975,* Table 2.4 (pp. 28 – 29), the comparison was made between the original targets (totalling $4,551 million) and actual expenditures. Needless to say, it is more appropriate to compare the revised targets and actual achievements.

†The actual expenditure is expected to be at least $6,000 million.

actual expenditure, however, was identical to the pattern of targeted expenditure. A third of the expenditure was for infrastructure development. Second in order of emphasis was rubber planting, land development, and drainage and irrigation — which together received a fifth of the total expenditure.

Second Malaysia Plan, 1971 – 1975

The public development expenditure targets for the Second Malaysia Plan are given in the last column of Table 67. Compared to the pattern of actual expenditure during 1966 – 70, proportionately higher amounts are to be spent during 1971 – 75 on land development, rural development, industrial development, and transport development. The Second Malaysia Plan makes a significant departure from the earlier plans in that the considerations of equity, racial economic balance, and regional economic balance have been given a high priority.

The broad policy framework of the Second Malaysia Plan has been described as follows: "The Plan incorporates a two-pronged New Economic Policy for development. The first prong is to reduce and eventually eradicate poverty, by raising income levels and increasing employment opportunities for all Malaysians, irrespective of race. The second prong aims at accelerating the process of restructuring Malaysian society to correct economic imbalance, so as to reduce and eventually eliminate the identification of race with economic function."[38] The two prongs just described represent the two long-term objectives and the Second Malaysia Plan is directed towards their achievement. Eradication of poverty is to be achieved through increased productivity in agricultural and allied sectors, high rate of economic growth, relatively faster growth of industry, substantial employment creation, family planning, and provision of various social services. The measures to achieve racial economic balance include increased participation of Malays and other indigenous people in industry and commerce both in terms of capital ownership and employment.

The principal targets of the Second Plan closely related to the long-term objective of eradication of poverty are: (1) a growth rate of G.N.P at current prices of 6.5 per cent; and (2) a growth rate of employment of 3.2 per cent so that the rate of unemployment in 1975 would remain at the 1970 level of 7.3 per cent. The investment targets, programmes, and policies are very much related to these two objectives. With regard to the achievement of racial economic balance, there are two significant

38. *Second Malaysia Plan, 1971 – 1975*, p. 1, para. 2.

targets: the first is to achieve by 1990 a 30 per cent ownership by Malays and other indigenous people of the total commercial and industrial activities; and the second is the stipulation that the employment pattern at all levels and in all sectors must reflect the racial composition of the population. Regional balance is to be achieved through better spread of infrastructure, industry, and other development channels.

With reference to the economic growth and investment targets, a partial evaluation may be made on the basis of available data for 1971 and 1972. During these two years Malaysia's rate of growth of G.N.P. was 4.8 per cent and 5.8 per cent respectively as against the 1971 – 75 target average growth rate of 6.5 per cent[39] For West Malaysia, the target was an average of 6.3 per cent and the 1970 – 71 and 1971 – 72 growth rates were 3.9 and 4.7 respectively. The investment targets took a peculiar turn in 1971 and 1972 from an expected surplus of savings over investment to an actual deficit as shown in Table 68. The deficit was largely financed by official borrowing and net inflow of private capital funds. The total investment envisaged for 1971 – 75 was $12,150 million: $4,307 million in the public sector, and $7,843 in the private sector. The annual averages work out to $861 million for the public sector and $1,569 million for the private sector. In 1971, the public sector investment amounted to $856 million — just equal to the annual average expected for 1971 – 75. Private sector investment amounted to $1,371 million, about $200 million less than expected. More or less to counteract the shortfall, public sector investment in 1972 was $1,200 million; and even though the private sector invested a higher amount in 1972 than in 1971, the amount ($1,420 million) still was not as much as the expected annual average for 1971 – 75. A repercussion of the public sector stepping up investment in 1972 and the private sector falling short of expectations was the increased borrowing of the public sector. This is evident from the data shown in Table 69. The Plan estimate of foreign borrowing was realized by the end of 1972 itself, thus paving the way for more than expected indebtedness in the future. Domestic borrowing has not been fully tapped as per expectations, probably because of the slower than expected growth of the economy. The slower growth might also have influenced the private sector investments from domestic resources, thus leading to a shortfall in private investment. The paramount importance of economic growth for generating investable

39. Gross export earnings declined in both 1971 and 1972. In 1970 exports amounted to $5,163 million, in 1971 to $5,009 million, and in 1972 to $4,900 million. During 1972, rubber price fell to its lowest in 25 years.

TABLE 68
SAVINGS AND INVESTMENT, MALAYSIA, 1970–72

Item	Unit	Second Plan		Actual*		
		Assumed for 1970	Target for 1975	1970	1971	1972
G.N.P. at Market Prices	($ mill.)	11,821	16,230	11,634	12,194	12,900
Gross Investment	($ mill.)	1,928	2,801	2,055	2,227	2,620
Balance of Payments:						
Current Account Balance	($ mill.)	+ 217	+ 210	+ 129	− 112	− 600
Gross Savings	($ mill.)	2,145	3,011	2,184	2,115	2,020
Savings/G.N.P. Ratio	(%)	18	19	18.8	17.3	15.6
Investment/G.N.P. Ratio	(%)	16	17	17.7	18.3	20.3

Note: *Computations on the basis of data in the Treasury's *Economic Report, 1973.*

TABLE 69
BORROWING AND CAPITAL INFLOW, 1971, 1972 ($ million)

Plan Estimate: Net foreign borrowing	(public sector):	720
Plan Estimate: Annual Average	(public sector):	144
1971 and 1972 Total Borrowing	(public sector):	702
Plan Estimate: Net Domestic Borrowing	(public sector):	4,440
Plan Estimate: Annual Average	(public sector):	888
1971 and 1972 Total Borrowing	(public sector):	1,408
Private Sector: Estimated Capital Inflow	:	1,150
Private Sector: Annual Average	:	230
1971 and 1972 Total Inflow	:	430

resources and the importance of investment for economic growth constitute a "chicken and egg" problem, yet a higher tempo of private capital inflow and carefully planned capital loans for highly productive projects can effectively solve the problem. Moreover, given the primary export orientation of the economy, fluctuations in the amount of domestic resources available for investment purposes is always to be expected. The problems then are to avoid the abandonment of important development projects due to lack of resources during periods of depressed economic conditions and to avoid accumulation of unused savings during periods of prosperity. The problems can be overcome to some extent by lining up external resources for important development projects and by keeping a ready stock of projects to be implemented from domestic resources.

Fortunately for Malaysia, 1973 was a very prosperous year. The price of rubber shot up from a low 66.75 cents per pound in March 1973 to 99.06 cents in July 1973, a price never heard of after the Korean War boom. The special reasons for the jump in the rubber price were China's purchases of 100,000 tons in early 1973, uncertain international monetary situation, and the recent destruction of a synthetic rubber plant and work stoppage in another synthetic plant in Japan.[40] Given

40. Yong Mun Cheong, "Malaysia in 1973: The Search for a New Political and Economic Order", in *Trends in Malaysia II*, ed. Yong Mun Cheong (Singapore: Singapore University Press, 1974).

the overall prosperity of 1973, it is expected that G.N.P. growth will be significantly higher than in 1972 and there may not be a resource gap for investment.[41] Private sector may also invest substantially from domestic resources in construction, services, and other activities. In spite of these developments, our earlier observation on the need to keep a ready stock of projects and external financial sources still holds.

Our assessment of the Second Malaysia Plan will be incomplete without stating the "perspective elements" of the Plan, and comparing it with the "perspective elements" of the First Malaysia Plan. The long-term objectives enumerated in the First Plan were: (1) to achieve a per capita income level of $1,500 or more by 1985, (2) to provide employment for all new entrants to labour force, (3) income redistribution, (4) expansion of social and community services, (5) considerable expansion of infrastructure, and (6) the reduction of the rate of population growth from 3 to 2 per cent. A careful and thorough reading of the quantitative aspects of the perspective plan containing macroeconomic forecasts[42] for the future would reveal that the objectives and the forecasts, and the various elements of the forecasts themselves, were probably uncoordinated. The package of forecasts up to 1985 contained (1) assumed economic growth rates, (2) expected export growth rates, (3) assumed ICORs, (4) targeted population growth rates, and (5) targeted employment growth rates. Even though the Plan did not specify the forecasting methodology, there should be no difficulty in guessing the method, because when half the things were assumed and the other half were targeted, there was no need to employ a method at all. The Plan's forecasts on investment and the forecasts on exports and imports were useful in throwing light on the resources problem, but even this discussion was meaningless because the interrelationships between assumed export growth and assumed G.N.P. growth rate, between assumed investment and targeted employment growth, etc., were probably not taken into account. It is thus correct to say that the perspective elements of the First Plan were a package of unrelated forecasts unconnected to realizable objectives. Since the per capita income level to be achieved by 1985 would come from the assumed G.N.P. growth and targeted population growth, we conclude that even a long-term per capita income objective was not really included, for the real target would be simply achieving a reduced population growth rate. An appropriate

41. The 1973 budget forecasted the growth rate for 1973 to be between 8 and 9%. The actual rate may be even higher than this.

42. *First Malaysia Plan, 1966 – 1970*, pp. 60 – 64.

perspective plan methodology would depend on the choice of goals, instruments, and assumptions regarding exogenous variables. Thus if the goal were to achieve full employment, the perspective plan should contain (1) projected labour force after allowing for reduced population growth (an independent target for an exogenous variable), (2) targeted number of new jobs, (3) sectoral output required to meet the target, (4) imports and investment required to meet the target, taking into account the import and investment required to meet the extra consumption from extra income, and finally (5) the domestic saving targets that would achieve the required domestic resources and the export levels and inflow of capital that would maintain a balance of payments equilibrium. These steps apparently were not behind the so-called perspective plan up to 1985 contained in the First Plan document.

The Second Malaysia Plan contained the two important, long-term, welfare-oriented objectives of eradicating poverty and restructuring the society. These two objectives could have been the basis for a well-structured perspective plan.[43] But whereas quantitative targets, policy measures, and certain specific expenditure allocations have been given towards the achievement of the second objective, the first objective which affects everyone including the Malays did not receive as much attention as it deserved. For instance, to say that poverty arises out of low productivity or to argue that a certain rate of economic growth will eventually eradicate poverty is too naive to give the goal the character of an element in a perspective plan. The planners should have given a quantitative assessment of what they considered as "poverty" and outlined at least a few specific measures that would have constituted a move in the right direction. Once the objectives were specified for the next 20 or 30 years, a set of consistent forecasts could have completed the perspective plan frame with the Second Plan as a part. The objectives would stay on from one plan to the other, but the forecasts, sectoral allocations, etc., would change as required.[44]

43. "The significance of a perspective plan is directly proportionate to the radical nature of the aims that the government of the country is striving to achieve. Really fundamental aims cannot be expected of governments or political groups that are inclined toward *laissez-faire*. They can, on the other hand, be expected of governments aiming to change either the social or the economic structure or both and which realize that these processes are very slow." Jan Tinbergen, *Development Planning* (London: Weidenfeld & Nicholson, 1967), p. 52.

44. It is extremely important that the Plans in Malaysia distinguish clearly forecasts, specific targets, and guidelines for the development of the economy. The liberal use of the term "target" may be eschewed.

TABLE 70
INDICATORS OF THE ROLE OF GOVERNMENT IN ECONOMIC ACTIVITY, WEST MALAYSIA, 1960 – 72

Year	Ratio of Public to Total Consumption (%)	Ratio of Public to Total Fixed Investment (%)	Percentage Distribution of Gross National Income*		
			Private Sector	Public Corporations and Government Enterprises	General Government
1960	17.1	28.4	84.5	3.2	12.3
1961	17.6	41.0	83.6	3.4	13.0
1962	17.7	50.9	83.6	3.3	13.1
1963	18.7	46.4	83.2	3.3	13.5
1964	20.1	43.8	82.7	3.2	14.1
1965	21.3	46.1	81.7	3.5	14.8
1966	22.7	42.7	81.0	3.7	15.3
1967	22.1	43.0	80.4	3.7	15.9
1968	21.8	41.6	79.9	4.0	16.1
1969	21.8	40.2			
1970	23.1	36.9			
1971	25.4	41.0			
1972	27.0	49.2			

Note: *National Income before subtracting net factor payments to abroad.
Sources: (1) *Economic Report, 1972 – 1973* (Treasury)
(2) *National Accounts, 1960 – 1968*

As a summary of the above discussion, we note that the First Malaysia Plan had a perspective frame without long-run goals; the Second Plan had two long-term objectives but no complete perspective frame; and the planners should consider setting up an appropriate perspective plan. It is in this wider context that we shall review the development strategy, plan methodology, and related aspects in the next section. The employment problem and other issues that are closely related to the two long-term goals of the Second Malaysia Plan will be briefly discussed in the next chapter.

Development Strategy

The following discussion is concerned with three elements of Malaysian development strategy: the first relates to the role of the Government in consumption, investment, and production; the second relates to development priorities with regard to public investments; and the third, which is a broader issue, relates to primary export orientation as a development strategy. From the early days of the tin revolution and later in the rubber era, the Malaysian economy has developed largely on the basis of free enterprise. While the situation remains the same even today, the role of the Government has been on the increase especially in the consumption sphere as the data for West Malaysia in Table 70 show. Public consumption expenditure as a proportion of total West Malaysian consumption expenditure increased from 17.1 per cent in 1960 to 27 per cent in 1972. Whereas the percentage of national income originating in the public corporations and government enterprises marginally increased from 3.2 per cent in 1960 to 4 per cent in 1968, the percentage contribution to national income from the general government increased from 12.3 per cent in 1960 to 16.1 per cent in 1972. The latter increase represents mainly the increasing relative contribution of general government services to national income. The value added by general government sector is almost entirely made up of the wages and salaries paid to government servants.[45] In the investment sphere, the Government generally contributed a share in the range of 40 to 50 per cent of total investment. Thus the Government on the whole is assisting the private sector in two ways: firstly, by activating consumption demand directly through relative increase in public consumption and indirectly through the multiplier effects of government investment; and

45. For example, in 1968, value added (at factor cost) by general government amounted to $1,094 million of which 80% was compensation of employees and 20% was income from rent, interest, and dividends.

secondly by increasing the production of complementary government services from government enterprises (utilities, communications, etc.) and general government (public administration, education, defence, police, etc.).

Once it is recognized that most of the productive activities are undertaken by the private sector and the role of the Government is to create a favourable economic climate to foster private investment, the strategy of development in relation to public investment priorities will have to be mainly infrastructure oriented. That this is so in the case of Malaysia is demonstrated by the summary data in Table 71 on the percentage distribution of actual public development expenditure during 1956 – 70 and planned expenditure during 1971 – 75. Throughout the period, the three principal channels of expenditure in order of importance were: investment in infrastructure, investment in land, and investment in human resources. Investment in infrastructure and human resources is justified by their very purpose of establishing the preconditions for economic development and creating the environment within which productive private investment can grow. Infrastructure and human resources are largely to be developed by the public sector because the marginal private benefits from investment in these areas are generally lower than the marginal social benefits of these investments.[46] With reference to investment in land, however, the question can be raised of why this has not been left to the private sector.[47] A brief discussion of the factors justifying government investment in land follows.

Government investment in land went into three main channels: land

46. "As the marginal social benefits are so much in excess of marginal private benefits, government investment in these fields has, therefore, invariably ranked high in all development plans of countries of the region." ECAFE, "A Decade of Development Planning and Implementation", reprinted in *Leading Issues in Development Economics*, ed. G.M. Meier, p. 445. ECAFE's observation quoted here refers to infrastructure investment. The view holds in respect of investment in human resources also. In addition to national economic benefits, humanitarian and social considerations also come into the picture in the development of health, education, and welfare facilities.

47. Ideally, an appraisal of the investment allocations has to be carried out by looking at the social rates of return on investment in alternative channels. This is not possible due to lack of data. However, investment in infrastructure and investment in education and health cannot be accurately appraised since the future benefits to society are difficult to forecast. With reference to infrastructure as well as education, while granting that investment is desirable, care has to be taken to avoid unnecessary infrastructure and educated unemployment (zero return on positive investment) in the short run.

development, drainage and irrigation, and rubber replanting. Land development activity was mainly carried out by FLDA, which was established in 1956, for "promoting and assisting the investigation, formulation and implementation of projects for land development and settlement in the Federation of Malaya".[48] In the prewar period, land development activity was mainly undertaken by the private sector. The pace of development, however, slackened during the post-depression period for various reasons.[49] The Working Party on Land Development which recommended the establishment of FLDA stated the need for planned land development as follows:

> The traditional methods of development of agricultural land in the Federation in the past have been (a) by large estates and (b) by Malay and Chinese smallholders. Estate development does not seem likely to expand again at the same rate as it did in the first part of this century. Development by smallholders in most states has lost impetus; this is due to the fact that many Chinese smallholders now live under controlled circumstances and may have been resettled, whilst the main areas of original Malay development are now generally over-populated, and there is a lack of land in those areas for further development. The population of this country has grown rapidly in the past few years and continues to increase. It would, therefore, seem vitally necessary that the land resources be carefully assessed and husbanded, and that large areas for new development should be alienated only after being planned.[50]

The land development policy of the Government was largely shaped to eradicate rural poverty and foster rural development which were not the

48. FLDA, *Annual Report, 1959*, Kuala Lumpur.
49. For instance, new rubber acreage did not grow fast not only because of the gloom inflicted by the Great Depression, but also because of various restrictions and finally the Japanese Occupation of 1942 – 45. The *average annual increase* in rubber acreage amounted to 134,000 acres during 1906 – 22, 90,000 acres during 1923 – 30, 42,000 acres during 1931 – 40 and finally 10,000 acres during 1941 – 50. The average improved to 36,000 acres during 1951 – 62 largely due to the planting of rubber on new land developed by FLDA. The prewar trends in capital formation in the rubber sector was discussed in detail in Lim Chong Yah, *Economic Development of Modern Malaya*, pp. 103 – 7. Data quoted in this footnote are from the same source, p. 106.
50. Federation of Malaya, *Report of the Working Party Set Up to Consider the Development of New Areas for Land Settlement in the Federation of Malaya*, Kuala Lumpur, 1956, pp. 2 – 3.

TABLE 71
PERCENTAGE DISTRIBUTION OF PUBLIC DEVELOPMENT EXPENDITURE 1956 – 75

Item	1956 – 60*	1961 – 65*	1966 – 70†	1971 – 75‡
Land Development	1.7	4.9	8.6	12.5
Rubber Planting	15.2	4.9	4.0	3.7
Drainage and Irrigation	3.8	4.1	8.1	3.5
INVESTMENT IN LAND	20.7	13.9	20.7	19.7
Industrial estates, etc.	1.2	2.2	3.3	8.5
Transport	22.8	22.2	12.8	16.4
Communications	5.1	4.3	4.8	5.5
Utilities	23.7	20.2	16.1	10.3
INVESTMENT IN INFRASTRUCTURE	52.8	48.9	37.0	40.7
Education	6.0	8.9	7.8	7.4
Health	1.3	3.8	3.5	3.0

TABLE 71 *(cont.)*

Item	1956 – 60*	1961 – 65*	1966 – 70†	1971 – 75‡
INVESTMENT IN HUMAN RESOURCES	7.3	12.7	11.3	10.4
All other items	19.2	24.5	31.0	29.2
TOTAL	100.0	100.0	100.0	100.0

Notes: Including defence expenditure
* For West Malaysia
† Malaysia
‡ Malaysia: Targets

Sources of Data: As for Tables 59, 60, and 67.

main factors behind the economic development in the prewar period, and which were matters of considerable concern on the eve of independence.[51] Over the years, FLDA for the most part and other public sector organizations (for example, state governments) have developed thousands of acres of land. During 1961 — 65, 540,000 acres were developed in West Malaysia of which 400,000 acres were developed by the public sector. During 1966 — 70, 284,000 of a total of 330,000 acres were developed by the public sector. The Second Malaysia Plan target for 1971 — 75 was the development of about 750,000 acres of which a total of about 600,000 acres were to be developed by the public sector. With about 30 million acres still available for development, land development would have a great role to play in the economic development of Malaysia.[52]

The principal justification for government investment in irrigation schemes arises from the consideration of cost. No single farmer will be able to invest a sum of over $200 million in a project such as the Muda irrigation scheme which benefits not one but many farmers and which has a considerable gestation period. The planning and execution of such projects cut across overall pattern of use of national resources and can be handled only by the Government. If the Government were not to develop the major irrigation projects, they would hardly be developed at all.

