

Agricultural Incentives in Malaysia: Trends, Patterns and Policy Implications

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Abstract: Malaysia is notable among developing countries for its long-standing commitment to maintaining a relatively open trade policy regime. However, there are still some anomalies in the incentive structure that encourage channelling of resources into unproductive activities. This paper aims to (i) provide an analytical narrative of the nature and evolution of trade and the related accompanying policies impacting on domestic agriculture, with a focus on the underlying political economy, and (ii) examine the degree and changing patterns of incentives to domestic agriculture encompassing both direct (sector specific) incentives and indirect incentives emanating from economy-wide policies. The study covers the period from 1960 to 2004 with an emphasis on four major agricultural products: natural rubber, palm oil, cocoa, and paddy/rice.

Keywords: Agricultural trade policies, distorted incentives, international trade, Malaysia

JEL classification: F13, F14, Q17, Q18

1. Introduction

The purpose of this paper is two-fold: (i) to provide an analytical narrative of the nature and evolution of trade and the related accompanying policies impacting on Malaysia's domestic agriculture, with a focus on the underlying political economy, and (ii) to examine the degree and changing patterns of incentives to domestic agriculture encompassing both direct (sector-specific) incentives and indirect incentives emanating from economy-wide policies. The analysis will be undertaken against the backdrop of the on-going process of rapid structural transformation of the economy over the past three decades. As an integral part of

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This paper draws on research carried out under the World Bank multi-country research project on *Distortions to Agricultural Incentives in Developing Countries* directed by Kym Anderson. The authors are grateful for helpful comments from workshop participants and for funding from World Bank Trust Funds provided by the governments of Ireland, Japan, the Netherlands (BNPP) and the United Kingdom (DfID).

the analysis, an attempt will be made to delineate the implications, over and above that of the policy-induced incentives, of the process of structural transformation for the long-term viability of the traditional plantation crops and new opportunities for agricultural output expansion in the subsidiary food crop sector.

The study focuses on four major agricultural products: natural rubber, palm oil, cocoa, and paddy/rice. The first three are exportable while the fourth, the main staple product of the country is a pure importable. The four products together accounted for about four-fifths of total agricultural GDP over the past five years.

The study is motivated by the recent emphasis of the Malaysian government on the agriculture sector as a major engine of economic growth in the near future (Government of Malaysia 2006). The in-depth analysis of the extent and sources of distortion in agricultural incentives undertaken here aims to inform the contemporary policy debate on whether the present structure of agricultural incentives is consistent with the development priorities of the country.

Malaysia is notable among developing countries for its long-standing commitment to maintaining a relatively open trade policy regime. The country has never relied heavily on quantitative restrictions (QRs) and other forms of non tariff protection, and tariffs on both domestic manufacturing and agriculture have continued to remain low relative to other developing countries. There is, however, clear evidence from the analysis of this paper that there are still notable anomalies in the incentive structure that encourage channelling of resources into unproductive activities. The overall tariff structure is characterised by a dualistic pattern in which export-oriented production takes place under virtual free trade regime side by side with a predominantly domestic market oriented production, both in manufacturing and agriculture, assisted by tariff protection. It is also characterised by a high degree of dispersion of tariff rates because of high tariff peaks relating to a few product lines, increased reliance on non automatic import licensing to regulate imports of a significant number of products which directly compete with domestic production by public sector enterprises. Consequently, there is ample room for policy discretion, rather than pure economic considerations, in influencing resource allocation in the economy. Excessive assistance given to paddy farmers remains a major distortion in agricultural incentives in Malaysia. In addition to the resultant welfare costs, this anomaly presumably hinders the diversification of domestic agriculture into new dynamic product lines. Given the ongoing process of dramatic structural transformation of the economy which has ushered in an era of massive rural-to-urban labour migration and cost pressure on traditional agriculture, the case for protecting paddy farmers on self-sufficiency grounds has lost its relevance.

The paper is organised as follows. Section 2 provides an overview of growth and structural changes in the Malaysian economy during the post independence era (since 1957), emphasising the relative importance of the agricultural sector in the economy as well as trends and compositional shifts in the agricultural output and trade. This is followed by a survey in Section 3 on the evolution of agricultural trade policy during the post-independence era (since 1957) against the backdrop of the overall national development strategy and macroeconomic policy and paying attention to political-economy considerations underpinning policy directions. Section 4, which forms the analytical core of the paper, provides an analysis of the extent and patterns of direct and indirect distortions to incentives

Table 1: Agriculture in the Malaysian economy

	GDP growth	Agri. Growth	Agri. Share in GDP	Agri. Share in employment
1970-74	2.3	3.4	25.5	50.9
1975-79	7.3.	5.2	23.3	46.4
1980-84	6.6	3.4	20.4	39.5
1985-89	4.8	4.3	19.1	32.4
1990-94	9.3	0.2	15.3	26.9
1995-99	5.2	0.1	10.1	17.9
2000-04	5.2	3.8	8.7	15
2005	5.3	2.6	8.5	12.9
2006	5.8	5.4	8.0	12.5
2007	6.3	2.2	7.6	12.2
2008 ^a	5.7	3.6	7.5	12.0

Source: Ministry of Finance, *Economic Report*, Kuala Lumpur, various issues.

Note: ^a Estimate

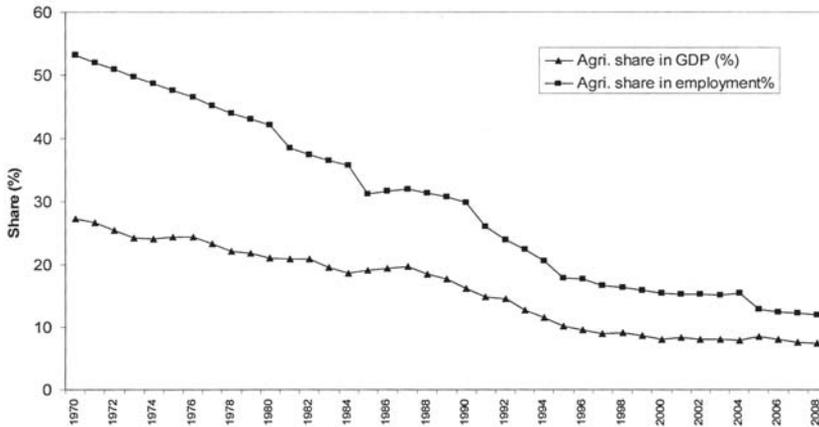
faced by domestic agriculture using a set of incentive indicators specifically constructed for this study. Section 5 concludes with a summary of the key findings and policy inferences.

2. Agriculture in the Malaysian Economy

2.1 Growth Trends

At the time of independence in 1957, Malaysia was a classic example of an *export economy* (Levin 1960), an economy in which the modern sector concentrated in primary production for export and dominated the entire organisation of production. Natural rubber alone directly accounted for 25 per cent of GDP with the second largest export, tin accounting for 5 per cent (Meerman 1979). In addition, a host of activities in the services sector, embracing trade, transport and finance, were dependent on the export sector. Production patterns exhibited only limited changes until about the mid-1970s. Structural changes since then, in particular from the late 1980s, brought about by the expansion of export-oriented manufacturing and related modern sector activities have been dramatic. The share of agriculture in GDP declined to 19.1 per cent by the late 1980s and then plummeted to 7.5 per cent in 2008. (Table 1 and Figure 1).