In the sphere of rubber replanting, government intervention was mainly in the nature of organizing financial assistance for a replanting programme on the estates and smallholdings with relatively greater em-

51. "If Malaya's sons and daughters, so rapidly increasing, are to be fed, clothed, educated and defended as befits a great nation, then more and more wealth must be created from Malaya's soils. That can be done. In fact, in Malaya it should be easier to create wealth from the land than in almost any other country in the world. There is land; there are people; there are the crops; there is the knowledge. The problem is to bring these four together, so that Malaya may become yet richer." FLDA, *No Need to be Poor: A Policy Statement*, Kuala Lumpur, Dec. 1956, p. 1.

52. The following data from the *Second Malaysia Plan* document (p. 131) reveal the scope for land development. The data refer to the year 1969.

Type of Land	W. Malaysia	Sabah	Sarawak
	(million acres)		
Total Area	32.5	18.4	30.5
Total suitable for agriculture	15.9	8.8	13.2
Area under agricultural use	7.1	0.5	0.7
Available for development	9.8	8.3	12.5

phasis on the latter.[53] The need for redevelopment arose out of two important factors in the postwar period. The first was the factor of obsolescence since a large proportion of the rubber trees existing around 1947 were planted before 1920 and these had to be replaced. The second factor was the need to take advantage of the high yielding clones to improve productivity and face the competition from synthetic rubber.[54] The Government acted to encourage replanting essentially by mobilizing resources from the rubber industry through taxation,[55] by supplementing these resources through government grants and by providing replanting subsidies to the weaker sections among the estate owners and the large majority of smallholders. The Government thus instituted a machinery to collect and distribute funds for capital formation in the rubber sector. But for the role of the Government in providing financial incentives, the smallholding sector would not have been in a position to undertake replanting on a significant scale. By the end of 1970, about 92 per cent of estate acreage and 63 per cent of smallholding acreage in West Malaysia was under high-yielding material. Still, about one million acres of smallholder rubber were under low-yielding material. During the Second Malaysia Plan period, it is expected that about 60,000 acres of the smallholder acreage will be replanted.[56] The replanting programme as a whole is of considerable importance in improving productivity and maintaining Malaysian rubber's comparative advantage.[57]

53. Estates in general and the European-owned units in particular had well-planned replanting programmes even before government encouragement became effective. Smallholders lagged behind. By 1952, some 67% of the smallholding acreage was considered to be as old as 30 years or more by the Rubber Smallholding Enquiry Committee set up in 1948 and which submitted its final report in 1952. For more details reference may be made to Lim Chong Yah, *Economic Development of Modern Malaya*, pp. 123 – 24.
54. Ibid., p. 123.
55. The Rubber Industry (Replanting) Fund Ordinance, which came into force in May 1952, set up two funds — Fund A for estates and Fund B for smallholdings. Revenue for the funds came from taxes levied on the rubber sector. A detailed discussion of the operations of the funds and an appraisal are given in Lim Chong Yah, "The Malayan Rubber Replanting Taxes", *Malayan Economic Review* 6, 2 (1961).
56. *Second Malaysia Plan, 1971 – 1975*, p. 135.
57. In outlining trade policy for economic development, the Pearson Commission endorsed the need for improvement in quality and productivity and research into new uses as the basis for the long-run survival of primary products that compete with synthetic substitutes: "In the long run, however, the survival of these products will depend on their ability to achieve improvements in quality and productivity which will enable them to withstand the competition from synthetics. Research into new uses and processes may have significant pay-off

We now come to the third aspect of development strategy, namely, continued primary export orientation. On the one hand, the strategy has a high degree of operational feasibility, for it has the merit, in the Malaysian context, of a tested and known path to growth.[58] On the other hand, there is the prima facie case for primary export-led growth in future for Malaysia based on (1) the existence of undeveloped land resources whose eventual development will augment primary exports considerably, and (2) the continued necessity to import industrial raw materials and capital goods, the bill for which cannot be significantly met from industrial exports. To substantiate our point, we may quote Professors Paauw and Fei, who considered in great detail the theory of and empirical facts relating to transition growth in open dualistic economies. One of their policy statements is:

> Development strategy in Malaysia and Thailand should be adapted to an emerging growth phase, of anticipated duration of twenty to thirty years, during which: (1) exports will continue to consist of land-based primary products: (2) imports will undergo an import substitution process proceeding through several categories, i.e., industrial consumer goods, industrial intermediate goods, and capital and durable consumer goods.[59]

– – for some of them." Commission on International Development, *Partners in Development* (New York: Praeger, 1969), pp. 83 – 84. Several of the earlier studies on the future of Malaysian rubber industry also stressed the point, especially with reference to the low productivity of the smallholder rubber and its impact on rural poverty. An example of such a study is E.K.Fisk, "Productivity and Income from Rubber in an Established Malay Reservation", *Malayan Economic Review* 6, 1 (1961): 3 – 22.

58. In addition to Malaysia, there are several other countries which have achieved fairly high rates of growth in the postwar period based on primary exports. The other countries are Thailand, Trinidad and Tobago, Jamaica, Iran, Nicaragua, Venezuela, Ivory Coast, Iraq, and Zambia. These countries and Malaysia have been put under the strategy of primary export-oriented growth in an article by Chenery in which various countries with high postwar growth rates have been classified under alternative development strategies. Moderate capital inflow, high external dependence, and high degree of industrialization are the strategies adopted by other countries. Hollis B. Chenery, "Growth and Structural Change", *Finance and Development* 3 (1971): 24 – 25.

59. Douglas S. Paauw and John C.H. Fei, *The Transition in Open Dualistic Economies* (New Haven: Yale University Press, 1973), pp. 255 – 56.

The above observations are of course not intended to imply that Malaysia should refrain from export diversification and export substitution to the extent possible, dictated by forces of comparative advantage. Two important points made by Anders Olgard in 1968 when he was the Economic Adviser to the Malaysian Treasury serve to round up our discussion on development strategy:

> Apart from possible opportunities in the fields of off-shore tin mining and mineral oil, timber is likely to become the export product of the 1970s, perhaps ranking next to rubber already in 1969. Furthermore, timber may well become the major spearhead for Malaysian exports of manufactures, providing the basis for a variety of industries in which Malaysia will have a comparative advantage. On the other hand, some caution may be warranted with respect to the immediate establishment of export industries for products without any domestic basis in terms of raw materials, management and labour familiar with the problems of the products concerned, etc. The growth of Malaysian manufacturing industries during the 1970s will probably mainly be based on sales to the domestic market.[60]

An important aspect relating to continued primary export orientation is the availability of resources for investment. The problem is of special significance for the public sector which has development policies, development priorities, and development expenditure commitments. The sources of finance for public sector development expenditure in Malaysia during 1960 – 72 are shown in Table 72. During 1960 – 70, the policy of the Government was more or less based on the principle of accumulation of resources in good times and using these resources in bad times. Thus during 1960 and 1961, and later during 1968 and 1969, when export earnings and tax revenues were on the better side, government current surplus and net domestic borrowing were used to meet development expenditure and also to accumulate resources. During the years when government current surplus was on the low side, accumulated resources were used in addition to domestic borrowing. With the launching of the Second Malaysia Plan, which has a public development expenditure target of over $7,000 million as against the First Plan actual expenditure of over $4,000 million, the public sector had to find resources at a rate of about $1,500 million a year as against the

60. Anders Olgard, "What is the Best Way of Diversifying Malaysian Exports and Increasing Malaysian Export Earnings?" *Ekonomi*, Supplement on the Great Economic Debates, 1968, p. 16.

$800 – $900 million level of the First Plan period. In 1971 and 1972 which were the first two years of the Second Malaysia Plan, domestic borrowing and foreign borrowing were on a very high level compared to any of the earlier years. These high levels of borrowing of 1971 and 1972 are probably reasonable pointers to the future. With government consumption growing faster, it is not possible to achieve substantial increases in surplus on current account. Development expenditure then

TABLE 72
FINANCING PUBLIC SECTOR DEVELOPMENT EXPENDITURE, MALAYSIA 1960 – 72

Year	Public Sector Development Expenditure ($ million)	Sources of Finance ($ million)				
		Public Sector Current Surplus	Net Domestic Borrowing	Net Foreign Borrowing	Special Receipts*	Changes in Assets†
1960	199	344	160	32	0	– 337
1961	348	319	125	23	0	– 119
1962	543	288	148	42	1	+ 64
1963	577	210	210	73	2	+ 82
1964	637	181	202	9	54	+ 191
1965	736	177	404	101	49	+ 5
1966	830	219	275	35	77	+ 224
1967	811	230	344	135	41	+ 61
1968	846	343	421	101	37	– 56
1969	862	432	321	171	25	– 87
1970	959	530	288	5	17	+ 119
1971	1,435	378	674	369	39	+ 5
1972	1,564	302	734	333	74	+ 141

Notes: Data for 1960 – 1963 refer to West Malaysia.
Data from 1964 onwards refer to Malaysia.
*Such as foreign grants.
†Indicates accumulation.

Source: Treasury's *Economic Report, 1972 – 1973*.

will have to be largely met from domestic and foreign borrowing.[61] With savings of the private sector partly subscribing for domestic debt of the Government, investment in the private sector has to be augmented by inflow of capital on private account (that is, private investment from foreigners). With increasing burden of repaying and servicing the external debts and with probably higher levels of remittances from private foreign investors,[62] there is need for caution in increasing the levels of public debt and public development expenditure especially if the increase is due to projects not directly related to production and productivity expansion in the exporting sectors. Indeed, the Government is fully aware of the need for caution as the following statement indicates: "Although the country's capacity to absorb additional loans is large and the debt burden still light, there is a cost to be paid on all borrowed funds. It is justifiable and indeed advantageous to borrow as long as there are projects which are economically viable and productive enough to repay the cost."[63] Such prudent thinking and action is called for not only in the case of external debt, but also in respect of internal debt. For example, when more than half the domestic debt was drawn from the employee provident funds representing the forced saving of a large number of people,[64] it is fair to say that investment of their funds should be such as to benefit them through good returns on their savings.

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61. On this basis, in late 1968 itself Professor Just Faaland (then Adviser on Economic Planning to the Malaysian Government) advocated the development of a sound capital market for long-term public debt: "my point is that the public sector cannot be expected to play its essential part in the growth effort unless the institutional arrangements and the incentives are so developed as to increase significantly the amounts borrowed long term domestically and abroad to finance public development expenditures". Just Faaland, "The Promotion of Greater Economic Development in Malaysia", *Ekonomi*, Supplement on the Great Economic Debates, 1968, p. 7.
62. In 1970, total foreign debt of the public sector stood at $1,142 million or about 10% of G.D.P. Servicing the foreign debt amounted to 2.2% of total export earnings. Taking these figures into account, it is stated in the *Second Malaysia Plan* (p. 80) that Malaysia has a larger capacity to undertake additional foreign debt. This statement is quite right especially in view of the circumstances when export earnings are on the increase due to increased production and productivity and when the process of import substitution leads to saving of foreign exchange.
63. *Second Malaysia Plan*, p. 80.
64. Ibid, p. 79, and Bank Negara Malaysia, *Quarterly Economic Bulletin*, Dec. 1972, for statistics on the holders of domestic debt.

Planning Methodology

Neither the plans before 1966 nor the two Malaysian Plans clearly tell us the "how" of the planning. For instance, the plans contained export forecasts, G.N.P. forecasts, private and public consumption forecasts, etc., but the methodology underlying the forecasts was not readily available either in the form of a technical appendix to the Plan document or in the form of a separate publication.

The first problem of planning methodology concerns the forecasting methods and accuracy of forecasts. In the Malaysian context, the most relevant and most required forecasts for a plan relate to export forecasts — both in terms of physical quantities and in terms of expected earnings. Physical export quantities are closely related to production forecasts which can be treated more or less as production targets for the various sectors. Since physical quantity forecasts may turn out to be more realistic than export price forecasts and since export earnings determine most significantly government revenue and domestic aggregrate demand, it will be advantageous to have at least two sets of export earnings forecasts consistent with the expected minimum and maximum prices of rubber and other important products. The Second Malaysia Plan assumed a decline in export price for almost all the principal primary products; hence, one would think that if export prices were to decline more than expected, there would be probably no way of obtaining funds and some projects would be delayed. Contrary to this casual observation, in 1972 when rubber price was very low, the Government stepped in with more than its quota of investment. Thus, since the Government does have the intention of actively counteracting cyclical phenomena, it is in its own interest and public interest to have minimum and maximum export earnings forecasts and related sets of overall and sectoral targets. Making assumptions about minimum and maximum prices is not easy, but the uncertainties of planning, the problem of plan financing, and the priorities attached to projects will be very clear if the minimum and maximum forecasts are given.

The second aspect of plan methodology refers to setting of targets and calculation of investment requirements. Even though the First Malaysia Plan and the Second Malaysia Plan never explicitly stated the methodology behind the calculations, one would get the feeling that to some extent, an incremental capital output ratio (ICOR) was behind the calculation of overall investment targets. The 1961 – 65 Plan for West Malaysia did refer to the ICOR being approximately 4 to 1. The First Malaysia Plan in a table showing the projections up to 1985 referred to

the assumed ICORs for various points in time between 1965 and 1985. For the First Malaysia Plan (1966 – 70) period, an ICOR of 3.9 was assumed.[65] There is no reference to an ICOR in the Second Malaysia Plan.[66] Even though the earlier plans referred to an ICOR, it was probably used to derive the overall national investment target and the overall private sector investment target. The public sector investment targets were most probably (and quite rightly) based on project-by-project cost analysis. Whatever the case, it is useful to the general reader if the methodology behind plan calculations are made explicit. We are not advocating a case for or against the use of ICOR,[67] we are only emphasizing the utility of indicating the plan methodology,[68] as far as possible so that a proper appraisal of performance is facilitated.

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65. During the First Plan period, the average annual growth rate of G.N.P. at constant prices amounted to 6%. Investment as a proportion of G.N.P. amounted to an average of 15.8%. The two averages imply an ICOR of about 2.6, which is much less than the assumed ICOR of 3.9. Differences such as these may not be of critical significance in an economy where the Government invests according to a set programme of projects and the private sector investment targets are only broadly indicated in the development plan.
66. The average annual rate of G.N.P. growth of 6.8% and the average investment to G.N.P. ratio of 17% envisaged for the Second Malaysia Plan would together imply an ICOR of 2.5 exactly (so exact that we begin to feel that the ratio has been implicitly assumed by the planners to calculate the overall national investment targets).
67. Realistic target setting cannot be achieved by recourse to a simple ICOR ratio. The ratio varies widely across space, over time and among different economic activities as noted by several authors [for instance, Harvey Leibenstein, in his "Incremental Capital-Output Ratios and Growth Rates in the Short Run", *Review of Economics and Statistics* 48, 1 (1966)]. In spite of such wide variation, it may still become necessary to use a ratio, say, to specify the private sector investment targets by sector or by total. The choice of an appropriate ICOR is largely a matter of judgement based on the economy, its past performance and envisaged development.
68. Whether it is in the area of forecasting or target setting, it is extremely difficult to say which is the right method. For instance, it is easy to express the opinion that more sophisticated forecasting techniques (say, on the basis of a detailed input-output table) and detailed planning models should be used. The important point, however, is that these techniques and models have to be largely in the background as useful studies, for a large number of non-quantifiable socio-economic variables also affect the final calculations in a plan. As pointed out by Albert Waterston, "most mixed-economy countries with comprehensive plans employ less complex methods in formulating their plans than econometricians would like. Nor does the preparation of an econometric model as a part of a procedure for formulating a plan necessarily signify that

In summing up this discussion, it is suggested that the future Malaysian Plans may attempt to explicitly state the methodology used to arrive at sectoral projections and targets. In the sphere of public sector development projects, it may be desirable to state, as far as possible, physical targets in addition to the development expenditure targets as at present. It may also be desirable to clearly distinguish projections from targets so that a sympathetic appraisal of performance is facilitated. If possible, targets for the private sector may be spelt out in slightly greater detail than at present,[69] pin-pointing in a more cohesive manner the financial and other facilities that are especially earmarked for the private sector.

Albert Waterston distinguished three types of development planning in mixed economies: project planning, partial planning, and comprehensive planning. In his view, "Those who would bypass integrated public investment planning and make a great leap forward with comprehensive planning are not likely to arrive at their destination sooner.... The system of national planning should therefore be permitted to evolve gradually, firstly, as soon as possible, from the project-by-project approach to a second stage in which the country learns how to prepare and implement a coordinated public investment plan preferably accompanied by sectoral surveys and programs; and ultimately, when improvements in information, administration and experience permit, to full-scale comprehensive planning."[70] Malaysian economic planning, over the years, has evolved into a system of partial planning. With the inclusion of guidelines for the healthy development of the private sector in tune with national policies and priorities, the spirit of indicative

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the plan will be based on the model.... Even the relatively advanced French planners have found that they must modify their econometric models to take account of the contrast between the elaborate and accurate algebra of the programming methods and the blurred picture of what remains uncertain...." Waterson, *Development Planning*, pp. 113 – 14.

69. For instance, the manufacturing sector targets of the Second Malaysia Plan are: 12.5% average annual growth in value added, 7% average annual growth in employment and 15% average annual growth in exports. These targets were set for West Malaysia. Targets for East Malaysia were not quantitative. If some idea can be given about the expected growth of various manufacturing industries and what the Government considers as broad priorities in investment allocation, they will be of great use to potential investors and the private sector in general.

70. Waterson, *Development Planning*, p. 101.

planning is gradually being built into the system of partial planning.[71] It is in this context that some of the suggestions noted in the previous paragraph and a few others to follow are of relevance.

Miscellany

Under miscellaneous issues related to economic planning we consider first the organizational aspects of development planning and implementation in Malaysia. The "core" agencies responsible for plan formulation, implementation, and evaluation are the National Economic Council and the National Development Planning Committee, both receiving staff assistance from the Economic Planning Unit of the Prime Minister's Office. The core organization and functions are shown in Figure 4, in which we have omitted the various government departments, committees, etc., which have well-defined principal functions and which are connected with plan formulation and implementation in various ways.

From Figure 4 we note that the people involved in the core organization structure are government officials and ministers. There is no provision within the core structure for the participation of non-officials including learned men, business leaders, and others. In a democratic country like Malaysia, the parliament at the highest level, various employer and employee organizations at the lower levels, mass media and numerous other channels exist to offer suggestions and air views on a plan. Yet, there must exist a slightly more formal way in which the National Economic Council and the Parliament thereafter can have the views of leading men and women other than government officials. The formal set-up may take the form of an Advisory/Evaluation Panel to the Prime Minister. The broad evaluation of draft plans and the evaluation of progress may be considered as its principal duties. The suggestions and ideas that emerge from the panel may be useful to the National Economic Council as well as the National Development Planning Committee.

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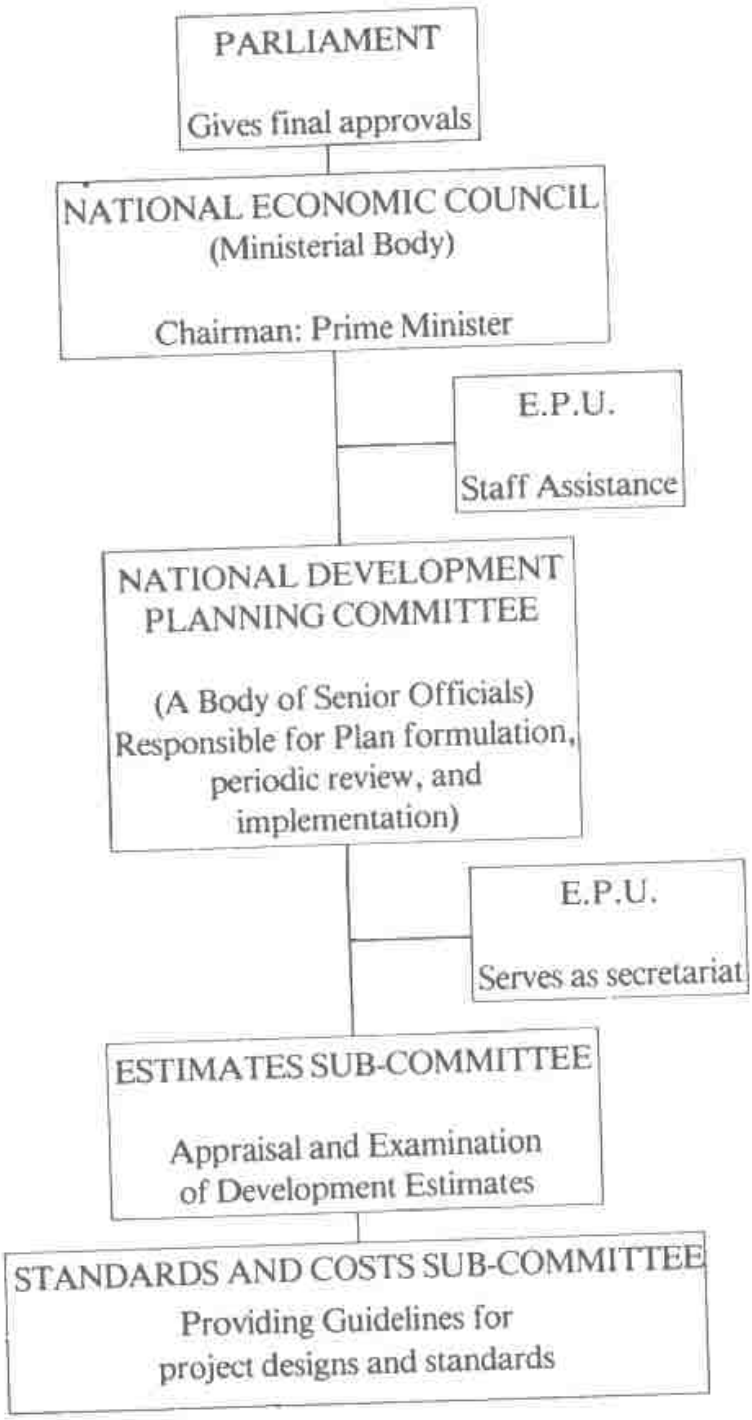
71. The distinction is generally made between indicative planning of the French type and imperative planning of the Soviet type. An indicative plan essentially consists of forecasts of sectoral output and the priorities in development that the planners consider are most appropriate. A discussion of French planning is given in Charles P. Kindleberger, "French Planning", in *National Economic Planning*, ed. Max F. Millikan (New York: National Bureau of Economic Research, 1967), pp. 279—304.

Figure 4. Malaysian Economic Planning: The Core Organization Structure



Note: The above chart does not show the interrelations between the core structure and the various other government departments, etc. The chart has been prepared on the basis of descriptions in ch. 8 of the *Second Malaysia Plan*.

Another innovation that can be made is in the direction of research. The work of the Rubber Research Institute was of immense help in the development and propagation of various productive measures. The Malaysian Agricultural Research and Development Institute established in 1969 was also a step in the right direction. The Government can still play a bigger role by sponsoring and activating research projects in the institutions of higher learning. Such projects should be directly related to various targets (short-term and long-term) of planning, subject of course to the limitations of expertise and experience of the personnel available. This is one of many ways of utilizing the nation's intellectuals in nation-building.

6. *The Employment Problem and Related Issues*

For Malaysia as a whole, it is estimated that the rate of unemployment has gone up from 6.1 per cent in 1965 to 7.3 per cent in 1970.[1] The situation was worse in West Malaysia than in East Malaysia. Unemployment increased from 6.5 per cent in 1965 to 8 per cent in 1970 in West Malaysia and from 3.5 per cent to 4 per cent in East Malaysia. During the Second Malaysia Plan period (1971 – 75), the Government hoped that 596,000 new jobs (495,000 in West Malaysia and 101,000 in East Malaysia) would be available. This magnitude of job creation would ensure that employment growth would keep pace with labour force growth and that the rates of unemployment in West Malaysia and East Malaysia in 1975 would not increase from their 1970 levels. In this chapter, we make a detailed study of the employment problem in West Malaysia not only in regard to past trends but also in regard to future possibilities.[2] The latter aspect is essentially an evaluation of the sectoral employment targets of the Second Malaysia Plan.

The employment problem is in part related to the two long-term objectives of the Government, namely, eradication of poverty and restructuring of society. Of interest therefore is the past trend in the incidence of unemployment by ethnic group and the assessment of the possible repercussions of present employment policies on the future levels of employment and unemployment by ethnic group. Some of the other aspects of "social restructuring", namely, ethnic ownership of wealth and regional income disparities, will also be briefly discussed in this chapter.

Output Growth versus Employment Growth

The employment problem of Malaysia is not just an isolated case in the world economy — it is shared by many countries. One of the reasons for the rate of growth of employment lagging behind the rate of

1. *Second Malaysia Plan*, p. 102.
2. Data limitations preclude the extension of the study to cover East Malaysia.

growth of output is the nature of technical progress, including improvements in organization and management, which generally take the form of an increase in productivity of labour.[3] This has the effect of economizing on the use of labour in the sense of reducing the employment associated with a given increase in output. The pattern of economic growth may tend to assume capital-intensive and labour-saving forms, thus reducing the rate of supply of jobs at a time when the rate of demand for them is increasing because of increase in labour force growth due to high rates of population growth and increasing participation of people in the labour force.

The failure of development policies in solving the employment problem of the less developed countries has been considered in great detail in two recent publications, one prepared by the International Labour Organization and the other by David Turnham and Ingelies Jaeger (for OECD).[4] Both studies emphasized that the worsening employment situation in most of the less developed countries was partly due to the fact that the process of industrialization took shape around capital-intensive methods of production and the available labour force was not adequately absorbed by industry and other sectors.[5] According to the

3. A.G. Chandavarkar, "More Growth — More Employment?" *Finance and Development* 9, 2 (1972): 29–35.

4. International Labour Organization, *Towards Full Employment* (Geneva: I.L.O., 1970); David Turnham and Ingelies Jaeger, *The Employment Problem in Less Developed Countries: A Review of Evidence* (Paris: OECD Development Center, 1971).

5. Industralization around capital-intensive methods of production also did not help reduce the amount of surplus labour in agriculture. Accomplishments, therefore, were at variance with what one would expect either on the basis of the historical trends in advanced countries or on the basis of the Lewis model of economic development. The model was developed in W.A. Lewis, "Economic Development with Unlimited Supplies of Labour", *Manchester School*, May 1954, pp. 131–91, and was further discussed in G. Ranis and J.C.H. Fei, "A Theory of Economic Development", *American Economic Review*, Sept. 1961, pp. 533–65. An empirical investigation of how and why actual development in India has not taken place according to the Lewis propositions is contained in A.M. Khusro, *Economic Development with no Population Transfers* (London: Asia Publishing House, 1962). One of the observations based on Khusro's study was that when the growing urban labour force itself was not adequately absorbed in the relatively faster growing urban economic activities, there did not exist enough scope for the transfer of surplus labour from agriculture. If under such conditions, there was rural-urban migration, caused mainly by the increase in the rural labour force, the urban unemployment rate increases even without any "net" shift of surplus labour

projections of Turnham and Jaeger, the expected increase in the *rate* of unemployment by 1980 in all the developing countries put together is about 10 percentage points.[6] Forecasts for West Malaysia also fall closely in line and, according to one set of projections, the rate of unemployment in 1980 may be more than 15 per cent or nearly one out of every six persons in the labour force.[7]

From the standpoint of employment projections, the factor that may be considered is the relationship between the growth rate of employment and the growth rate of output. Verdoorn in an important contribution stated that the ratio of the growth rate of productivity (G.D.P. per worker) to the growth rate of total output (G.D.P.) was fairly stable

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— — from agriculture. In retrospect, the question may be asked: why have capital-intensive development in the first place? Nowadays, the attention is drawn to the question of labour-intensive development more than ever before under the aegis of the World Employment Programme of the I.L.O., the Council for Asian Manpower Studies, SEADAG (of The Asia Society), etc.

6. This is an average of 4 estimates based on different assumptions. The implication is that by 1980, the rate of unemployment may be 16% if the rate in 1965 was 6%. The averages hold approximately equally for West Asia, South Asia, and East Asia. See Turnham and Jaeger, *The Employment Problem*, p. 116 for the projections. The information from Turnham-Jaeger study is summarized in Derek T. Healey, "Development Policy: New Thinking about an Interpretation", *Journal of Economic Literature* 10, 3 (1972): 769.

7. The projections were made by the Economic Planning Unit (Malaysia, Prime Minister's Office) and were quoted in K.C. Seal, "Asian Employment and Training Projections: Report of Case Study on Malaysia" (Bangkok: I.L.O. Regional Office, 1969). The E.P.U. made two sets of sectoral employment projections, one on the basis of an assumed average annual G.D.P. growth rate of 6.8 to 7% (High Projection) and the other on the basis of a growth rate of 4.7% (Low Projection). The unemployment rates obtained from the two sets of projections are given below:

Year	Rate of Unemployment	
	Set I	Set II
1970	8.5	8.5
1975	10.4	11.2
1980	12.1	15.4

Since the unemployment rate given for 1970 in the Second Plan document is 8% and since the plan projection for 1975 (on the basis of an average G.D.P. growth rate of 6.7%) does not indicate an increase in the rate of unemployment, the E.P.U. projections quoted above are perhaps slightly out of date.

between 0.45 and 0.60 for several countries.[8] If we translate these limits into the limits for the ratio of G.D.P. growth rate to employment growth rate (hereinafter referred to as the employment elasticity of output),[9] we obtain the values of 1.82 and 2.50. In approximate terms, a minimum of 2 per cent increase in G.D.P. is required for obtaining one per cent increase in employment. We will now examine some empirical evidence for West Malaysia.

In order to estimate the employment elasticity of output we require data on G.D.P. at constant prices and employment for a series of years. Elsewhere we gave estimates of G.D.P. by sector at 1959 prices for West Malaysia for the period 1947 – 71.[10] Employment estimates on a consistent and comparable basis were derived by Snodgrass and these were available for 1947, 1957, 1962, and 1967.[11] As a first step we use data for these four years to estimate employment elasticities of output by fitting least squares regression lines of the form

$$\text{Log } Y_i = \alpha_i + \beta_i \log E_i$$

where Y_i is G.D.P. at 1959 factor cost originating in sector i and E_i is employment in sector i. The estimated β_i stands for the employment elasticity of output.

From the *Second Malaysia Plan, 1971 – 1975*, we have sectoral employment data for 1965 and 1970. Even though these were termed "estimates", such data can also be used, thus providing six points for

8. P.J. Verdoorn, "Complementarity and Long Range Projections", *Econometrica* 24,4 (1956): 429-50.

9. The Verdoorn coefficient may be derived from time series data by fitting a log-linear relation of the type:

$$\log (Y/E) = a + b \log (Y)$$

where Y is G.D.P. at constant prices and E is employment. The estimated coefficient b equals to

$$\frac{d \log (Y/E)}{d \log Y} = \frac{d \log Y - d \log E}{d \log Y} = 1 - \frac{d \log E}{d \log Y}$$

Hence, we have

$$\frac{d \log E}{d \log Y} = (1 - b) \text{ and } \frac{d \log Y}{d \log E} = \frac{1}{(1 - b)}$$

The last stated ratio gives the ratio of the percentage growth rate of G.D.P. ($d \log Y$) to the percentage growth rate of employment ($d \log E$).

10. Rao, *National Accounts of West Malaysia, 1947 – 1971*.

11. Appendix A.

estimating the employment elasticity of output.[12] The two sets of estimated elasticities are given in Table 73.

In terms of the correlation coefficient, the regression results on the basis of six points are marginally better than the results on the basis of four points. The overall elasticity appears to be acceptable since it is statistically significant, and within the range of 2 to 2.5 suggested earlier on the basis of the observations of Verdoorn. Ignoring slight variations, the elasticity is fairly stable between 1947 – 67 and 1947 – 70, in all the sectors except "agriculture, etc." sector, where the elasticity increased from 3.95 in the first set of regressions to 4.40 in the second set. Moderate increase in the elasticity also occurred in the case of "utilities and services" sectors.[13] The estimated elasticities in Table 73 will be used in the next section for the purpose of evaluating the Second Malaysia Plan employment targets.

The Second Malaysia Plan Employment Targets: An Evaluation

In a book on West Malaysian economic development published in 1973, David Lim devoted a full chapter to a discussion of the employment target for West Malaysia of the Second Malaysia Plan.[14] The sum and substance of the author's evaluation was that the land development target set for 1971 — 75 might not be achieved because it was far too high in relation to past performance, and hence much of the targeted new job creation in the agricultural sector might not be achieved; and that the level of planned investment of about 17 per cent of G.N.P. was

12. Regression lines on the basis of four points and six points are not acceptable in a strict statistical sense because of the very small sample size. Yet the method has the virtue of partly eliminating seasonal and cyclical influences which vitiate comparisons of short-run average growth rates of employment with average growth rates of G.D.P.

13. The "services" sector consists of commerce, government administration and defence, education and health, and other community and personal services. It should be noted that for these sectors the measurement of output, employment, and productivity are not yet fully perfected. For instance, in the measurement of "real" G.D.P., if the method of extrapolation by labour input is used, it implies the assumption of zero rate of growth of productivity and thus one should not be surprised to obtain an employment elasticity of output equal to unity. In our case, G.D.P. of the service sector was derived as a residual and the employment elasticity of 0.87 in the first set of regression results indicates a reduction in service sector productivity during 1947 – 67, but over the period 1947 – 70, the elasticity is very close to unity.

14. David Lim, *Economic Growth and Development in West Malaysia, 1947 – 1970* (Kuala Lumpur: Oxford University Press, 1973).

TABLE 73
EMPLOYMENT ELASTICITY OF OUTPUT BY SECTOR, WEST MALAYSIA

Sector	Estimates from Regression of Log (G.D.P.) on Log (Employment)			
	Data for 4 Years*		Data for 6 Years†	
	Estimated Elasticity	Correlation‡ Coefficient	Estimated Elasticity	Correlation‡ Coefficient
Agriculture, Forestry, Hunting, and Fishing	3.95	0.93	4.40	0.96
Mining and Quarrying	3.12	0.86	3.09	0.88
Manufacturing	2.62	0.99	2.46	0.99
Construction	2.78	0.99	2.72	0.99
Utilities	1.07	0.94	1.21	0.94
Services	0.87	0.96	0.98	0.97
Total Economy	2.13	0.99	2.22	0.99

Notes: *1947, 1957, 1962, and 1967.
† 1947, 1957, 1962, 1965, 1967, and 1970.
‡ All coefficients are significant at the 5% level.

not consistent with the overall employment target.[15] Observations such as these require appropriate substantiation, and in view of this we shall make a step-by-step evaluation of the targets with reference to whatever facts we have at our disposal and within the framework of simple analy-

15. "Another area in which the provision of employment opportunities under the Second Malaysia Plan has been disappointing concerns the level of investment. It has been assumed that an investment ratio similar to that obtained by the presently advanced countries in their pre-industrialization days will be adequate to cope with the unemployment problem. The planners have not realized that there are great differences between the initial conditions of development in West Malaysia and those in the developed countries and that these differences necessitate a higher investment ratio as well as a different pattern of investment." Lim, *Economic Growth and Development in West Malaysia*, p. 179. It is our feeling that the West Malaysian planners know the "initial conditions" very well; they have not demonstrated any ignorance about the differences between their country and the advanced countries, and the level and pattern of investment they have envisaged is perfectly within the framework of a free enterprise, export-oriented, land-cum-labour surplus economy.

tical tools. Our evaluation is illustrative and no claim is made about fool-proof accuracy.

To begin with, let us consider the overall G.D.P. growth target and the employment growth target of the Second Malaysia Plan. For West Malaysia, the anticipated average annual growth rate of G.D.P. at constant prices during the plan period is 6.7 per cent and the targeted average annual growth rate of employment is 3.2 per cent. The implicit employment elasticity of output of 2.1 is certainly within the range of 2.1 to 2.2 noted in Table 73. There is thus no need for criticism on this ground — unless the elasticity were to go up to, say, 2.4 during the course of the plan period,[16] then employment growth rate will amount to 2.8 per cent and the rate of unemployment, instead of remaining at its 1970 level of 8 per cent, will increase to 9.8 per cent.[17]

In the previous paragraph we have considered the growth rate of G.D.P. *vis-a-vis* employment growth rate. A perfect substitute to the growth rate of G.D.P. happens to be the ratio of two ratios, namely,

$$\frac{\text{Investment to G.D.P. Ratio}}{\text{Incremental Capital-Output Ratio}}$$

The growth target of a plan is always consistent with the ratio of investment upon G.D.P. to the ICOR (which is the so-called *ex ante* ratio of investment to increase in G.D.P.). Of note in this context is the possibility of a higher ICOR (implying more capital-intensity) going hand in hand with a higher employment elasticity of output and the consequent lower growth rate in employment for a given investment (I) to G.D.P. ratio. The mechanics are as follows: Given the I/G.D.P. ratio as 17 per cent and ICOR of 2.5 implicit in the Second Plan, an employment elasticity of 2.1 is consistent with the ICOR and hence we obtain

16. Such an increase is possible if productivity (output per man) increases at a rate faster than anticipated. For instance, the economic growth targets of the Plan may be realized without the realization of the employment growth targets. This would be the case if there are higher than Plan-assumed improvements in productivity in rubber, rice, timber, palm oil, fishing, manufacturing, and other sectors.

17. *Second Malaysia Plan* (p. 102) estimated labour force for 1975 is 3,690,000 persons in the age-group 15-64. If the plan targets are realized, employment in the age-group 15-64 will increase at an average annual growth rate of 3.2% from 2,900,000 persons in 1970 to 3,395,000 persons in 1975. If the rate of growth of employment were to be an average of 2.8%, employment in 1975 will be 3,330,000 persons and the unemployment rate will be approximately one out of every ten persons.

the rate of growth of employment as

$$\frac{17}{2.5 \times 2.1} \simeq 3.2 \text{ (which is what the Plan aims).}$$

But if the ICOR were to increase during the plan period to, say, 4 (the simple average of the ICORs of over 70 countries),[18] reflecting a higher level of capital intensity of production, and if the employment elasticity of output were to increase to a higher level of 2.5 per cent, then the 17 per cent I/G.D.P. ratio may mean an average growth rate of G.D.P. of only 4.2 per cent (against the earlier 6.8 per cent) and employment growth rate of only 1.7 per cent. Under these conditions, if employment growth were still to take place at an average of 3.2 per cent, then the I/-G.D.P. ratio has to increase to 32 per cent. These implications are mere "speculative descriptions" on the basis of simple macroeconomic arithmetic, and there is no way of forecasting their validity in the Malaysian context in the near future.

The targeted growth rate of employment of 3.2 per cent appears to be broadly consistent not only within the framework of estimated and assumed employment elasticity of output but also within the framework of an aggregate production function. In Chapter 1 we have decomposed the average annual growth rate of G.D.P. of 6.4 per cent observed for the period 1958 – 68 as follows:

$$\begin{bmatrix}\text{G.D.P. Average Annual Growth Rate}\end{bmatrix} = (\text{Residual}) + \begin{bmatrix}\text{Capital Stock Average Annual Growth Rate}\end{bmatrix} \times \begin{bmatrix}\text{Share of Capital in Income}\end{bmatrix} + \begin{bmatrix}\text{Labour Average Annual Growth Rate}\end{bmatrix} \times \begin{bmatrix}\text{Share of Wages in Income}\end{bmatrix}$$

$$6.4 = (0.8) + (8.0)(0.56) + (2.5)(0.44)$$

The implicit aggregate production function is

$$Y_t = A\, e^{0.008t} K_t^{0.56} L_t^{0.44}$$

The expected average annual G.D.P. growth rate during 1971 – 75 for West Malaysia of 6.7 per cent, and the target employment growth rate of 3.2 per cent when substituted in the above production function will give us a compatible growth rate of capital stock of 8 per cent.[19] We

18. Using the data in I.B.R.D., *World Tables* (1971) on the ICORs for 71 countries for the period 1951 – 60 and 101 countries for the period 1961 – 67, two average ICORs were calculated. The average ICOR turned out to be 4.0 in the first period as also the second.