In the early 1970s agriculture absorbed over half of the total labour deployment in the country. This share had declined to 12 per cent by 2008 (Table 1 and Figure 1). Over this period, the agricultural sector has been under consistent pressure from the ‘resource pull’ effects emanating from rapid structural changes in the economy (Athukorala and Manning 1999; Barlow and Jayasuriya 1987). Widening urban-rural wage differentials and the natural aversion of the young to engage in agricultural pursuits have propelled rural to urban labour migration, causing widespread labour shortages in the rural economy and putting pressure on agricultural wages. The area under traditional plantation crops has begun to



Source: Based on data compiled from Ministry of Finance, *Economic Report*, Kuala Lumpur (various issues)

Note: Including agriculture, forestry and fishing

Figure 1: Malaysia: percentage contribution of agriculture to GDP and employment

shrink in semi-urban areas because of the dispersal across the peninsula of industrial centres and the resultant increased demand for land for residential and industrial expansion. In the face of severe shortage of local labour, agricultural producers, firstly plantation companies, and more recently smallholder producers of cash crops as well as paddy, have begun to rely increasingly on foreign workers. The estimated foreign labour force in Malaysia increased from about half a million in the mid-1980s to 1.8 million (23% of the total labour force) by 2003, and about half of these workers were in the agricultural sector (Athukorala 2006a). The dependence on foreign labour is particularly high in the rubber industry, given the relatively high labour intensity of both cultivation and harvesting. However, the relatively more capital intensive palm oil industry has also begun to depend increasingly on foreign workers because fresh fruit bunch harvesting is still conducted manually. According to a recent survey by the Malayan Agricultural Producers Association, of the total labour force in the private sector plantations in Peninsular Malaysia, 37 per cent are foreign workers and this ratio is as high as 80 per cent in East Malaysia (Khoo and Chandramohan 2002).

2.2 Structural Changes: Plantation (Cash) Crops

Rubber was the preferred crop of the foreign-owned estate sector throughout the colonial period from the 1890s (Barlow 1978). Oil palm was first commercially planted in 1917, but remained a relatively minor crop until the mid-1950s. During the ensuing three decades, palm oil has proved to be more profitable in comparison to rubber and expanded in the plantation sector at the expense of the latter. Government policy relating to the plantation sector dramatically shifted the emphasis from rubber to palm oil by allowing the use of rubber replanting grants for replanting rubber land with oil palm. Moreover, the government itself played a vigorous role in the expansion of oil palm by embarking on a large resettlement

effort (especially through the Federal Land Development Authority (FELDA)) (Fletcher 1991).¹ Malaysia's success in promoting palm oil exports was further aided by inappropriate agricultural and economy-wide policies of traditional palm oil exporting countries in Africa (MacBean 1989; Athukorala 1991). Cocoa began to gain importance as an alternative crop in the plantation sector from about the early 1970s. However, from about the mid-1980s, the area under cultivation of cocoa began to contract sharply because of protracted low world prices of cocoa beans.

The resource pull effects due to the rapid structural changes in the economy noted earlier fell more severely on rubber and cocoa industries whose cultivation and harvesting processes are more labour intensive compared to oil palm. During the same period, world prices for these two products were unfavourable compared to palm oil. Many plantation companies as well as smallholders partly replanted rubber land with less labour intensive crops, in particular oil palm, utilising other land for housing and industry. Many Malaysian rubber estate companies first tried to face labour shortages by employed foreign workers and then used their technology and managerial know-how to invest in other neighbouring countries (in particular Indonesia and the Philippines) where wages and cost of land was relatively lower. Smallholders too went on tapping rubber with hired migrants, although their higher price elasticity of supply meant outputs declined greatly during the low output prices of the early 1990s (Barlow 1997: 599). Despite the natural cushion provided by the relative capital intensity of production and also relatively favourable price trend, the palm oil sector was also soon affected in recent years and many large plantation companies have begun to shift investment to the neighbouring land and labour abundant countries.

Table 2 summarises data on the area under cultivation, production and the yield per ha of the three main plantation crops. The area under cultivation of rubber which increased from 1,664 thousand hectares during 1960-64 to 1,995 thousand hectares during 1975-79, declined persistently since then, reaching 1,319 thousand hectares in 2000-04. Rubber output has closely followed this trend. In 2007, the area under cultivation declined further to 1,250 thousand hectares, with a small increase in output to 1,201 thousand tonnes. In the case of oil palm, the area under cultivation has increased continuously from a mere 66 thousand hectares during 1960-64 to 3,759 thousand hectares during 2000-04 and a further increase to 4,305 thousand hectares in 2007, but the rate of expansion has declined persistently from the early 1990s. In both industries, the expansion of output has been faster than that of area under cultivation, reflecting the widespread use of new high-yielding varieties and improved cultivation practices. From the late 1990s, rubber and palm oil industries have begun to benefit from increased world demand, particularly from China, and the resultant favourable price trends. The palm oil industry has also benefited in recent years from the tight world supply of edible oils and fats, which pushed up palm oil prices. These favourable demand-side factors have been reflected by a notable increase in the production of both rubber and palm oil.² In the case of rubber, the supply response to favourable prices has taken the form of increased cropping intensity, in a context of persistent decline in the area

¹ By 1984, FELDA accounted for 28.4 per cent of the 1.3 million ha under oil palm. The annual rate of growth of FELDA's oil palm hectares was 35 per cent during 1861-84 and 76 per cent during 1961-70, a rate six times that of the estate sector over the same period (p. 625).

² Production of rubber and crude palm oil increased at average annual rates of 3.9 and 6.2 per cent respectively, during 2000-5 (Government of Malaysia 2006).

under cultivation. In contrast, the area under cultivation of oil palm has shown some mild positive response to favourable prices. Both production and the area under cultivation of cocoa have declined persistently since the early 1990s. Yield per hectare in palm oil has increased persistently throughout. In rubber, the yield increased notably in the 1960s and 1970s, followed by a virtual stagnation during the 1980s and 1990s. There has been a notable increase in the yield in recent years (961 tons per hectare in 2007). However, this increase has predominantly come from contraction in the area under cultivation (implying abandoning of marginal plantations with poor yield) in the face of persistent decline in the total output.

Over the years, the smallholders' share of total rubber land has increased persistently from 50 per cent in 1960 to 93 per cent in 2004. The relatively more capital intensive palm oil industry is dominated by large plantations, notwithstanding some increase in the share of smallholdings over time (Government of Malaysia 2002; 2005). The estate dominance is a unique feature of the palm oil industry in Malaysia (and in Indonesia); in other parts of the world, smallholder production of palm oil is important (Fletcher 1991).

2.3 Structural Changes: Food Crops

Rice farming, chiefly wet paddy, is the major source of income for rural households in the states of the north and east in Peninsular Malaysia and some parts of East Malaysia. At the time of independence, about three-fourths of the native peasant producers (predominantly rice growers and fishermen) were Malays, about 90 per cent of rice growers were Malays, and about one-third of the economically active Malay population were in this peasant sector (Meerman 1979). This ethnic dimension of rice farming persisted during the ensuing years, making paddy a highly sensitive political crop.