19. $6.7 = 0.7 + (dk/k)(0.56) + (3.2)(0.44)$
$= 0.7 + (dk/k)(0.56) + 1.4$
Hence, $dk/k = (4.6)/(0.56) = 8.2$.

have no data on capital stock for 1970 and there is no way of knowing the 1970 – 75 growth rate of capital stock. Yet, the derived rate of 8 per cent and investment to G.D.P. ratio of 17 per cent will give an average capital-output ratio of 2.1 which is not inconsistent with the noted trend of an increasing average capital-output ratio in West Malaysia.[20]

The broad conclusion from the above discussion is that in purely numerical terms, the expected overall increases in G.D.P. and employment during 1970 – 75 are mutually consistent and they are consistent with the planned level of investment. At this stage, leaving aside the macro targets, we will attempt an evaluation of the sectoral employment

TABLE 74
AVERAGE ANNUAL PERCENTAGE GROWTH RATE OF EMPLOYMENT BY SECTOR, WEST MALAYSIA, 1970 – 75

Sector	Second Plan	Our Estimates*
Agriculture, Forestry, Hunting, and Fishing	1.7	1.9
Mining and Quarrying	−1.3	−0.8
Manufacturing	7.0	4.7
Construction	5.2	3.2
Utilities	3.9	7.0
Services	4.1	4.6

Note: * For the six sectors under reference, the Plan gives the following G.D.P. growth rates: 8.4, −2.6, 11.7, 8.7, 8.5, and 4.5 respectively. Dividing these by their respective employment elasticities (4.4, 3.09, 2.46, 2.72, 1.21, and 0.98) we obtain the employment growth rates.

20. The calculation is as follows: $\frac{dk}{k} = \frac{I}{K} = 8.0\%$

$$\frac{I}{Y} = 17\% \text{ therefore, } \frac{K}{Y} = \frac{17}{8.0} \simeq 2.1$$

The average ratio for West Malaysia increased from 1.38 in 1960 to 1.52 in 1966 according to the estimates of W.I. Abraham and M.S. Gill in their "The Growth and Composition of Malaysia's Capital Stock", *Malayan Economic Review* 14, 2 (1969): 52.

targets. To begin with, we will compare the sectoral employment growth rates assumed by the Plan and the sectoral employment growth rates derived from the sectoral G.D.P. growth rates of the Plan and our estimates (Table 73) of sectoral employment elasticities. The results are given in Table 74.

The two sets of sectoral employment growth rates are quite different and the extent of difference is relatively higher in the case of manufacturing, construction, and utilities. The projected employment by sector in 1975 is given in Table 75. Even though the total employment is about the same in both sets of projections, marked differences are in three sectors, namely, manufacturing, construction, and utilities. Within these three sectors the Plan forecasts are higher than our forecasts in manufacturing to the extent of 39,000 jobs and in construction to an extent of 13,000 jobs.

TABLE 75
PROJECTED EMPLOYMENT BY SECTOR, WEST MALAYSIA, 1975

Sector	Employment ('000)		Percentage Excess of Plan Estimate Over our Estimate
	Second Plan	Our Estimates	
Agriculture, Forestry, Hunting, and Fishing	1,579	1,596	− 1.1
Mining and Quarrying	60	61	− 1.6
Manufacturing	378	339	+11.5
Construction	133	120	+10.8
Utilities	23	27	−14.8
Services	1,262	1,289	− 2.1
Total	3,435	3,432	+ 0.1

Between manufacturing and construction, the disparity between Plan forecast of employment and our estimate of employment is greater in manufacturing. Assuming then that the Plan employment targets for all sectors except manufacturing are within realizable levels, the employ-

ment problem can be viewed in terms of the consistency between investment and employment targets in manufacturing and all other sectors (together referred to as non-manufacturing). An attempt is made in the next section to look into this aspect.

Employment, Investment, and External Balance: A Simple Programming Model

A development plan cannot afford to have more objectives than instruments. Under conditions of no serious scarcity of manpower and relative scarcity of investable funds, if employment growth maximization is the target, investment allocation has to be so arranged and growth of output has to be accepted as "that which results" rather than "that which is planned". Alternatively, if maximization of economic growth is the target one has to accept employment growth that results from the appropriate investment allocation. The employment maximization problem under a given investment constraint and with two sectors (manufacturing and non-manufacturing) may be posed as follows:-

$$\text{Maximize } \alpha_1 (dY_1) + \alpha_2 (dY_2) \tag{1}$$

subject to the constraints

$$\beta_1 (dY_1) + \beta_2 (dY_2) \leq I; \tag{2}$$

and

$$dY_1 \geq O \text{ and } dY_2 \geq O \tag{3}$$

where α_1 = Employment increment from a unit increase in manufacturing sector G.D.P.;

α_2 = Employment increment from a unit increase in non-manufacturing sector G.D.P.;

β_1 = Investment requirement per unit of manufacturing G.D.P.;

β_2 = Investment requirement per unit of non-manufacturing G.D.P.;

dY_1 = Increase in manufacturing G.D.P. during the Plan period;

dY_2 = Increase in non-manufacturing G.D.P. during the Plan period;

I = The maximum that a nation can invest during the Plan period with regard to internal and external availability of funds.

We have posed the problem in terms of maximizing the employment increase. The abovementioned simple linear programming problem generally has the solution of a choice between $\alpha_1 dY_1$ and $\alpha_2 dY_2$ either of which alone will lead to maximum employment under the

given investment constraint.[21] This implies that either $dY_1 = 0$ or $dY_2 = 0$. In practice, however, solutions that call for stagnation of a sector's G.D.P. are not acceptable. Thus the problem ought to have, and will have indeed, several other constraints.

Of various additional constraints that exist in practice, the most important one for a *closed economy* will be inter-sectoral balance. Since more than internally required output cannot be exported and shortfalls in output cannot be made good by importing, the relevant constraint is the maintenance of inter-sectoral balance or, in other words, the maintenance of a certain relationship between the G.D.P. increments in the two sectors. The position is different in an open economy with no severe trade limitation practices. The constraints to be considered here are related not only to the maintenance of inter-sectoral balance but also to that of external balance (equilibrium in the balance of payments). In the following paragraphs we consider the maintenance of external balance as one constraint in the planning of employment creation.

Our interest being the maximization of incremental employment and the determination of income increments by sectors, the external balance constraint is simply to ensure that the sectoral income increments will not in any way cause additional balance-of-payments problems during the plan period. Thus the expected increase in export earnings and increase in capital inflow during the Plan period have to be greater than or

21. A simple numerical example will clarify the point.
Let us assume:
$\alpha_1 = 100$ jobs per \$1 million increase in manufacturing G.D.P.;
$\alpha_2 = 200$ jobs per \$1 million increase in non-manufacturing G.D.P.;
$\beta_1 = 2.0$ and $\beta_2 = 3.0$
$I = \$9$ million.
The problem is to maximize $0.1dY_1 + 0.2dY_2$
subject to $2dY_1 + 3dY_2 \leq \$9$ million.
On the basis of investing all the \$9 million we have the following table of alternatives:

dY_1	dY_2	Increase in Employment ('000)
0	3	0.6
1.5	2	0.55
.	.	.
.	.	.
4.5	0	0.45

The best solution is to increase G.D.P. in the second sector only as indicated. Two points of note here are: (1) it is the constraint that determines the final outcome, and (2) even though it is perfectly all right to invest less than \$9 million, a solution so obtained will not give maximum employment.

equal to the expected increase in imports during the period.[22] Alternatively, the increase in imports estimated by the use of various import propensities has to be less than or equal to the increase in exports and capital inflow. The constraint is set as follows:

$$(e + \delta_1)(dY_1) + (e + \delta_2)(dY_2) + \lambda(dI) \leq (dR) \qquad (3)$$

where

e = Marginal propensity to import consumer goods — this is assumed to be the same for income from either sector;

δ_1 = Marginal propensity to import intermediate goods with reference to the G.D.P. of sector 1 (manufacturing);

δ_2 = Marginal propensity to import intermediate goods with reference to the G.D.P. of sector 2 (non-manufacturing);

λ = Marginal propensity to import investment goods with reference to total investment;

dI = Increase in investment during the Plan period;

dR = Increase in receipts from the rest of the world — mainly consisting of increase in export earnings and increase in capital inflow.

22. The constraint is worked out as follows. In a given base year, let us assume that exports and capital inflow have paid for imports of consumer goods, imports of intermediate goods, and imports of investment goods. We have

$$(X + C_f) = (M_c + M_m + M_i)$$

where X and C_f refer to exports and capital inflow respectively, and where M_c, M_m, and M_i refer to imports of consumer goods, imports of intermediate goods and imports of investment goods respectively. We may then write

$$(\triangle X + \triangle C_f) = (\triangle M_c + \triangle M_m + \triangle M_i).$$

Based on this, we have set up the constraint that the expected increase in exports and capital inflow should be greater than or equal to the expected increase in imports. The principal limitation of our approach is that we have ignored the dynamic economic aspects such as the interrelationship between a given level of imported investment goods and increment in income contributed by these investment goods, the interrelationship between this income increment and increase in imports, and so on. Also, we have not explicitly taken into account the relationship between exports and income; but, when the expected increase in exports is given from a Plan, a certain relation between this and increase in income is implied. To be in tune with the nature of an export-oriented economy, we ought to consider the export increase as a decision variable, and not increase in income. Moreover, the increase in income from exports will have secondary income generating effects, which also have to be considered in a realistic model. Thus, the model we are using is employed to test, within a very limited framework, the consistency of the Second Malaysia Plan's numerical magnitudes on employment, investment, and export increase. Notwithstanding the results of the test, the success of the Plan will depend very much on achieving the export targets of the Plan.

The constraint is based on some assumptions. Firstly, we have assumed that the marginal propensity to import consumer goods with reference to income is the same for both sectors. Where past data on sectoral consumption of imports are available, one can use different propensities for different sectors. Such a procedure will certainly enhance the realism of the model. Secondly, we have included marginal propensity to import material inputs with reference to income. This can be computed directly on the basis of data on imported inputs and G.D.P. or indirectly by first finding the marginal propensity to import material inputs with reference to output and then dividing this by the increase in income associated with an increase in output by a unit. The ideal procedure is to try both methods and check for consistency.[23] Thirdly, the constraint includes a term denoting the change in imported investment goods. Here also, if sectoral distribution of imported investment goods and total investment were available, then there should be two terms instead of one. A more important point, however, is the reason for relating imported investment goods to total investment and not to G.D.P. The answer is as follows: whereas the relation between imported investment and total investment does not destroy the linearity and the simplicity of the constraint, such problems will arise when we relate imported investment goods to G.D.P. For another way a relationship between imported investment goods and G.D.P. can be incorporated is by relating investment to increase in G.D.P. through what may be called the incremental imported capital to output ratio. In such a case the constraint will take the form of a linear differential inequality, a complication that is avoided here.[24] The fourth point in regard to the constraint is the nature of *"dR"*. This is the change in the "receipts" side of balance of payments,

23. If sectoral output is proportional to sectoral G.D.P., both methods will definitely give the same result. However, if intra-sectoral structural change were to distort such a constancy, the two methods may not give the same result. The best procedure then would be to assume the most plausible levels for the propensities, bearing in mind past trends and expected structural change if known.

24. If β_m denotes the incremental imported capital to output ratio, then imported investment goods are given by $M_i = \beta_m\, dY$ where M_i stands for imported investment goods and dY for increase in G.D.P. Since we are interested in increase in M_i, we may write

$$d M_i = \beta_m\, d(dY) = \beta_m\, d^2 Y$$

Incorporation of this in the balance of payments constraint will make it a differential inequality. This is not pursued here in order to keep the model as simple as possible.

the main components of which are exports and capital inflow and a minor item is transfer payments. In the case of the constraint (inequality 3), a new term indicating propensity to make transfer payments with reference to G.D.P. may be added; or if an autonomous increase is expected, this can be shown; or if the outflow is rather steady, the change may be assumed to be insignificant.

Collecting the three components of the simple programming model, we put it down as follows:

$$\text{Maximize } \alpha_1 (dY_1) + \alpha_2 (dY_2) \tag{1}$$

subject to the investment constraint

$$\beta_1 (dY_1) + \beta_2 (dY_2) \leq I \tag{2}$$

balance of payments constraint

$$(e + \delta_1)(dY_1) + (e + \delta_2)(dY_2) + \lambda(dI) \leq dR \tag{3}$$

and the general constraints

$$(dY_1) \geq 0 \text{ and } dY_2 \geq 0. \tag{4}$$

The solution of the simple programming model is easy to obtain since there are only two decision variables (dY_1 and dY_2) and two principal constraints. In general a unique solution is possible to obtain in cases such as these by taking (2) and (3) as equalities and solving them.[25] It may be noted that the term "$\lambda (dI)$" will assume an appropriate numerical value and "dI" is not a decision variable but a known quantity which is the increase in investment during the plan period.

In order to apply the model to West Malaysian Second Plan period, we have to obtain the various parameters of the model, and also the numerical magnitudes of the investment and balance of payments constraints. The procedures of estimation are described below step by step.

A. *Values of* α_1 *and* α_2. As a first step we use the implicit values from the Second Malaysia Plan. These are obtained from the data for the period 1971 – 75 shown in Table 76.

B. *Values of I and dR*. Separate figures for West Malaysia are not available. These are deduced as follows from the information in the Sec-

25. Where there are only two decision variables and two principal constraints, a unique solution generally exists. If there are more constraints, we get the solution from a graph. If there are more than two decision variables the most general method of solving the problem is by using the Simplex Method. The discussion of the methods may be found in any standard text on operations research — for example, C.W. Churchman, R.A. Ackoff, and E.L. Arnoff, *Introduction to Operations Research* (New York: John Wiley, 1957).

ond Malaysia Plan.[26] Capital formation in the private sector during 1971 – 75 in West Malaysia is expected to be $6,175 million. Public sector capital formation for the whole of Malaysia is $4,307 million. Since about 80 per cent of public development expenditure is to take place in Malaysia, we use this percentage and estimate capital formation in the public sector to amount to $3,446 million. Adding this to private sector capital formation, the figure obtained for gross investment during 1971 – 75 amounts to $9,621 million. Subtracting an assumed $292 million stock change in the private sector,[27] we obtain the value for fixed investment I = $9,329 million.

The value of dR for West Malaysia also has to be derived from the figures for Malaysia. A summary version of the balance of payments given in the Second Plan is reproduced in Table 77.[28] The expected increase in receipts is $1,575 million. This is made up of export earnings increase (= $1,419 million), increase in transfer receipts (= $12 million) and increase in capital inflow (= $144 million). We now have to estimate the change in receipts for West Malaysia. During 1967 – 71, West Malaysian exports amounted to 75 per cent of Malaysian exports. On this basis we estimate the export earnings increase to be 75 per cent of $1,419 million which equals $1,064 million. Transfer payments are ignored. According to the *Second Malaysia Plan,* 80 per cent of total public development expenditure and 79 per cent of private investment were to take place in West Malaysia. Using these figures, we may assume that 80 per cent of the increase in capital inflow will be used in West Malaysia. Thus the total of export earnings increase ($1,064 million) and increase in capital inflow ($115 million) for West Malaysia will amount to $1,179 million. From the balance of payments we note that part of the increase in receipts has to offset errors and omissions, etc. (a balancing item) under the payments column. For Malaysia, the increase under this head is $137 million. Assuming again that 80 per cent of this will be on account of West Malaysia, the net increase in receipts for West Malaysia will amount to dR = $1,070 million.

C. *Values of* β_1 *and* β_2. During 1971 – 75, West Malaysian investment in manufacturing is expected to be $1,850 million. Earlier we have observed the total investment is $9,329 million. Hence non-manufacturing investment amounts to $7,479 million. The ratios of the

26. *Second Malaysia Plan, 1971 – 1975,* pp. 58, 71, 89.
27. Ibid., p. 87. We do not have any idea about the 1971 — 75 stock change in the public sector.
28. Ibid., p. 65.

TABLE 76
VALUES OF α_1 AND α_2 FOR WEST MALAYSIA

	West Malaysia	
	Manufacturing	Non-Manufacturing
New Jobs expected to be created during 1971 – 75 ('000)	108	387
Increase in G.D.P. (1975 over 1970) at 1965 prices ($ mill.)	804	2,479
No. of Jobs ('000) per one million dollar increase in G.D.P.	0.1343	0.1561

Note: The values of α_1 and α_2 respectively are 0.1343 and 0.1561.

TABLE 77
BALANCE OF PAYMENTS, MALAYSIA, 1970, 1975

Item	1970		1975	
	R = Receipts ($ million)	P = Payments	R = Receipts ($ million)	P = Payments
Goods and Services	5,636	5,239	7,055	6,713
Transfers	78	258	90	222
Net Inflow of Capital	172	—	316	—
Errors and Omissions, etc.	—	389	—	526
Total	5,886	5,886	7,461	7,461

investment figures to expected G.D.P. increases in the two sectors work out to 2.3009 and 3.0169. These are taken as the approximate incremental capital-output ratios and thus $\beta_1 = 2.3009$ and $\beta_2 = 3.0169$.[29]

D. *Values of* e, δ_1, δ_2, *and* λ. A standard procedure for estimating these parameters is through time-series regressions. The main problem, however, is the availability of time-series data on imports classified into consumption goods, sectoral inputs, and investment goods. Data are available for eight years (1960 – 67) from the inter-industry transactions tables presented in Appendix B.

The regression results are presented in Table 78. The following values are obtained for the various parameters:

Marginal Propensity to Import Consumption goods	$e = 0.0642$
Marginal Propensity to Import Investment goods	$\lambda = 0.3194$
Manufacturing Sector Propensity for Inputs	$\delta_1 = 1.0223$
Non-Manufacturing Sector Propensity for Inputs	$\delta_2 = 0$

Using these parameters, we will formulate the first model and obtain the optimal solution. Allowing for import substitution in consumer goods in recent years as well as during the plan period, we assume an alternative value for $e = 0.04$, allowing for an increase in investment goods imports in relation to total investment, an alternative value for $\lambda = 0.4$ is assumed; and conjecturing the possible reduction in imported inputs in the non-agricultural sector, we assume an alternative $\delta_2 = -0.02$. Based on the two sets of parameters, we obtain the following two models.

Model 1

Maximize $0.1343\,(dY_1) + 0.1561\,(dY_2)$

Subject to $2.3009\,(dY_1) + 3.0169\,(dY_2) \leq 9{,}329$ ($ mill.)

and $1.0865\,(dY_1) + 0.0642\,(dY_2) \leq 856^*$ ($ mill.)

*Obtained as follows: $dR = 1070$, $\lambda = 0.3194$

$dI\,(1971 - 75) = 670$

Therefore $\lambda\,(dI) = 214$

$dR - \lambda(dI) = 856$

29. In general, a suitable time-lag between investment and output is assumed when ICORs are computed. Since we do not have data on manufacturing and non-manufacturing investment on a year-by-year basis, we have to satisfy our requirements with approximate ICORs.

Model 2

Maximize $0.1343\,(dY_1) + 0.1561\,(dY_2)$

Subject to $2.3009\,(dY_1) + 3.0169\,(dY_2) \leq 9{,}329$ ($ mill.)

and $1.0623\,(dY_1) + 0.0200\,(dY_2) \leq 802^*$ ($ mill.)

*Obtained as follows: $dR = 1{,}070, \quad \lambda = 0.4$

$dI = 670, \quad \lambda(dI) = 268$

Therefore $dR - \lambda(dI) = 802$

The optimal solutions satisfying the constraints for the two models and the plan targets by sector are presented in Table 79.

Before we make some observations on the basis of the results of the two models in comparison with the Second Plan targets we must note that except the import propensities (e, δ_1, δ_2, and λ), all other parameters and numerical constraints of the two models are obtained from the Plan itself. Needless to say, variations in the parameters will lead to variations in results. The results in Table 79 show that the balance of payments constraint and the investment constraint together lead to investment, G.D.P. increase, and employment increase, all of which are less than the Plan target in the case of manufacturing but more than the Plan target in the case of non-manufacturing. Total employment increase — 492,000 under model 1 and 493,000 under model 2 — is only marginally lower than the Plan target of 495,000. Total G.D.P. increase also is only marginally less than the Plan target. Thus the Plan G.D.P. target which satisfies the employment and investment targets does not strictly satisfy the balance of payments constraint which incorporates the Plan forecasted export earnings. The constraint can be met if the increase in receipts from the rest of the world is raised by $177 million in model 1 and $102 million in model 2. This no longer constitutes a problem in view of the boom conditions of 1973 and the enhanced export earnings. We thus conclude that within the broad analytical framework of our exercise, the Second Plan employment targets are consistent with the in-investment and G.D.P. targets; and together they satisfy the condition of maintaining balance of payments equilibrium.