The area under cultivation of paddy increased from 493 thousand hectares in 1960-64 to 749 thousand hectares in 1970-74 and remained around 700 thousand hectares since then (Table 2). Paddy production increased persistently throughout the period with the exception of early to mid-2000s, due mostly to an increase in the area under cultivation until the early 1970s and subsequently to an increase in the yield per hectare. Paddy producers were significantly aided by government sponsored irrigation schemes which permitted double-cropping, and the introduction of high-yielding varieties and consolidation of paddy smallholdings through group-farming concept in the eight granary areas, and direct assistance to farmers in the form of price support and price credit and fertiliser subsidies. By the end of the 8th Malaysia Plan period in 2005, almost all farming operations in the major paddy growing areas were fully mechanised. As a result, the labour input per hectare declined from 47 worker days in 1995 to 15 worker days in 2000 (Government of Malaysia 2001: 214). At the time of independence in 1957, about 45 per cent of all rice consumed in Malaysia was imported. By about the mid-1970s, around 90 per cent of the rice consumed locally was produced domestically.

The area under cultivation of paddy has persistently declined since the mid-1970s. The yield per hectare recorded a continuous increase during this period, but this has come largely from the decline in the area under cultivation. As in the case of the plantation crops, paddy farming has been under pressure because of labour shortages resulting from rural to urban labour migration and the ageing of the farming community (Ahmad and Tawang

Table 2: Area under cultivation, production and yield of major agricultural crops, 1960-2004 (five-year averages) and 2007

	1960-64	1965-69	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2007 ^e
<i>Rubber</i>										
Crop area, '000 ha	1664	1797	1999	1995	1994	1867	1759	1576	1319	1250
Production, '000 tons	821	1120	1430	1577	1522	1497	1138	865	1010	1201
Yield per ha	494	601	695	784	754	661	657	591	675	961
<i>Palm oil</i>										
Crop area, '000 ha	66	205	484	863	1186	1812	2310	3056	3759	4305
Production, '000 tons	109	296	885	1910	1871	5255	6990	9434	13201	15823
Yield per ha	1649	1475	1706	2077	1600	2290	3008	3059	3390	3675
<i>Cocoa</i>										
Crop area, '000 ha	---	---	---	---	234	383	308	121	45	33
Production, '000 tons	---	---	---	---	75	210	192	94	41	35
Yield per ha	---	---	---	---	305	490	621	751	905	1060
<i>Paddy/rice</i>										
Crop area, '000 ha	493	644	749	699	668	665	684	688	674	676
Production, '000 tons	1057	1428	1945	1906	1791	1734	2062	2094	1747	2376
Yield per ha	2188	2163	2544	2684	2716	2584	2934	3062	3211	3515

Source: Department of Statistics, *Yearbook of Statistics 2002*, Kuala Lumpur; *Monthly Statistical Bulletin*, various issues, Department of Agriculture, Kuala Lumpur, Malaysia. www.doa.gov.my

Note: ^e Estimates

1999). It appears that continuing massive government support has been of little avail in supporting paddy farming in a context of massive concretionary pressure emanating from ongoing structural adjustment in the economy at large.

A noteworthy development over the past one-and-a-half decades in non plantation agriculture has been the rapid growth of the subsidiary food crops – fruits, vegetables, fish and livestock at a faster rate than paddy (Government of Malaysia 2006). While there have been some increases in the export of these ‘high value’ food products, the production expansion so far has been predominantly domestic demand derived. This is due to rapid income growth in the modern sector of the economy and the higher income elasticity of demand for high value food products compared to rice; the relative importance of the subsidiary food sector is expected to increase rapidly in years to come.

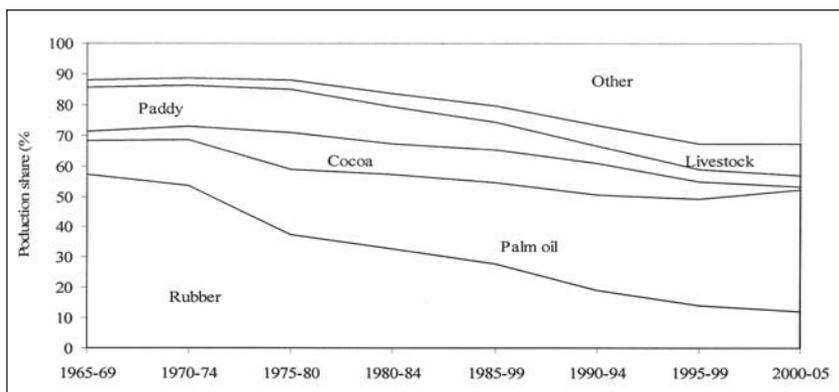
Table 3 shows the composition of agricultural production (value added) in the Malaysian economy during the period from 1965 - 2005. The data are plotted in Figure 2. The dominance of the plantation crop sector in Malaysian agriculture has eroded persistently from 73per cent in the early 1970s to 53.2 per cent during 2000-2005. Within this sector there has been a palpable shift in output composition away from rubber and towards palm oil. Cocoa accounted for around 10 per cent of total agricultural GDP from the mid-1970s to early 1990, but had declined precipitously since then reaching negligible levels by the turn of the 20th Century. The combined share of food crops, which remained around 28 per cent in the 1960s and 1970s, increased sharply during the ensuing years reaching 46.8 per cent for the period 2000-2005. Within this sector, the relative importance of paddy has declined sharply over the past two decades, reflecting a compositional shift towards livestock, fisheries and other subsidiary food crops (mainly fruits and vegetables).

This notable shift in the composition of agricultural output has gained added momentum over the past three years. The share of food crops in total agricultural output (excluding forestry and logging) had risen to 53.5 per cent in 2007. This was largely due to a notable increase in the output share of fisheries, a rise from 14.5 per cent during 2000-2005 to 20.9 per cent in 2007. Within the plantation crops, oil palm continues to be the main contributor (38.1% of total agricultural GDP) followed by rubber (8.1%) (Government of Malaysia 2008a).

Table 3: Malaysia: composition of agricultural GDP

	1965-69	1970-74	1975-80	1980-84	1985-89	1990-94	1995-99	2000-5
<i>Plantation crops</i>	71.3	72.9	71.2	68.7	64.8	60.8	54.8	53.2
Rubber	57.2	53.5	37.3	32.8	27.8	19.1	14.2	12.1
Oil palm	10.9	15.2	21.4	24.5	26.8	31.4	35.1	40.1
Cocoa	3.2	4.2	12.3	10.1	10.5	10.3	5.5	1.0
<i>Food crops</i>	28.7	27.1	28.8	31.3	35.2	39.2	45.2	46.8
Paddy	14.4	13.3	14.1	12.0	9.2	5.7	3.9	3.6
Livestock	2.3	2.5	3	4.4	5.3	6.9	8.5	10.5
Fisheries	5.5	5.7	5.9	8.3	11.6	14.5	15.6	14.5
Others	6.5	5.6	5.8	8.6	12.5	15.3	17.1	18.3

Source: Compiled from various published planning documents (*Ten Year Plans* and *Mid-term Reviews*), Economic Planning Agency, Kuala Lumpur.



Source: Based on data compiled from various published planning documents (*Ten Year Plans* and *Mid-term Reviews*) Economic Planning Agency, Kuala Lumpur.

Note: Excluding forestry and forestry products.

Figure 2: Malaysia: percentage composition of agricultural GDP, 1965-2004 (five-year averages)

2.4 Agricultural Trade

Dramatic shifts in the structure of domestic production are closely mirrored in the export patterns. The combined share of agricultural products in total merchandise exports declined from 57.5 per cent (39% when timber/wood exports are excluded) in 1970-74 to 9.6 per cent (8%) by 2000-04 (Table 4). The share was further reduced to 7.9 per cent (7.1%) in 2007 (Government of Malaysia 2008a). Among agricultural products (excluding timber/wood), the share of rubber declined persistently from 62.4 per cent in 1970-74 to 9.7 per cent in 2000-04. This was offset by an increase in the share of palm oil from 23.9 to 41.6 per cent. The share of palm oil rose sharply in the past two years, constituting 76.1 per cent to total agricultural exports (excluding timber/wood) in 2007 (Government of Malaysia 2008a). This increase was mainly a result of increasing world price due to rising world demand, particularly from China.

Malaysia's share in total world exports of natural rubber declined from 62 per cent in the 1970s to around 20 per cent by 2004, by which time it was the third largest exporter in the world after losing its position to Thailand and Indonesia in the late 1980s. In world crude palm oil exports, Malaysia remained the largest exporter, accounting for a 65 to 80 per cent share in total world exports from the mid-1970s to late 1990s. During the present decade, Indonesia has been the world's largest exporter of crude palm oil (accounting for over 50% of total world exports). This is due to massive investment in relocation by Malaysian plantation companies in the face of mounting domestic cost pressure.

A noteworthy development in the export structure of Malaysia over the past two decades has been the emergence of processed food as a dynamic export line. The average annual growth rate of processed food exports from Malaysia increased from 5 per cent in 1985-99 to 19 per cent during 2000-04. This industry is targeted to grow at an average annual rate of 24.6 per cent during 2006-2010 (Government of Malaysia 2006). The share of

Table 4: Agricultural exports from Malaysia: share in total merchandise exports, composition of agricultural exports, and world market share

	1970-74	1975-79	1985-89	1995-99	2000-04
Agri. share in exports	57.5	53.8	35.8	13.4	9.6
(excluding timber/ wood)	39.0	37.6	24.0	10.7	8.1
Composition of agri. exports ¹	100	100	100	100	100
Rubber	62.4	52.9	33.7	12.9	9.7
Palm Oil	23.9	27.5	31.9	44.1	41.6
Cocoa	2.1	2.3	6.4	2.5	2.6
Spices	2.2	2.1	1.5	1.1	0.8
Processed food	8.7	8.5	15.6	26.2	31.6
Malaysia's world market share					
Rubber	62.1	56.8	36.7	19.9	19.3
Palm oil	70.3	77	74.5	64.3	54.5
Cocoa	3.1	3.3	11.4	4	4.3

¹Excluding timber/ wood

Source: Ministry of Finance, *Economic Report* and Bank Negara Malaysia, *Monthly Statistical Bulletin*, Kuala Lumpur, various issues.

processed food in total agricultural exports from Malaysia increased from 8.7 per cent in 1970-74 to 15.6 per cent in 1985-89 and then to 31.6 per cent in 2000-04 (Table 4). Rapid expansion of processed food compared with the traditional food products (coffee, tea, sugar, cocoa and so on) has been a universal phenomenon in world trade over the past two decades (Athukorala and Jayasuriya 2003).³ While being impressive by its own past performance in this lucrative growth area, Malaysia has lagged behind that of many other countries (in particular Thailand) with similar agricultural resource endowments (Athukorala 2006b). An interesting issue, which deserves a deeper analysis, is whether Malaysia's highly interventionist paddy-sector support policy has constrained a shift in agricultural resources into these new dynamic product lines.

³ Powerful forces on both demand and supply sides have underpinned this structural shift. On the demand side, 'internationalisation of food habits' - the increased importance of imported processed items in consumption patterns in developed countries as well as among large sections of the populace in many developing countries - appeared to have played a key role. Factors such as international migration, the communications revolution and international tourism have contributed to this phenomenon. This significant demand-side impetus seems to have been supported by important supply-side developments such as improvements in food technology, refrigeration facilities and transportation that have made various processed food products, which are generally highly perishable, internationally tradable. Indonesia is well placed to benefit from this structural shift in world food trade given its rich agricultural resource base, and ample availability of labour (because food processing/ packaging for exports is highly labour intensive).

3. Agricultural Trade Policy: Post-independence Era

3.1 Key Policy Trends

During the early years of independence up to the mid-1960s, the Malaysian national development policy was much in line with the traditional liberal notions of the limited state. The policy thrust was basically to continue with the colonial open-door policy stance relating to trade and industry, while attempting to redress ethnic and regional economic imbalances through rural development schemes and the provision of social and physical infrastructure (Snodgrass 1980).

As in many other developing countries, industrialisation through import substitution was a key emphasis of the Malaysian development strategy during this period. However, Malaysian policy makers, unlike their counterparts in other countries, eschewed 'forced' industrialisation through direct import restrictions and the establishment of state-owned industrial enterprises (Lim 1992).⁴ Moderate tariff protection was by and large the key instrument used in encouraging new investment in manufacturing. The average tariff rate in 1965 was estimated at a mere 13 per cent and very few industries enjoyed nominal tariffs of more than 30 per cent and non-tariff barriers were almost non-existent (Power 1971; Tai 1984).

The racial riots in Kuala Lumpur in 1969 brought about a dramatic shift in development policy along ethnic lines. The leadership of the ruling National Front concluded that the striking discrepancies in wealth must be rapidly eliminated, in part through public activity, if Malaysia were to evolve into an integrated community. Its two basic goals were the eradication of poverty by raising income levels and increasing opportunities for all Malaysians, irrespective of race, and rapid reordering of the society to correct economic imbalances so as to reduce, and eventually eliminate, the identification of race with economic function (Government of Malaysia, 1971:1). However, it was also said, in the language of New Economic Policy (NEP), that an increasing share of GNP to Malays was not to be at the cost of citizens belonging to other ethnic groups. Given the delicate ethnic composition of the ruling coalition, economic equality was to be fostered primarily through increasing employment and devising a mechanism to ensure that a greater share of newly created assets accrues to the Malays. Redistribution of existing assets was an anathema. Neither expropriation, foreign or local, nor nationalisation, nor land reform was considered in the NEP (Ness 1967; Snodgrass 1980; Ganguli 2003).

Given the crucial role played by foreign-owned companies in the production and marketing of plantation crops, the Malaysian government took care to pursue a favourable and unambiguous policy stance toward direct foreign investment. Transferring a progressively large share of these companies to the nationals was a declared policy. But the government always made it clear that the transfer of ownership would be through formal share trading rather than through arbitrary expropriation (Myint 1984; Fletcher 1991).