So far we have limited our analysis to a testing of the framework of the Second Plan. Thus we have used values for α_1, α_2, β_1, and β_2 derived from the Plan. We may take alternative values for these parameters also. On the basis of past data (1947 – 70), we have obtained employment elasticities of output for manufacturing and non-manufacturing to be 2.5 and 2.2 respectively. If these elasticities are assumed for the Second Plan period, then on the basis of the initial

TABLE 78

REGRESSION EQUATIONS FOR IMPORT DEMAND COMPONENTS COMPUTED ON THE BASIS OF 1960–67 DATA FROM WEST MALAYSIAN INTER-INDUSTRY TRANSACTIONS TABLES

	Regression Line	Correlation Coefficient
1.	Consumer Goods Imports in Relation to G.D.P.: $M_c = 0.7165 + 0.0642\ Y$	0.8279*
2.	Investment Goods Imports in Relation to Total Fixed Investment $M_1 = -0.0623 + 0.3194\ I$	0.9240*
3a.	Imported Intermediate Goods for Manufacturing in Relation to Sector G.D.P.: $M_{m1} = -0.1354 + 1.0223\ Y_1$	0.9961*
3b.	Imported Intermediate Goods for Manufacturing in Relation to Sector Output: $M_{m1} = -0.1925 + 0.2897\ X_1$	0.9965*
3c.	Manufacturing G.D.P. in Relation to Manufacturing Output: $Y_1 = -0.0554 + 0.2832\ X_1$	0.9996*
4a.	Imported Intermediate Goods for Non-Manufacturing in Relation to Non-Manufacturing G.D.P.: $M_{m2} = 0.9898 - 0.0358\ Y_2$	−0.3560†
4b.	Imported Intermediate Goods for Non-Manufacturing in Relation to Non-Manufacturing Output: $M_{m2} = 0.9534 - 0.0184\ X_2$	−0.2975†
4c.	Non-Manufacturing G.D.P. in Relation to Non-Manufacturing Output: $Y_2 = 0.1053 + 0.6147\ X_2$	0.9974*

Notes: *Significant at 1% level

†Not significant

1. For data, please see Appendix B.
2. Indirect taxes on output are excluded from output value. G.D.P. is taken at factor cost.
3. Imports are the c.i.f. values.
4. Regressions are estimated on the basis of data in thousand million ($).
5. We were not able to make any adjustments for price changes.

TABLE 79

PROJECTED OPTIMAL MAGNITUDES OF INVESTMENT, G.D.P. INCREASE, AND EMPLOYMENT INCREASE BY SECTOR, 1971 – 75 AND THE SECOND PLAN TARGETS FOR WEST MALAYSIA

Item	Model 1		Model 2		Second Plan	
	Manufac-turing	Non-Manufac-turing	Manufac-turing	Non-Manufac-turing	Manufac-turing	Non-Manufac-turing
Investment ($ mill.)	1,459	7,870	1,627	7,702	1,850	7,479
Increase in G.D.P. ($ mill.)	634	2,609	707	2,553	804	2,479
Increase in Employment ('000)	85	407	95	398	108	387

(1970) G.D.P. values by sector, we note that a million dollar increase in each sector's G.D.P. at 1965 prices during 1971 – 75 is associated with 98 jobs in manufacturing and 158 jobs in non-manufacturing. Thus $\alpha_1 = 0.098$ and $\alpha_2 = 0.158$. Whereas α_2 is very close to the value derived from the Plan data, α_1 is less. Since α_1 and α_2 have some relation to capital intensity and ICOR, one may conjecture that the ICOR for manufacturing may be somewhat higher than that assumed by the Plan and the ICOR for non-manufacturing may remain unchanged. If we assume then that $\beta_1 = 2.5$ and $\beta_2 = 3.0$, with the values for the other parameters being the same as those of the second model ($e = 0.04$, $\delta_1 = 1.02$, $\delta_2 = -0.02$, and $\lambda = 0.4$), and retaining the Plan investment and balance of payments targets, we have

Model 3

$$\begin{aligned} &\text{Maximize} && 0.098\,(dY_1) + 0.158\,(dY_2) \\ &\text{Subject to} && 2.5\ \ (dY_1) + 3.0\ \ (dY_2) \leq 9{,}329 \\ &\text{and} && 1.06\ \ (dY_1) + 0.02\ \ (dY_2) \leq \ \ 802 \end{aligned}$$

This model gives an optimum level of employment increase equal to 467,000 jobs which implies that by 1975 the unemployment rate will be about 9 per cent.[30] The optimal strategy calls for an investment of \$1,773 million in manufacturing and \$7,556 million in non-manufacturing, only marginally different from the Plan allocations of \$1,850 million and \$7,479 million respectively. In this model, the number of new jobs created at 467,000 is less than the Plan target of 495,000 because we have assumed, for manufacturing, values of ICOR and α_1, higher and lower respectively than those implied in the Plan. The actual outcomes will largely depend on the overall growth of manufacturing, the type of new industries that will be established, the labour intensity of the methods of production, and related factors.

30. The solutions are $dY_1 = 709$ and $dY_2 = 2{,}519$. The total new job creation amounts to 467,000 jobs, 69,000 in manufacturing and 398,000 in other sectors. Employment in 1975 will be 3.407 million. Employment in the 15 – 64 age group works out to 3.366 million and in relation to the estimated labour force of 3.690 million, the unemployment rate works out to 8.8 per cent. In all our models, we have assumed that I remains at 9,329 and dR remains at 802 under all circumstances. This may not hold good. For instance, under an optimal strategy where the value added by non-manufacturing is more and that by manufacturing is less than under the Plan strategy, these changes would, as a matter of fact, imply changes in dR if not in I. Projecting these changes would require preparing alternative export forecasts, a task that cannot be undertaken within the constraints of data, time and space of our exercise. Yet the two-sector models did show the need to account for consistency of the various Plan assumptions, a task for which they were mainly built.

Some Aspects of Employment Strategy

The Second Plan's targeted new job creation of 495,000 during 1971 – 75 in West Malaysia is distributed sectorally as shown in Table 80.[31] A quarter of the new jobs are to come from agriculture, over a fifth from manufacturing, and nearly all the remaining new jobs are to come from the service sector. The employment strategy is based on expanded economic growth, land development, and policies to encourage labour-intensive industries.[32]

TABLE 80
PERCENTAGE SHARE IN NEW JOBS BY SECTOR, 1971 – 75

Sector	Percentage Share in New Jobs	
Agriculture, Forestry, Hunting, and Fishing	25.3	
Mining	– 0.8*	
Manufacturing	21.8	
Construction	6.1	
Utilities	0.8	
Commerce	16.0	
Transport and Communications	2.4	46.9
All other Services	28.5	
Total	100.0	

Note: *Negative due to expected decline in employment, reflecting partly the closure of iron ore mines (*Second Malaysia Plan*, p. 172).

31. *Second Malaysia Plan*, p. 109.
32. *Second Malaysia Plan*, ch. 7. These policies were also outlined in a paper delivered by Prof. Just Faaland at the "Great Economic Debates" of Nov. 1968 organized by the Economics Society of the University of Malaya. Professor Faaland was then Adviser on Economic Planning to the Government of Malaysia. (Just Faaland, "The Promotion of Greater Economic Development in Malaysia", *Ekonomi*, Supplement, 1968.)

Employment creation in the agricultural sector is very much dependent on new land development. Of the 125,000 new jobs expected in West Malaysia from the agricultural sector, 70 per cent or over 87,000 jobs are expected from new land development. In West Malaysia the land development target during 1971 – 75 is 750,000 acres of which 112,500 acres is the private sector target, 275,000 acres is the FLDA target and the remaining acreage is to be developed by other Public Sector agencies. According to the Second Plan document, fulfilment of the land development target of the FLDA would lead to the settlement of 23,700 families. On this basis, it may be noted that the achievement of the overall land development target may provide livelihood to over 60,000 families.[33] Since total employment created may be larger than the number of families settled, achievement of the overall land development target in effect may create employment for over 80,000 persons as envisaged in the Plan. The bulk of land development being the public sector target, there is no reason why the target cannot be achieved, given the will to implement the targets. In fact, the public sector should be prepared to undertake the development of more than its targeted share of land if the private sector is found to lag behind in meeting its target.

In the field of manufacturing, the Plan strategy is one of encouraging labour-intensive industries. Tariff protection, tax concessions, and other incentives are to be geared towards attracting industries that are labour-intensive. Elaborating on the employment target (108,000 jobs) for the West Malaysian manufacturing sector, the Plan document has the following statement: "The attainment of this target will require policies to bring about the adoption of techniques which use more labour and the establishment of labour-intensive industries, such as textiles, electronics and ship-building."[34] There are two aspects of interest here: firstly, the promotion of labour-intensive methods in existing manufacturing industries and, secondly, the promotion of new industries which are labour-intensive. As for the first, whether or not rubber processing, rice milling, or beverage manufacturing which are industries already in operation can become more labour-intensive than what they already are, is a difficult question to answer. Perhaps the scope for

33. *Second Malaysia Plan*, p. 133. FLDA targets (275,000 acres for 23,700 families) envisage an average of 11 acres per family. The total land development target of 750,000 acres, at the average of 11 acres per family, can provide livelihood for some 68,000 families. This is only a rough calculation.

34. *Second Malaysia Plan*, p. 155.

changing the production methods in the existing industries is not very great.[35]

With regard to the second aspect, namely, establishing new labour-intensive industries, the feasibility of the strategy depends very much on the available extent of choice among industries. It is not easy to foresee what industries can be established and what will be their employment contribution. However, some general observations can be made. New industries that may be established will, to begin with, either produce for the domestic market or for export. When the industries are primarily import substituting, the choice of industries based on the degree of

35. Broadly speaking, manufacturing activities stand in contrast to agricultural activities in terms of the relatively low degree of availability of alternative production methods, within each activity. Some consequences of this contrast to the process of economic development are enunciated in R.S. Eckaus, "The Factor Proportions Problem in Undeveloped Areas", *American Economic Review*, Sept. 1955. A broad description of the nature of alternative methods in groups of economic activities is given in ch. 20 (pp. 188 – 95) of Jagdish Bhagwati, *The Economics of Underdeveloped Countries* (New York: McGraw-Hill, 1966). One of Professor Bhagwati's observations is: "It is really up to the labour-abundant developing countries to direct their scientific research to turning out superior, labour-intensive techniques. Many of the scientific innovations in the developed countries so far have been capital-using and aimed at reducing labour requirements" (p. 193). During the last decade or so, several empirical studies provided estimates of elasticities of capital-labour substitution in manufacturing activities. One of the first and most important contributions was K.J. Arrow, H.B. Chenery, B.S. Minhas, and R.M. Solow "Capital-Labour Substitution and Economic Efficiency", *Review of Economics and Statistics* 43, 3 (1961): 225 – 50. In that paper, the authors have proposed what is now popularly known as the Constant Elasticity of Substitution (CES) production function. Using the CES production function, assuming the prevalence of constant returns to scale, as well as the existence of the conditions of perfect competition in the product and factor markets, etc., it is possible to estimate the elasticity of factor substitution for a given manufacturing activity by simply estimating the regression slope of a log-linear relation between the average output per worker (or man-hour) and the average wage. The method is so simple that several studies have followed it to estimate elasticities using different sets of data. However, the rigid assumptions used and other limitations cast doubt on the estimated elasticities of substitution as pointed out by Marc Nerlove in his "Recent Empirical Studies of the CES and Related Production Functions", in *The Theory and Empirical Analysis of Production*, ed. M. Brown (New York: National Bureau of Economic Research, 1967), pp. 55 – 122. (For West Malaysia, using the data by states for 60 manufacturing industries, we have estimated the regression slope of the "log" of "value added per employee" on the "log" of "average wage". The slopes are statistically significant for 21 industries. The results are not reproduced here as they are of no special significance to our discussion.)

labour intensity of the industry may actually mean establishing industries which can take advantage of relatively cheap Malaysian labour and hence can sell their products at competitive prices. Encouraging such industries is a sound proposition, except that they should not be allowed to grow inefficiently under a tariff cover. In the case of industries that produce for the export market, incentives and encouragement may be given to industries which are labour-intensive as well as to those which take advantage of Malaysia's natural resources.

According to the Second Plan targets, the service sector accounts for 47 per cent of the new jobs (495,000) expected to be available in West Malaysia during 1971 – 75. Of the expected 232,000 new jobs from the services sector, commercial services account for 79,000, transport and communications for 12,000, and other services (including government services) for 141,000 jobs. These employment projections are largely based on the premise that the growth of the agricultural and manufacturing activities will create a demand for the services sector output, thus paving the way for the growth of output and employment in the sector. For instance, the projection of 79,000 new jobs in the commerce sector (which includes wholesale and retail trade, banking and other financial services) is elaborated as follows: "The growth of value added originating in commerce over the 1971 – 75 period will be in pace with the overall growth of the economy. West Malaysian G.D.P. is projected to grow in current prices at an average annual rate of 6.9% and this is expected to induce a growth rate of 5.3% in commercial activities.... Employment is projected to grow at 4.3% per year, providing 79,000 new jobs during the period."[36] Projections such as these are well within realizable limits. They can indeed be realized if the climate for economic growth is maintained. In this context, it is relevant to discuss the objectives and policies enunciated in the Second Malaysia Plan relating to the correction of racial economic imbalances.

Goal of Economic Balance

The Second Malaysia Plan incorporates the New Economic Policy with its two long-term objectives of eradication of poverty and restructuring of society. Restructuring society, that is, correcting the racial imbalances in employment and ownership of wealth and reducing regional economic imbalances, is indeed an objective whose implicit goal is reducing interracial income disparity. These objectives are aimed at pro-

36. *Second Malaysia Plan*, p. 165.

moting national unity.[37] Promotion of national unity in turn requires that no particular race or community feels a sense of frustration or deprivation, since it may lead to interracial rivalry and incidents such as the racial disturbances of May 1969 with all their ill effects on the political and economic climate.

Indicators of racial income inequality are not lacking, even though full-scale quantification of the problem of racial economic imbalance is part of continuing study and research proposed under the Second Malaysia Plan.[38] As for an overall indication, it can be said that the average income of the Malay community which constitutes the numerical majority of the population is less than that of the other two principal ethnic groups, namely, the Chinese and Indians. Some approximate figures on household income distribution in West Malaysia show that about 49 per cent of the Malay households, 20 per cent of the Chinese households, and 30 per cent of Indian households had monthly incomes less than $150 in 1969.[39] Just another indicator is the disparity between productivity levels in the sectors in which Malays are the principal participants and the sectors in which non-Malays participate. According to one calculation the value added per worker in the Malay-

37. "National unity is the over-riding objective of the country. A stage has been reached in the nation's economic and social development where greater emphasis must be placed on social integration and more equitable distribution of income and opportunities for national unity and progress. This direction towards national unity is fundamental to the New Economic Policy." *Second Malaysia Plan*, p. 1.

38. As explained in the *Second Malaysia Plan*, p. 36, the responsibility for such studies rests with the Department of National Unity in the Prime Minister's Office.

39. Estimated Percentage of Households by Race and Income (mid – 1969)

Income Group	Malays	Chinese	Indians	Others	Total
≤ 150	48.8	18.1	29.9	6.8	35.6
151 – 300	31.2	38.0	33.6	8.5	33.4
301 – 500	13.1	23.5	20.6	32.2	17.8
501 – 1,000	5.6	15.6	12.4	27.1	10.1
1,001 +	1.3	4.8	3.5	25.4	3.1
Total	100.0	100.0	100.0	100.0	100.0

Source: *The Straits Times Marketing Index, 1970* (Kuala Lumpur, 1970).

dominated sectors amounted to $1,400 in 1967 in contrast to the non – Malay-dominated sectors where the value added per worker was $3,600 in the same year.[40] There are imbalances also in the educational composition of the population. In 1967, a third of the employed Malay population had no formal education, compared to 18 per cent and 25 per cent in the case of Chinese and Indians respectively.[41] Then, there are also imbalances in the ownership and control of wealth.[42] Padi farms are practically all owned by Malays, but many of these are cultivated by Malay tenant-farmers. Of the 4.2 million acres of land under rubber in West Malaysia at the end of 1970, 37 per cent were owned by Malays, 42 per cent by non-Malays, and 21 per cent by foreigners. In the share capital of limited companies as of 1969, 62.1 per cent was accounted for by foreigners or foreign interests, 22.8 per cent by Chinese, 1.5 per cent by Malays, and 0.9 per cent by Indians.

According to the Second Plan document, the racial economic imbalances "are a heritage of centuries of colonial policies and the result of the pattern of economic development during the colonial era."[43]

40. O.D. Hoerr, "Education, Income and Equity in Malaysia" (Unpublished). The Malay-dominated industries are rubber smallholdings, non-rubber agriculture, livestock and fishing, public administration, and defence. Note that the figures relate to simple average value added per worker. They are of no use to judge income inequality but they roughly indicate disparities in productivity.

41. From the *Socio-Economic Sample Survey of Households, 1967—1968,* p. 88, we have the following data on percentage distribution of employed persons by educational attainment in West Malaysia:

Educational Attainment	Percentage		
	Malays	Chinese	Indians
No formal education	33.3	18.4	25.3
Primary education	57.3	58.7	54.8
Higher than primary	9.4	22.9	19.9
Total	100.0	100.0	100.0

42. *Second Malaysia Plan,* ch. 3, has a detailed discussion of all the economic imbalances.

43. *Second Malaysia Plan,* p. 41.

Even though this may be an oversimplification, the fact remains that attempts to rectify racial economic imbalances of the type and on the scale envisaged in the Second Plan have not been a significant part of government policy in the past.[44] Thus in the absence of past experience, on the basis of which one can assess the possible outcomes of the New Economic Policy, it is appropriate to stress that the policies followed should not condition the efforts to improve the rate of economic growth and the efforts to bring about changes in economic structure.

The strategy for achieving economic balance, as enunciated in the Plan, is based on modernization of the rural sector, provision of greater educational opportunities to Malays and other indigenous peoples, provision of special financial assistance to Malay entrepreneurs, provision of business premises and physical facilities in urban areas for the Malays and other indigenous peoples, and so on. Each of these policies can be discussed at length, but whether or not they contribute to expanded economic growth as well as equitable distribution depends largely on how the various policies will be implemented. The hope for the betterment in both directions lies in the following government statement: "The strategy is founded on the philosophy of active participation, not on disruptive redistribution."[45]

44. The growth of rubber and tin industries on the west coast states of West Malaysia, the concentration of Chinese and Indians on the west coast, the adherence of the Malays to their traditional activity of padi farming, the special forces behind their poverty and indebtedness, and dozens of other factors together account for the racial and regional income disparities that we see today. How the various forces have evolved and how they have influenced different ethnic groups have been discussed in various chapters of *Economic Development of Modern Malaya*, by Prof. Lim Chong Yah.

In the rice sector where the Malays predominate, from the 1930s government policy was aimed at achieving self-sufficiency. "How this policy will affect the standard of living of the rice farmers has not been given enough emphasis." Lim, *Economic Development of Modern Malaya*, p. 177. (Ch. 6 of the book deals with the development of the rice sector, the obstacles to the progress of the sector, and government policies affecting the sector.) In the field of education, from the early days of British rule, there developed a four-stream educational system, divided along linguistic and ethnic lines, with differences in syllabi and orientation. For more details, see *Economic Development of Modern Malaya*, pp. 297–305. (Professor Lim's book contains an assessment of all the important government policies during the colonial era in the different chapters dealing with the various sectors of the economy and the chapters dealing with population, money and banking, taxation, and infrastructure.)