There was a heavy emphasis on the promotion of heavy industries through direct government involvement in the first half of 1980s, as part of the 'look East policy' of

⁴ In a recent comprehensive study of the patterns and chronology of trade policy reforms during the post-war era, Sachs and Warner (1995: Table 1) identify Malaysia as one of the eight developing countries whose trade regimes remained open throughout the post-Second World War period.

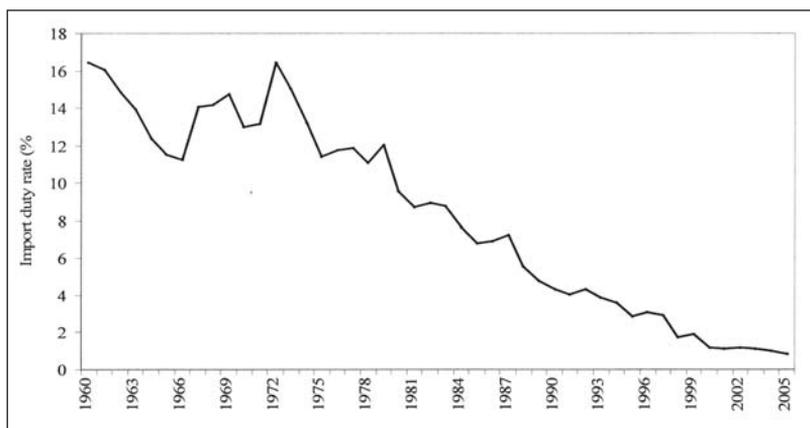
Dr. Mahathir who became Prime Minister in 1981. The symbol of the selective industrial policy was the Proton (the Malaysian national car) project, a joint venture of HICOM and the Mitsubishi Corporation in Japan. By 1987, there were 867 corporate public enterprises in Malaysia, more than a third of which were in manufacturing. Tariffs on a wide range of manufactured goods were substantially increased in the first half of 1980s as part of the heavy-industrialisation move. Nevertheless, there was no significant reliance on quantitative import restrictions (Athukorala and Menon 1999).

The economic crisis during 1985-87 - caused by a combination of adverse price trends in Malaysia's major export products, and budget deficits due to the move towards heavy industrialisation - put an end to the state-led heavy industrialisation push. The crisis management policy package placed greater emphasis on the role of the private sector and strengthening the conditions for export-oriented industrialisation through greater participation of FDI. The structural adjustment reform package introduced in response to the crisis involved a gradual process of privatisation and restructuring of state-owned enterprises. By the early 1990s, state-ownership in manufacturing was limited only to some politically sensitive ventures in automobile manufacturing (the Proton project), petrochemical, iron and steel and cement industries. Reforms in the later 1980s also involved significant tariff reductions and removal of quantitative import restrictions. Some of the tariff increases introduced in the first half of the 1980s were reversed and further tariff cuts were introduced as part of market-oriented reforms in the late 1980s.

Malaysia's policy response to the recent (1997-98) financial crisis involved some notable departure from persistent trade liberalisation over the previous decade (Athukorala 2003). The 1998 Budget speech announced an increase in import duties on automobiles, vans and motorcycles from 30-200 per cent to 40-300 per cent for completely built-up (CBU) and 4-42 per cent to 30-80 per cent for completely knocked down (CKD) motor cars and for construction equipment from 0-35 per cent to 5-50 per cent. In addition, a number of heavy and construction equipment, hot and cold rolled flat products of iron or non alloy steel, ephedrine and its salts, chemical products, certain electrical household goods were brought under non automatic import licensing. The declared purpose of these measures was to bring down the current account deficit; but cushioning local producers (including the national car producer, Proton) against domestic demand contraction was obviously a key motivating factor. There was, however, no notable retreat from the country's long-standing commitment to a highly open trade regime.

Despite recent tariff increases, the average effective rate has declined persistently. The average applied import duty rate (total duty collection as a percentage of total merchandise imports) is plotted in Figure 3. However, the underlying tariff structure is far from uniform. The domestic automobile market is heavily protected through both tariff and non tariff measures. At the 2-digit level of the Harmonised System (HS) of products, the average nominal tariff on automobile is 30.2 per cent while all other tariff rates are around or below 20 per cent.⁵ The overall tariff structure in Malaysia is heavily 'cascading' in nature; tariffs are generally higher on final goods than on production inputs (intermediate and capital goods) (Athukorala 2005).

⁵ Tariff rates reported in this paper unless otherwise stated are from Malaysia's latest (2003) tariff schedule available in the Asia Pacific Economic Co-operation (APEC) Secretariat online database.



Source: Bank Negara Malaysia, Monthly Statistical Bulletin, Kuala Lumpur (various issues)
 Note: Total duty collection as a percentage of total merchandise imports (excluding re-exports)

Figure 3: Malaysia: effective import duty rate (%)

As part of its WTO commitments, Malaysia has bound only 65 per cent of its tariff lines. The bound rates are much higher than the applied MFN rates (WTO 2002).⁶ Both these features of the tariff structure have given the government scope to raise applied tariffs (as was done in 1998), imparting a degree of uncertainty to applied tariffs. There are no import quotas in Malaysia, and existing import prohibitions are limited only to those implemented for national security reasons. By the mid-1990s, only a 4.5 per cent of all tariff lines had non *ad valorem* tariffs, and this declined further to 0.7 per cent by 2002 because of the further rationalisation of the tariff structure following the signing of the WTO Agreement in 1995. There are no tariff quotas or variable import levies (Athukorala 2003). By 2000, the coverage ratio of non-tariff barriers in import trade (unweighted percentage)⁷ amounted to 2.3 per cent, down from 3.7 per cent in the mid-1990s.

3.2 Trade Policy on Plantation Crops

Duties on the two major primary export commodities, rubber and palm oil, were a major source of government revenue until the mid-1980s. The duty rates were, however, adjusted in line with world price trends in order to keep the producer prices stable over time. Export duties were sharply reduced from the mid-1980s in a context where the viability of these industries were under persistent, severe strain because of labour shortages and rising wages propelled by dramatic structural changes in the economy under export-led industrialisation (Ariff and Semudram 1990). The reduction of export duties was aided by tax

⁶ In 2002, the simple averages bound, unbound, and applied tariff rates were 19 per cent, 35 per cent and 9.2 per cent respectively. All agricultural tariff lines were bound, but on average at much higher levels compared to manufacturing tariffs.

⁷ Calculated as percentage of import value of HS6 tariff lines affected by NTBs in total imports.

Table 5: Malaysia: duty rates on rubber and palm oil export, 1960-2004 (%) (five-year averages)

	1960- 64	1965- 69	1970- 74	1975- 79	1980- 84	1985- 89	1990- 94	1995- 99	2000- 04
Rubber	8.4	6.7	9.0	23.2	17.3	7.3	6.1	4.7	4.7
Palm oil	7.7	7.8	11.6	15.9	4.7	1.7	1.1	0.8	1.1

Source: Ministry of Finance, *Economic Survey*; Bank Negara Malaysia, *Monthly Bulletin of Statistics*, Kuala Lumpur, various issues.

buoyancy in a rapidly growing economy and increasing government revenue from petroleum exports.