45. *Second Malaysia Plan*, p. 43. The New Economic Policy was the subject of a round table discussion which formed part of a Seminar organized by the In-

In pursuit of the goal of racial economic balance, two specific targets have also been set in the Second Plan. These deserve special mention. "The Government has set a target that within a period of twenty years, Malays and other indigenous peoples will manage and own at least 30% of the total commercial and industrial activities in all categories and scales of operation. The Government has also stipulated that the employment pattern at all levels and in all sectors, particularly the Modern Rural and Modern Urban Sectors, must reflect the racial composition of the population."[46] With regard to the capital ownership target, apart from providing business training, technical guidance on projects suitable for development, etc., two direct measures are also proposed.[47] Firstly, the Government intends to take up, through government-sponsored and assisted institutions,[48] equity shares in joint ventures with the private sector and these shares will eventually be transferred to individual ownership of Malays and other indigenous people. In this connection, it is proposed that their household savings will be mobilized and invested through unit trusts and other investment channels. To encourage shares bought by or allocated to them to remain within the community, the Government will promote a stock exchange based on the trading operations initiated by the unit trusts. The second measure envisages direct investment by the Government in industrial and commercial enterprises. These enterprises will be turned over to in-

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stitute of Southeast Asian Studies, Singapore, in July 1971. The participants in the discussion included Professors Lim Chong Yah and S.H. Alatas (of the University of Singapore), Mr. J. Morgan (of the *Far Eastern Economic Review*), and Dr. Mahathir bin Mohamad (a Malaysian politician). A variety of views were expressed by the speakers on the various policy issues. Most of them recognized the need for achieving economic balance. They emphasized also the need for political stability. For instance, on the objective of reducing ethnic income disparity, Professor Lim, in his opening speech at the seminar, observed: "I do not think in Malaysia people differ on this objective. I think they all like to see more ethnic balance. It is on the means to effect the change that they differ widely, in policy and in approach." His concluding remark was, "If the political solutions are there, if there is political stability, Malaysia is likely to develop very well economically. The problem of how to share the expanding cake, too, can be handled with less difficulty. But if the cake is not growing and if they concentrate their attention only on sharing the shrinking cake, the time-bomb will just explode." — *Trends in Malaysia* (Singapore: Institute of Southeast Asian Studies, July 1971), pp. 6 and 9.

46. *Second Malaysia Plan*, pp. 41 – 42.
47. Ibid., pp. 158 – 62.
48. Such as the State Economic Development Corporations.

TABLE 81

UNEMPLOYMENT RATES BY RACE AND SEX, WEST MALAYSIA, 1962, 1967

Race and Sex		Unemployed as % of Labour Force	
		1962	1967
All Races:	Males	5.2	6.1
	Females	8.1	8.2
	Both Sexes	6.1	6.8
Malays:	Males	5.6	5.8
	Females	7.3	6.7
	Both Sexes	6.2	6.1
Chinese:	Males	4.7	5.6
	Females	8.9	9.6
	Both Sexes	6.0	6.9
Indians:	Males	5.3	8.7
	Females	8.1	10.5
	Both Sexes	6.0	9.2

Source: Donald Snodgrass, "The Growth and Utilization of Labour Supply in West Malaysia".

dividual Malay and other indigenous ownership and management as soon as possible. It is the intention of the Government to ensure that the formulation and implementation of these measures will contribute to the overall growth of the economy. In addition to this declared intention, one also hopes that the processes of selection of the individuals for the receipt of equity shares and for the ownership of enterprises will be such as not to lead to feelings of "frustration and deprivation" within the Malay community itself.

The second specific objective relating to racial balance is the stipulation that the racial composition of population should be reflected in the racial composition of employment by sector.

In our earlier discussion, we have noted that under certain conditions, unemployment in West Malaysia may increase from the 1970 level of 8 per cent of the labour force to 9 per cent or more in 1975. Since employment creation of an adequate magnitude is closely related to the long-term objective of eradication of poverty and the goal of racial economic balance, it is useful to consider the incidence of unemployment by ethnic group and the consequences, if any, of the government policies on future levels of unemployment.

In the absence of more up-to-date data,[49] unemployment rates by race for 1962 and 1967 only are given in Table 81. The data show that the unemployment rates have increased during 1962 – 67 mainly in the case of Chinese and Indians. In 1967, the unemployment rate for males and females taken together appears to be somewhat higher in the case of Chinese and Indians than for the Malays. In the case of Chinese and Indian females, one out of every ten in the labour force appears to be unemployed. In the case of males, the rate of unemployment in 1967 is marginally higher for the Malays than for the Chinese. But, while unemployment is a problem with regard to all the races, the problem of underemployment is relatively more serious in the case of Malays. Of the employed Malay males in 1967, 14 per cent worked less than 25 hours per week. In contrast, the percentage was only 4 for Chinese males and 2 for Indian males. Similarly, of the employed Malay females, 26 per cent were underemployed (worked less than 25 hours). In contrast, the percentages were 9 and 3 respectively for Chinese and Indian females.[50] Underemployment prevails mostly in subsistence agri-

49. At the time of writing, tabulations on labour force and employment based on 1970 census data were not available.

50. Data on underemployment used here are from Malaysia, Department of Statistics, *Socio-Economic Sample Survey of Households, Malaysia, 1967 – 1968*, pp. 76 – 77 (Tables).

TABLE 82
EMPLOYMENT DISTRIBUTION BY RACE AND SECTOR, WEST MALAYSIA, 1947–67

Industry		Malays	Chinese	Indians	Others	Total (%)	Total ('000)
Agriculture, Forestry, Hunting, and Fishing	1947	71.6	26.0	1.2	1.2	100.0	680.4
	1957	80.3	17.6	0.8	1.3	100.0	572.9
	1962	77.9	19.2	0.9	2.0	100.0	581.8
	1967	74.7	22.0	0.9	2.4	100.0	627.3
Agricultural Products Requiring Substantial Processing	1947	36.0	32.0	31.5	0.5	100.0	555.8
	1957	44.2	30.6	24.7	0.5	100.0	649.6
	1962	48.2	29.0	22.3	0.5	100.0	742.0
	1967	51.8	27.4	20.2	0.6	100.0	766.2
Mining and Quarrying	1947	11.9	74.0	12.8	1.3	100.0	47.7
	1957	19.2	67.1	11.5	2.2	100.0	60.0
	1962	24.2	63.3	11.1	1.4	100.0	56.1
	1967	21.4	67.3	10.3	1.0	100.0	68.7

TABLE 82 *(cont.)*

Industry		Malays	Chinese	Indians	Others	Total (%)	Total ('000)
Transport, Storage, and Communication	1947	30.7	41.8	24.5	3.0	100.0	65.9
	1957	35.8	37.8	24.0	2.4	100.0	78.3
	1962	37.2	39.4	21.7	1.7	100.0	90.4
	1967	37.7	40.1	20.9	1.3	100.0	108.1
Government Services	1947	52.4	13.6	27.5	6.5	100.0	73.6
	1957	57.0	11.1	14.2	17.7	100.0	167.2
	1962	64.2	16.1	17.4	2.3	100.0	151.7
	1967	66.6	16.0	15.5	1.9	100.0	210.4
Education, Health, and Other Community Services	1947	39.5	44.9	10.3	5.3	100.0	26.3
	1957	41.5	36.1	16.1	6.3	100.0	76.4
	1962	47.5	34.4	13.9	4.2	100.0	103.2
	1967	49.3	33.7	13.9	3.1	100.0	127.7

[cont. overleaf]

TABLE 82*(cont.)*

Industry		Malays	Chinese	Indians	Others	Total (%)	Total ('000)
Business, Recreation, and Personal Services	1947	15.0	62.6	21.2	1.2	100.0	97.3
	1957	16.7	62.6	19.0	1.7	100.0	110.3
	1962	18.8	62.9	16.7	1.6	100.0	132.5
	1967	21.2	61.6	15.5	1.7	100.0	162.1
Total: All Sectors	1947	45.2	37.7	15.8	1.3	100.0	1,904.1
	1957	47.5	35.2	14.7	2.6	100.0	2,149.4
	1962	48.5	36.4	13.7	1.4	100.0	2,393.5
	1967	48.8	37.8	12.0	1.4	100.0	2,727.0

Source: As for Table 81.

TABLE 82 *(cont.)*

Industry		Malays	Chinese	Indians	Others	Total (%)	Total ('000)
Manufacturing	1947	29.1	62.5	7.7	0.7	100.0	134.0
	1957	19.1	67.4	12.7	0.8	100.0	160.0
	1962	26.4	62.9	10.0	0.7	100.0	185.4
	1967	26.4	65.6	7.2	0.8	100.0	232.1
Construction	1947	33.8	30.8	33.1	2.3	100.0	39.4
	1957	32.0	47.9	18.1	2.0	100.0	68.1
	1962	28.5	56.7	13.1	1.7	100.0	82.5
	1967	26.2	62.5	9.9	1.4	100.0	95.4
Utilities	1947	39.1	17.4	37.0	6.5	100.0	4.6
	1957	33.0	26.1	35.7	5.2	100.0	11.5
	1962	37.5	23.5	35.3	3.7	100.0	13.6
	1967	42.9	22.9	32.4	1.8	100.0	17.0
Commerce	1947	16.4	67.6	15.0	1.0	100.0	172.9
	1957	16.4	65.2	16.8	1.6	100.0	195.1
	1962	21.3	64.4	13.0	1.3	100.0	253.3
	1967	25.3	64.5	9.5	0.7	100.0	312.0

culture (rice cultivation) and smallholdings in the plantation sector which are activities in which the Malays predominate.

The employment distribution by race and sector is given in Table 82. In view of the declared policy of restructuring the employment shares in line with racial composition of population, it is worthwhile recapitulating the population composition: according to the 1970 Census, 53.2 per cent of the West Malaysian population were Malays, 35.4 per cent were Chinese, 10.6 per cent were Indians, and 0.8 per cent were "others". The racial shares of total employment in 1967 (49 per cent Malays, 38 per cent Chinese, 12 per cent Indians, and 1 per cent others) are not significantly different from the population composition. During 1947 – 67, the Malay share in employment increased from 45 per cent to 49 per cent, the Chinese share fluctuated around 37 per cent, and the Indian share declined from 16 to 12 per cent. But, as the data in Table 82 show, there are considerable differences in the trends and levels of the racial shares in employment by sectors. With reference to the future policy of sectoral employment restructuring, it is of interest to make some rough calculations and examine their implications.

If the Government of Malaysia takes the measure of allocating all new jobs according to racial composition of population, in *quantitative terms*, it will succeed in achieving sectoral restructuring of employment, because the labour force will be replaced fully by a new generation in the next 30 to 40 years. But we cannot lose sight of the problems that may crop up in the intervening years. A simple quantitative projection is given in Table 83 under two alternative strategies. The first strategy is to allocate all new jobs created during 1971 – 75 according to racial composition of the population. The second strategy is (1) to maintain in 1975 also the present racial shares of employment in agriculture and "services other than commerce and transport and communications",[51] and (2) to allocate new jobs in the remaining sectors in accordance with the racial composition of population. The second strategy is more in accordance with some of the current practices in West Malaysia such as appraising from time to time the racial composition of employment in manufacturing establishments, reserving certain types of construction projects to Malay contractors, and influencing the establishment and employment of firms in commerce, transport, and allied sectors. Under

51. This is how it may actually turn out. On the one hand, the non-Malays may be reluctant to move into the agricultural sector. On the other, the Government may be reluctant to reduce the Malay share in government services where about two-thirds of the employed persons are Malays.

both strategies, the differences in the projected crude rates of unemployment by race for 1975 broadly indicate the type of problems that may arise in the intervening years. For instance the projections show that in 1975 it may turn out that the rate of unemployment for the Malays may be higher than the rates for other races. If such an outcome were to enhance the frustrations of the Malays, the Government might be forced to adopt, after 1975, policies which are much more radical than what they are at present. Alternatively, if the actual outcome were to be different from what is projected, and if it turns out that the Chinese are relatively more unemployed than the Malays by 1975, the outcome may serve to enhance the fears among the minority races about their future. There is a great deal of difference between frustrations brought about by extraneous circumstances and frustrations that appear to have been brought about by deliberate government action. The latter may pave the way for political instability and deterioration in economic performance.

Malaysia is not a closed economy, its fortunes fluctuate from year to year, changes in economic structure have just started to take shape, and historically the ethnic groups have carved out non-competing but complementary sectors of economic activity. When these factors are taken into account, it is difficult to make a strong case in favour of specific quantitative promises to be fulfilled at a date some two decades away.

The Government of Malaysia has been instrumental in the postwar achievements of production and productivity growth. The new dimensions added to its planning effort are the long-term objectives of eradication of poverty and reducing interracial income inequality. Appropriate policies and programmes to achieve the goals will have to be those that foster and not destroy the following minimum political requirements for economic growth.[52]

"1. *Stability.* First, clearly some minimum political stability is necessary if the members of the economic society are to plan ahead and be assured of a relatively stable relation between their contribution to economic activity and their rewards. One could hardly expect much economic growth under conditions of political turmoil, riots, and unpredictable changes in regimes.

"2. *Flexibility.* Second, since a country's sovereign government must resolve the conflicts of interest that inevitably arise in the course of

52. Simon Kuznets, *Modern Economic Growth: Rate, Structure and Spread,* p. 451.

TABLE 83

PROJECTED RATES OF UNEMPLOYMENT BY RACE, WEST MALAYSIA, 1975

Race	Employed in '000, 1970	Alternative Strategies for Racial Balance				Projected Labour Force, in '000, 1975	Crude Rates of Unemployment, 1975 Strategy	
		Strategy I		Strategy II			I	II
		New Jobs in '000	Employed in '000, 1975	New Jobs in '000	Employed in '000, 1975			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Malays	1,435	263	1,698	268	1,703	1,832	7.3	7.1
Chinese	1,111	175	1,286	161	1,272	1,368	6.0	7.0
Indians	353	53	406	60	413	436	6.9	5.3
Others	41	4	45	6	47	52	13.5	9.6
Total	2,940	495	3,435	495	3,435	3,688	6.9	6.9

Note: Column (1): Total employment figure is from the *Second Malaysia Plan*, p. 109. This is distributed according to the 1967 racial shares of 48.8%, 37.8%, 12%, and 1.4% respectively for the four races (please see Table 82).

Column (2): Total is from *Second Malaysia Plan*. Strategy I relates to allocation of all new jobs according to 1970 racial composition (53.2%, 35.4%, 10.6%, and 0.8% respectively).

Column (3): Column (1) added to Column (2).

Column (4): Total is from *Second Malaysia Plan*. Strategy II relates to (a) maintaining in 1975, the 1967 racial shares in employment in agriculture, government services, education, and health and personal services, and (b) allocating new jobs in other sectors according to the 1970 racial composition.

Column (5): Column (1) added to Column (4).

Column (6): Labour force projections of Dr. Snodgrass.

Column (7): Obtained from Columns (3) and (6); and (5) and (6) respectively, the rates are crude because labour force is within the age range.

Column (8): 15 – 64 whereas the "employed" include a negligible number of persons under 15 years of age and over 64 years.

economic change and growth, it must be able to recognize these conflicts in good time and minimize their constraining effects on further economic growth.

"3. *Representativeness.* Finally, since these conflicts are among various groups in society, and these groups must have some means of expression so that their interests can be considered by the government when it broad decisions are made, some minimum representativeness is required."

7. *Summary of Conclusions*

The basic objective of the study was an analysis and assessment of the postwar development pattern and policy of the Malaysian economy. Though not an essential part of the basic objective, a few policy-oriented suggestions were included in various parts of the study. The principal conclusions and suggestions are summarized in this chapter.

Postwar Economic Growth

Considering Malaysia (East and West) as a whole, the average annual growth rate of G.N.P. at constant prices was 6.3 per cent during 1960 – 65 and 5.6 per cent during 1965 – 70, thus giving an average rate of growth of 6 per cent for G.N.P and 3 per cent for G.N.P. per capita for the eleven-year period. The growth rates stand favourably in relation to the growth performance of other nations in the period of the U.N. First Development Decade. However, there were wide fluctuations in the annual growth rates of G.N.P. at current prices attributable to fluctuations in the growth rates of export earnings. Malaysia continued to depend on a few primary export commodities and there was no clear evidence of any remarkable reduction in the extent of export orientation. Public consumption expenditure in particular and public expenditure in general increased significantly during the period, contributing in part to a mild inflationary pressure.

For West Malaysia, we were able to compile consistent and fairly comparable national accounts data for a quarter century. During the period 1947 – 71, West Malaysian economy, judged by the movements in G.D.P. at current prices, was subjected to three booms — the first in 1950 – 51, the second in 1955, and the third in 1960. These were the only three occasions when the terms of trade were favourable to West Malaysia.

Growth of G.D.P. at 1959 prices was high in the reconstruction phase of 1947 – 50, indicating the quick recovery from the after-effects of the Japanese Occupation. G.D.P. stagnated during 1950 – 53. The period

1953 – 58 was characterized by slow growth and the period 1953 – 71 witnessed an average annual growth rate of 6.4 per cent. During the period, government expenditure and investment increased both absolutely and relative to G.D.P. Even though a high tempo of exports was the chief factor in bringing about rapid growth in G.D.P., government expenditure and investment acted as stabilizing influences on aggregate demand and output.

The index of commodity concentration of exports was at a high level throughout 1947 – 71, reflecting the singular importance of rubber and tin in the economy. Export diversification started only recently with the emergence of exports from a few manufacturing industries — notably food processing, textiles, wood and cork, rubber products, and metal products.

An analysis of economic growth of the 1958 – 71 period on the basis of an approximate aggregate production function revealed that about 70 per cent of the average rate of growth of 6.4 per cent in G.D.P. at 1959 factor cost was attributable to the growth of capital stock. About 17 per cent of the rate of growth was attributable to the rate of growth of labour input and the remaining 13 per cent to other factors.

In an economy with a large proportion of output for export, trends in G.D.P. or G.N.P. at constant prices (which is a real output measure) may differ from trends in G.N.I. (gross national income) at constant prices (which is a real income measure). G.N.I. is obtained as G.N.P. adjusted for the effects of changes in terms of trade. The 1947 – 71 data on per capita G.N.I. for West Malaysia showed several cycles with peaks in 1951, 1955 – 56, 1965, and 1970 and troughs in 1953, 1958, and 1968. The significant empirical facts are that West Malaysia has not been free from the effects of exogenous factors bringing about fluctuations in living standards and a rapid growth in output can partially offset the magnitude of such fluctuations.

Structure of Output and Employment

The East Malaysian production structure is less diversified than that of West Malaysia. In 1971, in East Malaysia, nearly half the G.D.P. came from the primary sector in contrast to a third in the case of West Malaysia. Manufacturing activity is almost insignificant in East Malaysia. The small size of the East Malaysian market is an important obstacle to a higher degree of diversification. On the basis of the broad three-sector classification of economic activities into primary, secon-

dary, and tertiary, there was little change in the East Malaysian economic structure during 1961 – 71. Considerable changes took place with regard to production and productivity *within* the primary sector.

During the postwar period, in West Malaysia, there was a modest decline in the percentage contribution to G.D.P. from the primary sector. The secondary sector's percentage contribution increased more noticeably. On the basis of an econometric analysis of the West Malaysian production structure, three main points were made. Firstly, for the explanation of changing sectoral shares of G.D.P., the choice of an independent variable (product measure or income measure) may be a problem in the context of a primary export-oriented economy. Secondly, the West Malaysian primary sector share elasticity was slightly lower (in absolute terms) and the secondary sector elasticity much higher than those obtained by Chenery and Taylor on the basis of an international sample of several small primary export-oriented countries. Thirdly, in the case of these countries, judging from the West Malaysian experience, econometric results based on sectoral shares at current prices may differ significantly from those based on shares at constant prices.

International variation in labour's share in national income was explained largely by differences in production structure, inter-sectoral variation in the labour's share, and other factors. There appears to be a modest upward trend in the West Malaysian labour's share in the post-1960 period. Much of this upward trend, however, could have been the result of a decline in the export price index.

The rate of labour absorption in the postwar period decreased in the agricultural sector and increased in the manufacturing and services sectors. Inter-sectoral productivity differentials appeared to have narrowed during the rapid growth phase of the postwar period. The evidence, however, was subject to several data limitations.

Inter-Sectoral Relationship and Structural Change

Basic data on inter-industry transactions were compiled for the eight years 1960 through 1967. To demonstrate the significance of input-output analysis for the assessment of economic structure, hypothetical input coefficient matrices of an extreme entrepot economy, an extreme open dualistic economy, and a general developing economy were considered and compared. Further, it was suggested that the study of economic structure on the basis of sectoral G.D.P. composition should be supplemented by input-output analysis.