The duty rates on rubber and palm oil, which increased persistently in the 1960s and 1970s, have declined persistently over the past two decades (Table 5). During 2000-04 the average annual duty rate was 4.7 per cent on rubber and 1.1 per cent on palm oil. The higher duty rate on rubber compared to palm oil was because of the additional duty (cess) still levied in order to finance the rubber replanting scheme. Duties (in the range of 5 to 10%) are levied on specific grades of crude palm oil with a view to promoting further domestic processing. By the dawn of the New Millennium, only a few other primary products (such as some forest products and crude oil) were subject to export duties. Rubber and processed palm oil are exempted from export duty while crude palm oil is taxed only when its price level exceeds RM650 per tonne (Government of Malaysia 2008b). Since 2006, total export duty has been contributing less than 2 per cent of total government revenue (Government of Malaysia 2008a).

As structural changes in the economy began to severely impede the long-term viability of the plantation crops, the conventional trade policy and direct government support in the form of funding research and replanting schemes by and large lost their relevance. Consequently, in recent years, policy attentions have been shifting towards new issues such as forging linkages of the agricultural sector with the rapidly growing manufacturing sector; improving productivity and efficiency of certain agricultural sub-sectors; and assisting plantation companies to relocate to other countries where factor market conditions enable profitable production. Relaxing restrictions on labour importations, both formally and informally (that is by turning a blind eye on illicit migration) has also become an important short-term measure to assist reducing labour market pressure (Athukorala 2006a).

3.3 Trade Policy on Food Crops

Paddy/rice has remained the single most assisted crop in Malaysia since the guaranteed minimum price (GMP) scheme was introduced by the colonial government in 1949 (Meerman 1979; Ness 1967; Rudner 1994; Fletcher 1989; Zubaidi 1992). The emphasis on assisting farmers gained added impetus following independence, and in particular as part of the NEP.

The government has assisted rice producers with an all-encompassing GMP, a price subsidy scheme, and a fertiliser subsidy. In 1998 (the latest year for which data are available) total government expenditure on the three schemes amounted to RM 547 million (USD150million) or about 3 per cent of total value-added of this crop. The GMP scheme was

first introduced in 1949 and the minimum price has been subsequently adjusted many times since then. Under this scheme BERNAS (a state-trading company) undertakes to buy paddy from farmers at no less than the GMP (currently RM750 per tonne). BERNAS procures paddy from farmers and mills rice as a business operation. It competes with other private millers in the procurement of paddy and marketing of its milled rice. BERNAS purchases about 45 per cent of the marketable surplus paddy available. Only BERNAS is permitted to import rice (at zero duty) into the country. It undertakes to import rice and implement the rice price subsidy programme under a long-term contract with the government. The volume of import is determined by BERNAS as equivalent to the shortfall of production over consumption. Rice millers are required to produce 30 per cent of their output at standard and premium quality. As they are free to determine prices for superior quality rice, profits realised on this quality rice is used to cross-subsidise the minimum production required for standard and medium quality.

A cash subsidy for every tonne of paddy sold was introduced in 1980 and further increased in 1984 and 1990. Under this scheme, the government makes a fixed payment (currently RM248 per tonne) to farmers for paddy sold by them to any commercial rice mill. The subsidy is in addition to the GMP received by farmers. The fertiliser subsidy scheme has been in operation since the early 1950s. The scheme was terminated during the 1970s when fertiliser prices were relatively cheap and was reintroduced in 1979 and is currently still under implementation. There was also a subsidy credit scheme for paddy farmers but was terminated in 1996. In 2004 the total government outlay on the price subsidy and fertiliser subsidy amounted to RM 477 million (about 2% of paddy sector value-added). In addition to these direct subsidies, the government assists paddy farmers through the provision of drainage and irrigation facilities, and management and extension services. Total outlay on these support measures together accounted for around 1.5 per cent of the total paddy sector value-added in 2004 (WTO 2007).

4. Trends and Patterns of Agricultural Incentives

This section provides an analysis of the changing extent and patterns of direct and indirect distortions to incentives faced by domestic agriculture in Malaysia during the period 1960-2004 using the methodology developed by Anderson *et al.* (2008)⁸. The focus of the present study's methodology is on government-imposed distortions that create a gap between domestic prices and what they would be under free markets. Since it is not possible to understand the characteristics of agricultural development with a sectoral view alone, the methodology not only estimates the effects of direct agricultural policy measures but also includes estimates of distortions in non agricultural tradable sectors for comparative evaluation. Specifically, Nominal Rates of Assistance (NRAs) for the four covered products are compared with NRAs for non agricultural tradables by calculating indices of Relative Rate of Assistance (RRA). In these calculations, non covered agricultural products are assumed to have an average NRA of zero, and it is assumed the shares of non covered farm production made up of exportables, importables and nontradables are one-third each.

⁸ The period 1960-2004 corresponds to the time coverage of the World Bank research project. There have not been any significant changes in the Malaysian agricultural trade policy since then.

Before turning to the estimates, it is important to bear in mind two important limitations of the estimates which we were not able to avoid because of data unavailability. First, in the case of the three plantation crops, we ignored potential differences between border (reference) prices and domestic prices arising from quality differences. This possibly infuses an underestimation bias into our calculations. Second, in all cases we have assumed complete pass-through of changes in producer (wholesale) prices to farm-gate prices. This potentially introduces an upward bias in our estimates. These limitations are, however, only important in comparing the effect on incentives among products or across countries at a given point in time. They are unlikely to distort inferences based on inter-temporal comparison (changes in incentives over time) because the magnitude of the bias is unlikely to be time-variant. It is also important to note that the RRA estimates, due to the estimation method, do not fully capture distortions in agricultural incentives arising from changes in tariffs on tradable inputs. Given the cascading nature of Malaysia's tariff structure, this is a potentially important source of downward bias in the RRA estimates (Athukorala 2006b).

The estimates of direct distortions to incentives are reported as five-year averages in Table 6 and shown annually in summary form in Figure 4. The average NRA for all covered products was negative from 1960 to 1984, but its magnitude declined over the period, with the 5-year average fluctuating between 0 and 3 per cent from the mid-1980s. However, this aggregate picture conceals the very high assistance provided to paddy farmers.