Brief details of compilation of the basic 1960 – 67 transactions tables

for West Malaysia were given. On the basis of a projection test, it was shown that condensed tables based on nine aggregative sectors could be conveniently used for structural analysis.

Dividing the West Malaysian economy into two sectors: primary and non-primary, the following observations were made on structural change during the period under consideration.

1. Proportion of output used for intermediate use was on the increase.

2. The primary sector's purchases from the non-primary sector expressed as ratios per unit of primary output were on the increase.

3. The non-primary sector's purchases (per unit of non-primary output) from the primary sector were on the decline.

4. Some of these trends were affected by changes in relative prices during the period. For example, the purchases from primary sector by the non-primary sector were *not* on the decline when data at constant prices were considered.

5. The trends observed in inter-sectoral relations were generally consistent with a developing and primary export-oriented economy.

On the basis of the nine-sector input coefficient matrices and the appropriate Leontief inverses, the following observations were made.

1. West Malaysia devoted about 32 per cent of total supply (domestic production plus imports) for intermediate use in 1967 compared to 27 per cent in 1960. On the basis of West Malaysian data for 1960 – 67 as well as data on 5 other countries, it was shown that the percentage of output for intermediate use increases as the percentage of exports to total supply falls.

2. Primary and tertiary sectors increased their purchases from within the economy. The two manufacturing sectors producing consumer goods and producer goods increased their purchases from the rest of the world. It was noted that these two sectors were facilitating import substitution in the consumer goods and producer goods spheres.

3. On the basis of the impact of a unit of final demand on total output and total G.D.P., the prominence of the primary and tertiary sectors was observed. It was argued that natural resource endowments would require the rapid growth of the primary sector and industries closely linked to these sectors. Eventually secondary sector may take over the role of exporter and growth leader.

Industrialization and Import Substitution

Industrial activity in West Malaysia in the prewar and early postwar

period, and in East Malaysia to date, was limited to the processing of primary products, small-scale food industries, repair shops, and handicrafts. In the post-1957 period, West Malaysian industry progressed both in terms of a broadened industrial base and in terms of growth of employment and output.

West Malaysian industrial activity is very heavily concentrated in the states of Selangor, Johore, Perak, and Penang. The four states account for 83 per cent of total manufacturing employment and the same percentage of total manufacturing value added. As for towns, Kuala Lumpur and Petaling Jaya alone accounted for 41 per cent of value added.

The pioneer industry policy, under which tax concessions and other incentives are provided, was successful in encouraging diversified industrial growth. The number of pioneer establishments increased from 18 in 1959 to 246 in 1971. Employment in pioneer establishments increased from 1,296 in 1959 to 43,096 in 1971, and gross sales from $10.7 million to $1,364 million. In 1960, the contribution of pioneer firms to total manufacturing value added was less than 10 per cent. The contribution in 1968 was nearly a third. In some specific industries like textiles, petroleum products, basic metals, and electrical machinery and appliances, the pioneer firms contributed three-quarters or more of value added, thus indicating that probably these industries would not have been established but for the pioneer industry policy.

There were a number of small-scale industries within the food, beverages, and tobacco groups that showed considerable reduction in the number of establishments. In general, these industries were more geographically dispersed, were not the recipients of any incentives, and depended mostly on the domestic market. In other industrial groups such as furniture and fixtures and wood products, there were several small-scale enterprises that were lagging behind. From an industry-by-industry study of changes during 1963 – 68 it was apparent that industrial growth was mainly due to addition of pioneer establishments.

Percentage rates of nominal protection, effective protection, and bias against exporting were computed for 29 industries for the year 1969. On the basis of the computed magnitudes, various categories of industries were identified. *Category I* industries are those with no bias against exporting and whose product prices are lower than world market prices in spite of protective duties. Dairy products, pineapple canning, sago and tapioca products, biscuit factories, etc., fall in this category. *Category II* industries are those with no bias against exporting and whose products

are not protected but which purchase higher-priced inputs from protected industries. This category includes iron foundries and tin can and metal box manufacturers. *Category III* industries such as textiles and fertilizers have positive bias against exporting, even though they purchase duty-free inputs. The textile industry has a positive bias against exporting, but the bias as well as the rate of effective protection is very low. *Category IV* industries have a positive bias against exporting, and they purchase duty-inclusive inputs. Tobacco products industry is in this category. Industries depending on imported inputs and industries purchasing high-priced domestic inputs are the ones that generally face problems in exporting.

Several policy-oriented suggestions were made in the chapter on industrialization. Some of the specific recommendations include (1) greater cooperation and coordination between Malaysia and Singapore in matters relating to future industrialization based on tax concessions to multi-national firms; (2) an enquiry into the lagging small-scale industries; (3) an assessment of the growth record of pioneer firms during and after pioneer status; (4) an in-depth study of the economic prospects of cement factories, primary iron and steel plants, and other input producers; and (5) a proposal to link export incentives not only to export increase but also to the maintenance of a certain volume of export.

Review of Economic Planning

The Six Year Draft Development Plan, 1950 – 1955 for West Malaysia as well as its amended and revised versions were aimed at postwar reconstruction and were, by necessity and by design, compilations of capital projects of various government departments.

West Malaysia's *First Five Year Plan, 1956 – 1960* gave first priority to agriculture and rural development, but in terms of actual public development expenditure first priority went to infrastructure. Government expenditure was 15 per cent less than the target with significant shortfalls in achievement against targets with regard to land development, drainage and irrigation, and rubber planting. A positive achievement of the Plan was the inauguration of West Malaysia's first industrial estate at Petaling Jaya.

The Second Five Year Plan, 1961 – 1965 achieved a fair amount of success with regard to economic growth and employment creation. Actual development expenditure was about the same as targeted. The land development target was not achieved. A full-scale appraisal of targets and achievement was not facilitated due to lack of consistency in the way in which targets were set and progress was reported.

Sabah and Sarawak also had, to begin with, plans for postwar economic reconstruction and, later, plans for economic development. The plans were revised so often that an evaluation could not be attempted. The general emphasis of public development expenditure was on infrastructure, education, and agricultural development.

An appraisal of the targets and achievements of the *First Malaysia Plan, 1966 – 1970* showed that the rate of economic growth during the period was much higher than expected. The main reason for this was the more than expected increase in export earnings. There were several areas where the Plan did not do well. These included (1) shortfall in private investment; (2) increase in the rate of unemployment as against the target of a decline; (3) shortfall in the family-planning new acceptors by 32 per cent of the target; and (4) shortfall in land development by 27 per cent of target.

The Second Malaysia Plan, 1971 – 1975 contained policies aimed at eradicating poverty and restructuring the society. Quantitative targets closely related to these two objectives were identified. A partial evaluation of economic performance for 1971 and 1972 showed that the Plan would probably be facing difficulties with regard to economic growth, investment funds, and employment creation. However, since 1973 was a year of prosperity for Malaysia, some of the problems faced in 1971 and 1972 may be overcome in the rest of the Plan period.

A comparison and evaluation of the perspective elements of the First and Second Malaysia Plans showed that the First Plan had a perspective frame in the nature of quantitative economic forecasts up to 1985, but these were not related to measurable long-term objectives. The Second Plan had two long-term objectives but did not go far enough in developing a perspective frame.

The overall development strategy in postwar economic planning in Malaysia was based on the private sector playing the leading role in production and the public sector creating the necessary economic environment. Public investment thus was mostly on infrastructure and human resources development. In addition, the public sector played an active role in land development, drainage and irrigation, and rubber replanting. The existence of a vast reserve of underdeveloped land, the lack of resources in the private agricultural sector to plan and implement large irrigation schemes, and the need to maintain export earnings through enhanced productivity in rubber, respectively justify the government's active role in land development, irrigation schemes, and rubber replanting. With regard to the vast acreage that can be developed for cultiva-

tion, the basic source of economic growth in the next fifteen or twenty years will continue to be primary exports. The strategy of development adopted in the past will also have to continue. The plans contained various forecasts and targets. It is suggested that the methodology and the assumptions behind them may be made explicit. It is also suggested that the private sector targets can be spelt out in more detail to the extent possible.

The two most important agencies responsible for plan formulation and implementation are the National Economic Council and the National Development Planning Committee — the first a ministerial body, and the second a committee of senior government officials. Within the framework of the "core" organization for planning, provision may be made for an advisory/evaluation panel made up of intellectuals and other leading men and women. A broad function of such a panel will be the independent evaluation of a formulated plan as well as the evaluation of progress.

A final suggestion is in the area of research. It is suggested that the government sponsor and activate plan-oriented research in the institutions of higher learning.

Employment Problem and Related Issues

Unemployment for Malaysia as a whole was 7.3 per cent of the labour force in 1970. The incidence however was much more in West Malaysia with an unemployment rate of 8 per cent than in East Malaysia with an unemployment rate of 4 per cent.

An appraisal of the consistency of the overall targets of the Second Malaysia Plan on employment, G.D.P., and investment was undertaken using the overall incremental capital-output ratio (implicit in the Plan) and an estimated overall employment elasticity of output. The macro-level targets are mutually consistent. The targets appeared to be consistent within the framework of an approximate aggregate production function too. A further attempt was made to check for consistency in Plan targets within the framework of a simple two-sector programming model. A certain estimated level of investment and a consistently estimated increase in receipts from the rest of the world are the principal constraints under which the optimal sectoral G.D.P. increments have to be determined given the sectoral incremental capital-output ratios and the various import demand propensities. The import demand propensities with regard to consumer goods, investment goods, and intermediate goods were derived using the 1960 – 67 data from inter-industry

transactions tables. Three alternative models were formulated and tried, and it was shown that the Second Plan investment, G.D.P., and employment targets for the two broad sectors of manufacturing and non-manufacturing appeared to be broadly consistent with the balance of payments constraint. (The models can be improved and expanded to cover more sectors than two, and can accommodate more relevant constraints subject to data availability.)

The employment strategy of the Second Malaysia Plan is based on land development, encouraging labour-intensive industries and expanded economic growth necessary to create employment opportunities in the services sector. Of the 495,000 new jobs to be created during the Plan period in West Malaysia, a quarter of them are to come from agricultural and allied activities, a fifth from manufacturing, and the balance mostly from the services sector. It was emphasized that the maintenance of the appropriate economic and political climate was important for the achievement of the employment and growth objectives. In this context, the goal of racial economic balance which was very much highlighted in the Second Plan was discussed in detail. With regard to the policy of allocating new jobs according to racial composition of the population, a rough projection of employment and unemployment was made for 1975 to bring home the point that unemployment rates have the prospect of differing widely among the different races. At the present economic stage in Malaysia, it may be better to avoid specific quantitative promises to be fulfilled some two decades away. While it is necessary to correct racial economic imbalances, policies and programmes should be such as not to contravene the minimum political requirements of economic growth.

Appendix A

SECTORAL EMPLOYMENT DATA, 1947 – 1970

The sources of data for the study of sectoral employment trends for West Malaysia for the postwar period are: (1) the 1947 Census, (2) the 1957 Census, (3) the 1962 sample survy, and (4) the 1967 sample survey.[1] It may be noted that absolute comparability of concepts and definitions in these sources is hard to obtain. A short tabular presentation of the differences in concepts and definitions is given in Table A1.

Recognizing the incomparability of the employment data from the aforementioned sources, Dr. Donald Snodgrass has assembled a relatively more consistent set of sectoral employment data for each of the four time points (1947, 1957, 1962, and 1967).[2] In adjusting the data, Snodgrass depended on supporting evidence from sources such as the Census of Mining Industries, Censuses and Surveys of Manufacturing, and Annual Reports of the Ministry of Labour.[3] In Table A2 we compare the total employment figures given in the primary sources with the adjusted totals of Snodgrass. It is clear that the maximum adjustment has been made to the data for 1967. This is because the adjustments refer not only to covering the appropriate groups but also to

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1. M.V. Del Tufo, *Malaya, A Report on the 1947 Census of Population* (London, 1949); H.Fell, *1957 Population Census of the Federation of Malaya*, vol. 14 (Kuala Lumpur, 1960); Department of Statistics, *Report on Employment, Unemployment and Underemployment, 1962* (Kuala Lumpur, 1963); N.S. Choudhry, *Socio-Economic Sample Survey of Households — Malaysia, 1967–68: Employment and Unemployment, West Malaysia* (Kuala Lumpur: Department of Statistics, 1970).
2. Donald R. Snodgrass, "The Growth and Utilization of Labour Supply in West Malaysia" (Kuala Lumpur, 1972).
3. The methodological bases of the adjustments were explained by Snodgrass in an Appendix prepared by him and available separately. Adjustments to sectoral employment data for 1962 and 1967 were preceded by adjustments to population count, labour force by race, etc.

TABLE A1

COMPARISON OF CONCEPTS AND COVERAGE OF EMPLOYMENT DATA

Item	1947 Census	1957 Census	1962 Survey	1967 – 68 Survey
1. Employment Concept	Based on Gainful Worker Approach	Labour Force Approach	Labour Force Approach	Labour Force Approach
2. Reference Period	n.a.	Past 12 months	Past Week	Past Week
3. Age Range	n.a.	10 +	15 – 70	15 – 65
4. Population Coverage	All those present at census time	All those present at census time	Those who spent at least 6 months in the preceding year. Armed Forces excluded.	Private households covered. Institutional population excluded.
5. Industrial Classification	Specially drawn-up for census	Malayan Industrial Classification, 1957	Probably as in 1957	Federation of Malaya Industrial Classification, 1963

TABLE A2
COMPARISONS OF TOTAL EMPLOYMENT FIGURES FROM CENSUSES/ SURVEYS AND THE SNODGRASS ESTIMATES

Year	Census/ Survey Figure (in thousands)	Snodgrass Estimates (in thousands)	Percentage Excess of Snodgrass Estimates
1947	1,904	1,904	Nil
1957	2,126	2,149	1.1
1962	2,306	2,394	3.8
1967	2,365	2,727	15.3

TABLE A3
EMPLOYMENT BY INDUSTRY, WEST MALAYSIA, 1947, 1957, 1962, 1967

Industry \ Year	1947	1957	1962	1967
	(in thousands)			
Rubber Planting	505	596	688	696
Oil Palm Planting	11	13	16	36
Coconut Planting	40	37	34	31
Rice	471	398	373	370
Other Agriculture and Livestock	136	98	134	162
Forestry and Logging	13	19	22	31
Fishing	60	61	58	68
Tin Mining	43	51	42	58
Other Mining	5	9	14	11
Manufacturing	134	160	185	232
Construction	39	68	83	95
Utilities	5	12	14	17
Commerce	173	195	253	312
Transport	56	70	81	95
Storage and Communications	70	8	9	13
Other Services	197	354	388	500
Total	1,904*	2,149	2,394	2,727

TABLE A4
EMPLOYMENT BY SECTOR, WEST MALAYSIA, 1947 – 70

Sector \ Year	1947	1957	1962	1965	1967	1970
			(in thousands)			
Agriculture	1,236	1,222	1,325	1,350	1,394	1,454
Mining	48	60	56	66	69	64
Manufacturing	134	160	185	217	232	270
Construction	39	68	83	90	95	103
Services	441	639	745	867	937	1,049
Total	1,898*	2,149	2,394	2,590	2,727	2,940

Note: *Excluding 6,000 with unspecified sector of employment

Sources: 1. Snodgrass' estimates in Table A3.
2. *Second Malaysia Plan, 1971 – 1975*, p. 98.

covering the institutional population that has been left out by the 1967 survey. While adjustments could be made with regard to age range, population coverage, and industrial classification (items 3, 4, and 5 in Table A1), adjustments were not attempted, for obvious reasons, with regard to employment concept and reference period (items 1 and 2 in Table A1). Thus the data for various years in Table A3 quoted from Snodgrass' paper are comparable in a broad sense only.[4] The data in this table which are for 1947, 1957, 1962, and 1967 can be extended by broader sectors of activity so that we can add the 1965 and 1970 data from the Second Malaysia Plan report. Employment data by sectors for the six years are given in Table A4.

4. Achieving perfect comparability is next to impossible. One of the major problems here arises from holders of multiple occupations. To quote Bauer and Yamey, "In the Federation of Malaya it is not unusual to find a Chinese rubber small holder and his family cultivating a holding of 20 acres and having interests in several other activities such as transport, a tailor's business, a rubber dealer's business and a garage", P.T. Bauer and B.S. Yamey, *The Economics of Underdeveloped Countries* (Cambridge, 1957), p. 107. Even though the censuses and surveys resort to finding that particular occupation or industry which a respondent considers as his principal source of livelihood, the problem pointed out by Bauer and Yamey would pose many a difficulty in obtaining accurate data.

Appendix B

INTER-INDUSTRY TRANSACTIONS TABLES 1960 – 1967

Explanation of Symbols

Row Titles:

P1, P2, S1, S2, S3, T1, T2, and T3 are the Primary 1,Primary2, Secondary 1, Secondary 2, Secondary 3, Tertiary 1, Tertiary 2 and Tertiary 3 sectors described in the text (p. 67).
R = the residual or unspecified sector.
M = imports.
V = value added at factor cost.
T′ = indirect taxes less subsidies.
Σ = total.

Column Titles:

P1, P2, ... R as explained.
D = final demand.
Σ = total.