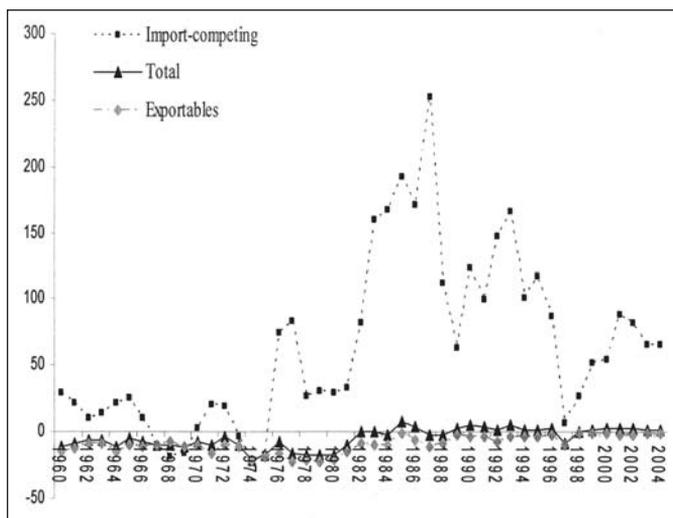
NRA estimates for individual commodities point to broadly similar patterns in changes in incentives faced by the two major plantation products: rubber and palm oil (Table 6). In both cases, the NRA was negative throughout but the absolute magnitude declined sharply over the past two decades, reflecting cuts in export duties. However, with the exception of

Table 6: Nominal rates of assistance to covered products, Malaysia, 1960 – 2004 (per cent)

	1960- 64	1965- 69	1970- 74	1975- 79	1980- 84	1985- 89	1990- 94	1995- 99	2000- 04
Exportables ^a	-12.1	-9.6	-13.4	-20.0	-12.8	-5.6	-4.7	-3.6	-1.6
Palmoil	-11.4	-10.6	-15.2	-15.0	-5.8	-3.2	-3.1	-3.0	-1.1
Cocoa	0.0	-1.2	-2.8	-1.7	-1.5	-1.4	-2.3	-2.1	0.0
Rubber	-12.1	-9.5	-12.8	-22.5	-18.2	-8.7	-8.1	-6.8	-4.7
Import-competing products ^a	19.1	-1.9	3.1	39.2	93.8	158.0	127.2	57.4	71.0
Rice	19.1	-1.9	3.1	39.2	93.8	158.0	127.2	57.4	71.0
Total of covered products ^a	-8.4	-8.7	-10.5	-15.3	-5.7	1.8	3.4	-0.3	2.4
Dispersion of covered products ^b	30.6	18.5	21.1	43.8	53.4	65.8	57.3	36.7	43.2
% coverage (at undistorted prices)	86	86	86	85	80	75	67	59	57

^a Weighted averages, with weights based on the unassisted value of production.

^b Dispersion is a simple 5-year average of the annual standard deviation around the weighted mean of NRAs of covered products. *Source:* Author's computation.

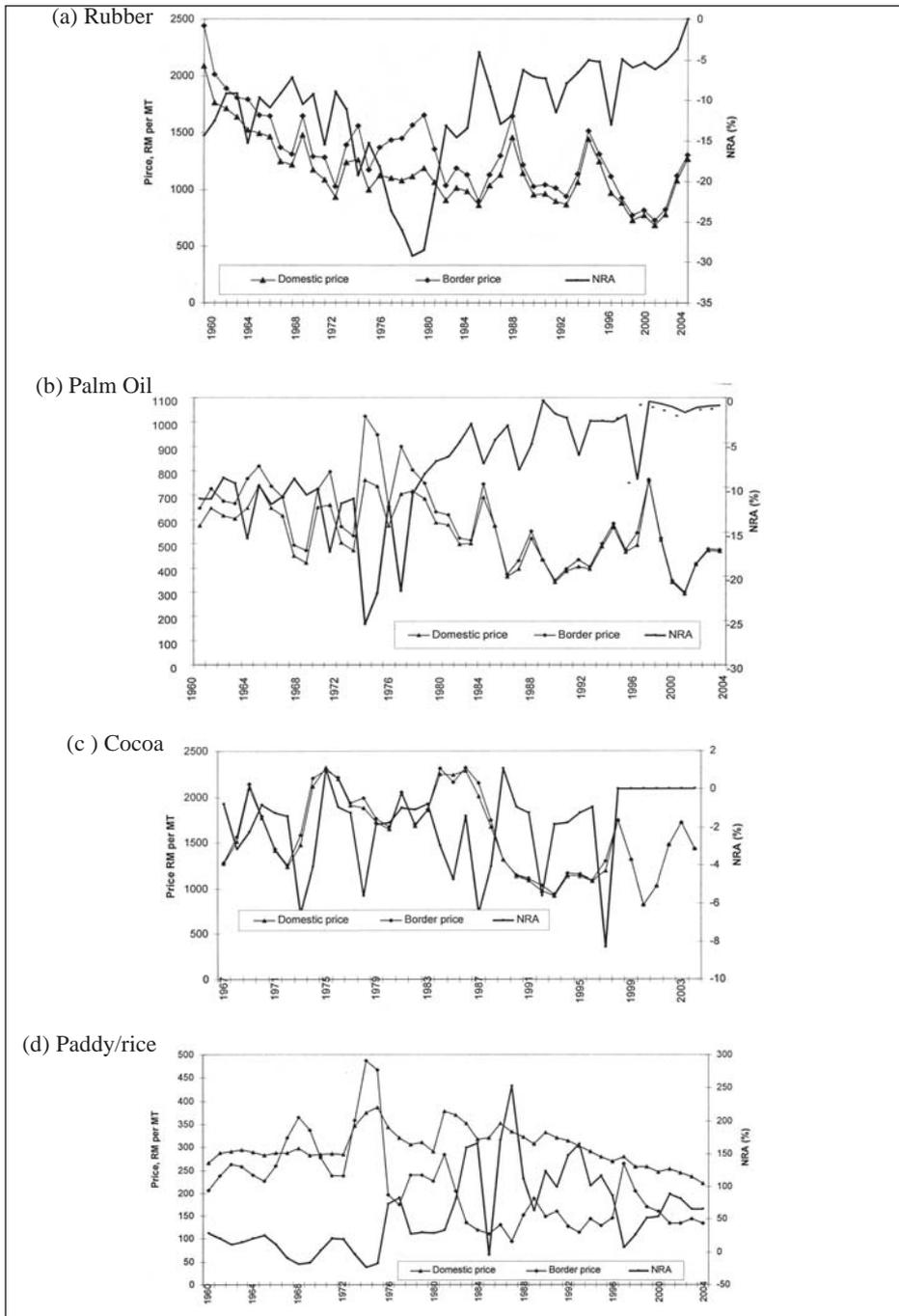


Source: Authors' computation

Figure 4: Nominal rates of assistance to exportable, import-competing and all covered agricultural products, Malaysia, 1960 to 2004 (per cent)

some early years, the degree of negative incentive to the palm oil industry was much lower in magnitude compared to that for rubber. For the entire period of 1960-2004, the annual average NRA for palm oil was -7.5 compared to -11.5 for rubber. Given the fact that the fortunes of both products have been predominantly determined by domestic resource-pull effects, arising from rapid structural adjustment in the wider economy, the main relatively high negative assistance to rubber compared to palm oil remains a puzzling feature of the structure of incentives in Malaysia. Cocoa was never taxed heavily, as it was always considered a minor export crop. The NRA for this product varied between 0 per cent and -3 per cent over the period.

Among the four products under study, paddy/rice is notable for its persistently high rate of assistance. The NRA for paddy/rice in the 1960s and early 1970s had an average level of 8.5 per cent, although there was a high degree of annual fluctuation. It averaged almost 40 per cent in 1975-79 following an upward adjustment in the GMP. It then reached a peak average of 158 per cent in the 5-year period 1985-89 following the introduction of a price subsidy (over and above the GMP). Over the past two-and-a-half decades, the NRA for paddy has more than halved but in 2000-04, it was still above 70 per cent. The disaggregated data show that the farm-gate price of paddy continued to be high with only periodic upward shifts resulting from increases in the GMP and the price subsidy (Figure 5d). In this context, the year-to-year variations in the NRA predominantly come from changes in the reference (border) price. For instance, the dramatic decline in NRA from 127 per cent in 1990-94 to 57 per cent in 1995-99 was brought about by a sharp decline in world rice prices between these two periods. The NRA then increased to 71 per cent reflecting some recovery in world prices.