TABLE B1
INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1960

($ million at Producers' Prices)

	P1	P2	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	14.7	–	220.8	146.2	26.5	–	–	–	3.3	567.6	979.1
P2	–	1,533.8	13.8	1.4	3.0	–	–	–	0.6	2,188.1	3,740.7
S1	19.2	–	11.1	0.1	–	–	–	6.3	7.5	565.7	609.9
S2	17.5	–	10.9	21.0	100.9	–	13.1	–	67.6	263.6	494.6
S3	–	–	–	–	–	18.6	21.2	–	6.5	434.3	480.6
T1	–	–	–	–	3.7	–	–	–	33.6	1,242.0	1,279.3
T2	–	33.9	2.6	4.4	16.0	0.8	4.6	101.4	127.2	246.0	536.9
T3	34.4	38.6	83.8	41.0	44.4	8.6	35.3	15.8	–	1,342.2	1,644.1
R	48.1	69.5	86.6	66.4	18.8	19.0	34.5	24.1	–	121.1	488.1
M	72.1	236.3	73.2	57.5	109.3	21.3	43.2	5.2	241.8	1,423.6	2,283.5
V	737.0	1,723.0	106.7	152.0	157.9	1,181.9	330.3	808.2	–	–	5,197.0
T′	36.1	105.6	0.4	4.6	0.1	29.1	54.7	683.1	–	–	913.7
Σ	979.1	3,740.7	609.9	494.6	480.6	1,279.3	536.9	1,644.1	488.1	8,394.2	–

TABLE B2
INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1961

($ million at Producers' Prices)

	P1	P3	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	20.7	0.3	229.4	133.5	27.0	–	–	–	2.5	615.8	1,029.2
P2	–	1,549.3	11.7	1.8	2.9	–	–	–	0.8	2,007.7	3,574.2
S1	19.2	–	15.2	0.1	–	–	–	6.2	6.6	615.9	663.2
S2	18.8	0.3	13.0	23.1	110.8	–	13.0	–	81.3	260.5	520.8
S3	–	–	–	–	–	18.0	27.2	–	6.3	512.4	563.9
T1	–	–	–	–	4.8	–	–	–	40.4	1,305.8	1,351.0
T2	–	37.6	3.5	4.7	20.2	0.8	5.0	103.0	141.9	249.3	566.0
T3	37.8	41.1	100.5	49.6	52.4	10.2	37.1	12.6	–	1,263.9	1,605.2
R	33.6	64.0	91.2	71.4	21.4	29.2	29.5	59.2	–	151.4	550.9
M	75.5	200.7	83.1	70.3	132.7	17.3	50.6	5.4	271.1	1,484.3	2,391.0
V	786.0	1,582.5	115.5	161.9	191.6	1,243.7	344.6	842.2	–	–	5,268.0
T'	37.6	98.4	0.1	4.4	0.1	31.8	59.0	576.6	–	–	808.0
Σ	1,029.2	3,574.2	663.2	520.8	563.9	1,351.0	566.0	1,605.2	550.9	8,467.0	–

TABLE B3
INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1962
($ million at Producers' Prices)

	P1	P2	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	22.0	1.1	220.4	144.7	25.3	–	–	–	3.2	661.1	1,077.8
P2	–	1,564.4	12.8	1.7	5.7	–	–	–	0.6	2,110.9	3,696.1
S1	18.6	–	18.2	0.2	–	–	–	6.3	6.9	664.5	714.7
S2	22.8	3.9	16.3	29.1	126.8	–	13.0	–	92.7	291.9	596.5
S3	–	–	–	–	–	15.9	30.5	–	5.5	660.4	712.3
T1	–	–	–	–	6.2	–	–	–	49.4	1,384.0	1,439.6
T2	–	38.5	3.8	5.4	23.6	0.8	7.8	104.9	163.1	266.3	614.2
T3	40.8	40.1	125.1	65.1	68.4	11.7	35.2	14.5	–	1,240.1	1,641.0
R	32.9	77.5	98.5	78.5	34.3	38.5	40.9	75.0	–	137.7	613.8
M	96.8	278.6	89.0	78.5	168.9	17.7	53.3	5.7	292.4	1,524.1	2,605.0
V	801.1	1,560.2	130.5	184.4	253.0	1,322.2	369.3	875.3	–	–	5,496.0
T'	42.8	131.8	0.1	8.9	0.1	32.8	64.2	559.3	–	–	840.0
Σ	1,077.8	3,696.1	714.7	596.5	712.3	1,439.6	614.2	1,641.0	613.8	8,941.0	–

TABLE B4
INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1963
($ million at Producers' Prices)

	P1	P2	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	34.3	1.3	232.9	162.0	23.3	–	–	–	2.4	709.6	1,165.8
P2	–	1,617.7	11.9	0.4	14.9	–	–	–	0.6	2,076.8	3,722.3
S1	26.3	–	21.3	0.7	0.4	–	–	6.5	8.1	776.5	839.8
S2	24.0	8.6	15.7	42.5	155.9	–	18.3	–	100.5	377.9	743.4
S3	–	–	–	–	–	16.0	33.6	–	4.4	729.4	783.4
T1	–	–	–	–	7.3	–	–	–	59.0	1,506.8	1,573.1
T2	–	37.3	5.5	6.8	24.6	0.9	10.3	107.2	180.1	281.2	653.9
T3	45.3	46.3	165.1	84.9	76.8	13.1	38.4	21.4	–	1,311.1	1,802.4
R	43.9	79.0	102.2	83.8	39.6	43.1	38.0	135.7	–	97.7	663.0
M	110.1	220.0	129.3	124.0	166.4	17.8	44.6	5.5	307.9	1,582.4	2,708.0
V	837.5	1,572.4	155.8	232.1	274.1	1,445.5	394.4	950.2	–	–	5,862.0
T′	44.4	139.7	0.1	6.2	0.1	36.7	76.3	575.9	–	–	879.4
Σ	1,165.8	3,722.3	839.8	743.4	783.4	1,573.1	653.9	1,802.4	663.0	9,449.4	–

TABLE B5
INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1964
($ million at Producers' Prices)

	P1	P2	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	42.7	0.8	235.2	173.6	22.5	–	–	–	2.8	726.6	1,204.2
P2	–	1,693.9	12.9	1.5	25.8	–	–	–	0.5	2,123.6	3,858.2
S1	27.5	–	18.7	0.2	0.3	–	–	6.4	15.2	867.4	935.7
S2	34.8	20.9	13.7	52.7	188.8	–	32.2	4.0	150.4	440.1	937.6
S3	–	–	–	–	–	16.2	38.3	–	4.6	789.4	848.5
T1	–	–	–	–	8.5	–	–	–	67.0	1,635.1	1,710.6
T2	–	39.9	6.0	8.3	27.6	1.0	9.4	119.4	194.0	303.2	708.8
T3	46.3	53.3	179.0	99.1	81.1	16.1	42.9	25.5	–	1,367.7	1,911.0
R	59.4	86.6	125.8	99.8	57.2	47.7	41.2	166.1	–	65.3	749.1
M	90.5	163.1	163.3	209.3	147.8	18.0	29.6	5.8	314.6	1,649.0	2,791.0
V	856.0	1,638.6	181.0	286.5	288.8	1,572.1	429.8	1,002.2	–	–	6,255.0
T'	47.0	161.1	0.1	6.6	0.1	39.5	85.4	581.6	–	–	921.4
Σ	1,204.2	3,858.2	935.7	937.6	848.5	1,710.6	708.8	1,911.0	749.1	9,967.4	–

TABLE B6

INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1965

($ million at Producers' Prices)

	P1	P2	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	60.0	0.9	243.0	207.0	22.2	–	–	–	1.7	790.7	1,325.5
P2	–	1,829.0	16.5	2.1	25.5	–	–	–	0.4	2,253.2	4,126.7
S1	42.2	–	24.5	–	0.3	–	–	6.6	20.2	979.8	1,073.6
S2	35.2	24.3	15.4	55.5	208.1	–	30.9	–	153.3	546.1	1,068.8
S3	–	–	–	–	–	16.4	40.8	–	4.8	838.4	900.4
T1	–	–	–	–	9.5	–	–	–	76.4	1,781.4	1,867.3
T2	–	45.1	7.6	10.7	31.0	1.0	11.1	130.1	225.4	334.8	796.8
T3	50.3	59.7	202.0	103.9	84.2	16.8	50.5	33.3	–	1,472.0	2,072.7
R	50.8	58.1	146.8	119.6	54.0	52.0	43.7	194.8	–	79.1	798.9
M	94.0	152.5	197.0	228.7	147.7	18.5	33.8	6.0	316.7	1,694.6	2,889.5
V	945.6	1,759.3	220.4	328.7	315.5	1,719.2	489.8	1,065.4	–	–	6,843.9
T′	47.4	197.8	0.4	12.6	2.4	43.4	96.2	636.5	–	–	1,036.7
Σ	1,325.5	4,126.7	1,073.6	1,068.8	900.4	1,867.3	796.8	2,072.7	798.9	10,770.1	–

TABLE B7

INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1966

($ million at Producers' Prices)

	P1	P2	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	70.6	1.0	251.8	211.8	25.7	–	–	–	2.1	868.8	1,431.8
P2	–	1,903.9	18.9	2.2	30.9	–	–	–	0.4	2,209.2	4,165.5
S1	52.4	–	42.1	0.2	0.4	–	–	7.1	19.6	1,083.6	1,205.4
S2	40.3	26.9	18.8	60.5	209.0	–	31.2	–	174.6	588.2	1,149.5
S3	–	–	–	–	–	16.6	43.9	–	5.0	857.9	923.4
T1	–	–	–	–	10.4	–	–	–	85.6	1,912.3	2,008.3
T2	–	49.7	8.8	12.4	32.8	1.1	12.6	131.6	246.3	367.8	863.1
T3	57.5	69.0	217.5	115.4	93.5	17.3	55.1	37.0	–	1,485.5	2,147.8
R	40.5	83.5	155.1	115.9	52.3	56.9	45.0	167.7	–	138.5	855.4
M	94.5	90.9	228.7	264.4	146.3	19.0	40.3	6.0	321.8	1,736.4	2,948.3
V	1,021.4	1,733.4	262.6	352.9	319.7	1,847.5	525.4	1,117.1	–	–	7,180.0
T'	54.6	207.2	1.1	13.8	2.4	49.9	109.6	681.3	–	–	1,119.9
Σ	1,431.8	4,165.5	1,205.4	1,149.5	923.4	2,008.3	863.1	2,147.8	855.4	11,248.2	–

TABLE B8

INTER-INDUSTRY TRANSACTIONS, WEST MALAYSIA, 1967

($ million at Producer's Prices)

	P1	P2	S1	S2	S3	T1	T2	T3	R	D	Σ
P1	110.6	1.8	273.5	232.1	25.5	–	–	–	2.2	930.4	1,576.1
P2	–	1,724.6	16.3	2.8	34.6	–	–	–	0.5	2,100.9	3,879.7
S1	63.2	–	73.1	1.1	0.7	–	–	7.0	23.9	1,175.3	1,344.3
S2	18.7	58.0	22.5	69.9	224.3	–	32.6	–	189.2	671.1	1,286.3
S3	–	–	–	–	–	16.8	46.6	–	5.2	892.8	961.4
T1	–	–	–	–	6.8	–	–	–	90.6	2,049.2	2,146.6
T2	–	49.8	8.6	12.9	35.2	1.0	13.4	132.4	275.8	393.8	922.9
T3	73.7	92.1	246.7	130.9	97.0	17.4	64.8	38.3	–	1,523.9	2,284.8
R	66.0	90.5	134.5	158.4	62.1	80.3	55.5	191.4	–	73.4	912.1
M	101.6	121.9	268.1	283.6	142.9	18.0	35.7	6.1	324.7	1,647.0	2,949.6
V	1,088.8	1,559.9	299.8	381.7	330.0	1,962.0	560.0	1,140.0	–	–	7,322.2
T′	53.5	181.1	1.2	12.9	2.3	51.1	114.3	769.6	–	–	1,186.0
Σ	1,576.1	3,879.7	1,344.3	1,286.3	961.4	2,146.6	922.9	2,284.8	912.1	11,457.8	–

Appendix C

EFFECTIVE PROTECTION RATES FOR WEST MALAYSIAN MANUFACTURERS

The Concept of Effective Protection

An import duty on a product enhances the price of the foreign product to domestic consumers. For a long time, such price-enhancing duties served as protection walls for domestic industries. However, in contrast to the protection of a commodity or the industry producing the commodity, we may distinguish what may be called the "protection of the production process of the industry". Since a production process aims at transforming inputs to outputs, protection of a process ought to take into account not only the duties on output but also duties on input. The concept of effective protection precisely does that. Here we consider the rate of protection accorded to the domestic "value added". The concept is of significance because resources are likely to be attracted into industries which enjoy relatively high rates of effective protection.

Effective Protection Rates

For a given industry the value added by manufacture is obtained as the excess of value of output over the value of material input. The value added can be observed at domestic prices of output and input and the world market prices of output and input. If the industry's final output is protected, under free trade the price of domestic production will approximate to the world price plus the duty thereon. If the domestic and world prices of inputs are the same, then the value added will be higher in domestic prices than in world prices when both are measured in terms of a common currency. The percentage excess of value added at domestic prices over the value added at world prices is defined as the effective protection rate.[1] Some of the standard formulae used to compute

1. "Implicit tariff" is a term used by H.G. Johnson — "Tariffs and Economic Development: Some Theoretical Issues", *Journal of Development Studies* 1, 1 (1964). "Effective Tariff" is the term popularized by Bela Balassa and Max Corden in several of their contributions. Today there are several theoretical

the effective protection rates can be derived, from first principles, as follows.

Let value added in world prices $= S_i - M_{ji}$

where S_i = Value of output of industry i

M_{ji} = Value of input to industry i from industry j.

Then value added at domestic prices is

$$S_i(1 + t_i) - M_{ji}(1 + t_j)$$

where t_i and t_j are the rates of duty on output and input respectively.

Excess value added (if any) due to protection is

$$S_i t_i - M_{ji} t_j$$

Effective Protection Rate is

$$E_i = \frac{S_i t_i - M_{ji} t_j}{S_i - M_{ji}}$$

Dividing Numerator and Denominator of R.H.S. by S_i

$$E_i = \frac{t_i - (M_{ji} t_j / S_i)}{1 - (M_{ji}/S_i)}$$

Denoting the world-price input coefficient by a_{ji},

$$E_i = \frac{t_i - a_{ji} t_j}{1 - a_{ji}}$$

which is CORDEN's Formula.

Again, from first principles,

$$E_i = \frac{S_i t_i - M_{ji} t_j}{S_i - M_{ji}}$$

– – and empirical studies employing these concepts. Some of the references are noted below:

B. Balassa, "Effective Protection in Developing Countries", in *Trade, Balance of Payments and Growth. Papers in International Economics in Honor of Charles P. Kindleberger*, ed. J.N. Bhagwati, R.W. Jones, R.A. Mundell, and J. Vanek (Amsterdam: North-Holland, 1971); idem, "The Effective Rate of Protection", in "The Kennedy Round Estimated Effects on Tariff Barriers", UNCTAD, TD/6/Rev. 1 (New York: U.N., 1968); idem, "Impact of Industrial Countries' Tariff Structure on Their Imports of Manufactures from Less Developed Areas", *Economica* 34, 136 (1967); idem, "Tariff Protection in Industrial Countries: An Evaluation", *Journal of Political Economy* 73,5 (1965); idem, "Trade Policies in Developing Countries", *American Economic Review Papers and Proceedings* 61, 2 (1971); G. Basevi, "The United States Tariff Structure: Estimates of Effective Rates of Protection of United States Industries and Industrial Labor", *Review of Economics and Statistics* 48, 2 (1966); B.I. Cohen, "The Use of Effective Tariffs", *Journal of Political Economy* 79, 1 (1971); W.M. Corden, "The Structure of a Tariff System and the Effective Protective Rate", *Journal of Political Economy* 74, 3 (1966).

Let value added in domestic prices be denoted by V_i'.
Thus $V_i' = S_i(1 + t_i) - M_{ji}(1 + t_j)$.
Analogously, $S_i' = S_i(1 + t_i)$ and $M_{ji}' = M_{ji}(1 + t_j)$.

We have $$\frac{S_i'}{1 + t_i} = S_i$$

and $$\frac{M_{ji}'}{1 + t_j} = M_{ji}.$$

Hence, $$S_i t_i - M_{ji} t_j = [S_i(1 + t_i) - M_{ji}(1 + t_j)] - [S_i - M_{ji}]$$
$$= V_i' - (S_i - M_{ji})$$

$$E_i = \frac{S_i t_i - M_{ji} t_j}{S_i - M_{ji}} = \frac{V_i' - (S_i - M_{ji})}{S_i - M_{ji}}$$

$$= \frac{V_i'}{S_i - M_{ji}} - 1$$

$$= \frac{V_i'}{[S_i'/(1 + t_i)] - [M_{ji}'/(1 + t_j)]} - 1$$

which is BASEVI's formula.

The measurement of effective protection rates involves a series of assumptions. Without giving a full catalogue,[2] we may mention that the assumptions include fixed input-output coefficients, the applicability of "world" coefficients to the domestic economy, constant returns to scale, the exclusion of the effects of capacity utilization levels on value added, and so on. Most of the limitations of the measured rates stem from the invalidity of the assumptions in particular contexts. Recently, a much more significant limitation has been unearthed. This relates to the efficacy of the effective protection rates in indicating resource allocational pulls:

> ...while in a model with only two commodities we could rank the two commodities by their effective tariffs, and infer that resources would then move towards producing the commodity with the higher tariff, this is not true in a multi-commodity model, for commodities in the middle of the chain (excluding the two at each extreme).[3]

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2. A full discussion of the assumptions and some of the "allowances" made in actual computations are given in Bela Balassa and Associates, *The Structure of Protection in Developing Countries* (Baltimore: Johns Hopkins Press, 1971).
3. Jagdish N. Bhagwati and Padma Desai, *India: Planning for Industrialization, Industrialization and Trade Policies Since 1951* (London: Oxford University Press for O.E.C.D. Development Centre, Paris, 1970), pp. 336–37.

TABLE C1

PERCENTAGE RATES OF NOMINAL AND EFFECTIVE PROTECTION AND BIAS AGAINST EXPORTING, WEST MALAYSIAN MANUFACTURING, 1969

Industry	Percentage Rate		
	Nominal Protection	Effective Protection	Bias Against Exporting
FOOD MANUFACTURING			
1. Ice-Cream Manufacturing	15	6	19
2. Diary Products (mainly Condensed Milk)	25	−69	−62
3. Pineapple Canning	114	−71	−71
4. Sago and Tapioca Products	13	−39	−40
5. Large Rice Mills*	0	3	220
6. Biscuit Factories	9	−10	0
7. Animal Feeds	0	1	0
BEVERAGES			
8. Soft Drinks and Carbonated Beverages	48	−35	−47
9. TOBACCO PRODUCTS	181	22	NVA†
10. TEXTILES	19	6	10
WOOD PRODUCTS			
11. Plywood and Particle Board	20	−12	−12
12. Wooden Boxes, Cases and Crates	20	37	54
13. RUBBER PRODUCTS	45	−22	−22

TABLE C1 *(cont.)*

Industry	Percentage Rate		
	Nominal Protection	Effective Protein	Bias Against Exporting
CHEMICAL PRODUCTS			
14. Chemical Fertilizers	29	34	34
15. Paints, Varnishes and Lacquers	29	−24	−18
16. Soaps and Washing Compounds	20	6	6
NON-METALLIC MINERAL PRODUCTS			
17. Hydraulic Cement	23	30	31
18. Structural Cement and Concrete Products	11	25	34
METAL AND METAL PRODUCTS			
19. Iron Foundries	0	−5	0
20. Iron and Steel — Basic Shapes	17	26	300
21. Fabricated Structural Shapes	16	52	84
22. Architectural Metal Products	13	0	74
23. Wire and Wire Products	7	23	29
24. Boilers and Tanks	0	−10	0
25. Tin Cans and Metal Boxes	0	−4	0
TRANSPORT EQUIPMENT			
26. Industrial Machinery and Parts	0	−8	0
27. Boat Building and Repairing	0	−4	0
28. Motor-Vehicle Bodies	0	−5	0
29. Automobile Assembly	22	690	3,600

Notes: •Effective protection and export bias are computed on the basis of price comparisons of local rice and imported rice from China.

† Negative Value Added in exporting.

Effective Protection: West Malaysia

In Chapter 3, we referred to the basic inter-industry tables using 70 sectors of West Malaysia for the years 1960 through 1967. The inter-industry tables could be used for deriving domestic input-output coefficients which when adjusted for price differences can give us the world coefficients under certain conditions. Knowledge on the rates of import duties levied on the 70 sectors would be sufficient to obtain reasonable measures of effective protection. The only problem, however, is the level of aggregation. For instance the sector called "soft drinks and carbonated beverages" might produce, say, Soya Bean Milk and Soda Water. While there is no duty on the first, the duty rate on the second is over 50 per cent. Aggregation thus does not permit us to clearly see the products and inputs. Another problem is the necessity to assume that domestic price is equal to the sum of world market price and the duty. This may not always be so. Actual price comparisons may show that the domestic price is higher than the post-tariff price of imported goods — as in the case of cigarettes in West Malaysia or that the domestic price is lower than the post-tariff price of imported goods — as in the case of condensed milk and several other West Malaysian manufactured goods. In addition to these problems, the residual sector in the input-output tables is not easy to tackle as it is made up of a bundle of products and services.

For our purpose, therefore, we decided to use the information in the 1960 – 67 input-output tables as supplementary information to check the nature of a sector, to know whether it is exporting or not, to assess whether the level of exports are significant, to substantiate the prevalence of import substitution etc. To compute what may be called crude rates of effective protection, data on outputs and inputs from the 1969 Survey of West Malaysian Manufacturing, the 1969 data on imports and the schedule of duties from the 1969 West Malaysia Trade Classification and Customs Tariff have been used. The rates of nominal protection, that is, the percentage rate of duty on the c.i.f. value, the computed effective protection rate, and the calculated percentage bias against exporting are given in Table C1 for the various West Malaysian industries.[4]

4. The bias is calculated as the percentage excess of world market value added over the value added in exporting the output from domestic industry. The latter is defined as the difference between value of output at world market prices less the value of input at domestic prices. If inputs are subject to heavy duties,

The effective protection rates computed by us are called "crude" because our emphasis in the computations was only on principal outputs and inputs. Value added is taken as the simple arithmetic difference between value of output and value of input, disregarding stock changes. In the case of multiple products, nominal protection rates were averaged by using domestic production values as weights. The crude rates do not take into account the effects of other indirect taxes. Non-traded inputs are treated as material inputs with zero tariff. No refinements were made for any import duty remissions and other incentives offered to individual firms. The crude rates of effective protection derived here on the basis of observed domestic prices and average prices of the rest of the world serve simply as approximations to the actual levels of effective protection accorded to different industries.

—— exporting the output at world market prices may result in "negative value added" for the domestic industry. Some of the less significant and not well-covered industries of the 1969 manufacturing survey were omitted from Table C1.

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