Source: Authors' computation.

Figure 5: Malaysia: prices and NRAs for primary products, 1960 to 2005

Finally, a comparison of the weighted-average NRA for the three exportables (rubber, palm oil and cocoa) with that for the importable (which in this case is solely represented by paddy) points to a persistent bias in agricultural incentives in favour of import-competing, as against export-oriented, production (row 6 of Table 7). Based on similar estimates for the period 1960-1982, Jenkins and Lai (1991) inferred that excessive protection accorded to paddy farmers had a negative effect on the expansion of export agriculture. This inference does not seem valid for the period from about the late 1980s: continuous deterioration in the profitability of export-oriented agriculture as well as paddy production are predominantly rooted in the ongoing process of structural transformation of the wider economy. However, as already noted, heavy assistance to paddy producers is presumably a major source of distortion within the food-crop sector, which constrains resource reallocation from the structurally-weak paddy sector to high-value food production, for both the domestic and export markets.

The NRA to non agricultural tradables sectors, which recorded a mild decline in the 1960s and 1970s, has plummeted since then, reaching almost zero by the turn of the century. Both direct tariff cuts and rapid expansion of export-oriented manufacturing, which enjoys duty-free status for all imported inputs in the production process, contributed to this decline. Disaggregated data (not reported here for brevity) show that the latter continued to act as a much more powerful force compared to the former.

As a consequence of these changes in both agricultural and non agricultural assistance, the relative rate of assistance has gradually moved from being quite negative in the earlier decades to now being almost zero on average (Table 7). It needs to be noted, however, that this does not mean there are no further economic gains from further policy reform. On the contrary, as shown at the bottom of Table 6, the dispersion of NRAs within the farm sector has not declined very much over time, so there is still scope for improved resource reallocation if the assistance to paddy production is phased out.

5. Concluding Remarks

Malaysia stands out among developing countries for its long-standing commitment to maintaining a relatively open trade and investment policy regime. Malaysia has persistently eschewed a heavy reliance on quantitative restrictions and other forms of non tariff protection. Tariffs on both domestic manufacturing and agriculture continue to be low relative to other developing countries. Export taxes, which were important sources of government revenue until about the mid-1980s, reduced over the years as the plantation sector experienced severe cost pressure emanating from rapid growth and structural change under export-led industrialisation. The average level of import tariffs also decreased significantly over time, notwithstanding periodic upward adjustment of some tariffs and the special case of continuing heavy protection of the automotive industry. Malaysia's record of a commitment to openness is particularly remarkable in that it reflects unilateral and voluntary policy choices, rather than pressure from major trading partners or from conditionally imposed donor agency multilateral negotiations under the auspices of GATT/WTO.

Nonetheless, there are notable anomalies in the incentive structure in Malaysia that encourage the channelling of resources into inefficient activities. In particular, the tariff structure is characterised by a dualistic pattern in which export-oriented production takes

Table 7: Nominal rates of assistance to agricultural relative to non-agricultural industries, Malaysia, 1960 to 2004

	1960-64	1965-69	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04
	(per cent)								
Covered products ^a	-8.4	-8.7	-10.5	-15.3	-5.7	1.8	3.4	-0.3	2.4
Non covered products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All agricultural products ^a	-7.2	-7.5	-9.0	-13.0	-4.6	1.3	2.3	-0.2	1.3
Non product specific (NPS) assistance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total agricultural NRA (incl. NPS) ^b	-7.2	-7.5	-9.0	-13.0	-4.6	1.3	2.3	-0.2	1.3
Trade bias index ^c	-0.22	-0.06	-0.14	-0.31	-0.35	-0.33	-0.28	-0.12	-0.12
Assistance to just tradables:									
All agricultural tradables	-7.6	-7.9	-9.4	-13.7	-4.9	1.4	2.6	-0.2	1.5
All non agricultural tradables	7.4	7.0	7.1	6.5	5.2	3.9	2.8	2.0	0.9
Relative rate of assistance, RRA ^d	-14.0	-13.9	-15.5	-18.9	-9.6	-2.4	-0.3	-2.2	0.6

^a NRAs including product-specific input subsidies.

^b NRAs including product-specific input subsidies and non-product-specific (NPS) assistance. Total of assistance to primary factors and intermediate inputs divided to total value of primary agriculture production at undistorted prices (%).

^c Trade bias index is $TBI = (1 + NRA_{Ag} / 100) / (1 + NRA_{Ag_m} / 100) - 1$, where NRA_{Ag} and NRA_{Ag_m} are the average percentage NRAs for the import-competing and exportable parts of the agricultural sector.

^d The RRA is defined as $100 * [(100 + NRA_{Ag}) / (100 + NRA_{NonAg}) - 1]$, where NRA_{Ag} and NRA_{NonAg} are the percentage NRAs for the tradable parts of the agricultural and non-agricultural sectors, respectively.

Source: Authors' computation

place under a virtual free trade regime, side-by-side a predominantly domestic market oriented production, both in manufacturing and agriculture, assisted by tariff protection. The tariff structure is also characterised by a high degree of dispersion of tariff rates because of high tariff peaks relating to a few product lines, and by increased reliance on non automatic import licensing to regulate imports of a significant number of products that directly compete with domestic production of public sector enterprises. This significant departure from neutrality implies ample room for policy discretion, as opposed to pure economic policy, in influencing resource allocation in the economy.

Excessive assistance given to paddy farmers remains a major distortion in agricultural incentives in Malaysia. In addition to the obvious welfare implications, this anomaly presumably hinders the diversification of domestic agriculture towards new dynamic product lines. Given the ongoing process of dramatic structural transformation of the economy - which has ushered in an era of massive rural-to-urban labour migration and places cost pressures on traditional agriculture - the case for protecting paddy farmers on self-sufficiency grounds has lost relevance. Outright dismantling of assistance remains virtually a non option because of political-economy considerations. Nonetheless, there is a strong case for replacing the existing complicated and costly incentives with direct income support to farmers. The fiscal burden of this is unlikely to be high because the agricultural labour force has been rapidly depleting and the incidence of rural poverty, though relatively high by national standards, has been declining. This is an issue which deserves further systematic analysis.

References

- Ahmad, T.M.A.T. and T. Tawang. 1999. Effects of Trade Liberalisation on Agriculture in Malaysia: Commodity Aspects. CGPRT Centre Working Paper 46, Bangkok: UN/ESCAP.
- Anderson, K., M. Kurzweil, W. Martin, D. Sandri and E. Valenzuela. 2008. Methodology for Measuring Distortions to Agricultural Incentives. Agricultural Distortions Research Project Working Paper 02, World Bank, Washington DC, revised January. Posted at www.worldbank.org/agdistortions.
- Ariff, M. and M. Semurdran. 1990. Malaysia. In *Trade, Finance and Developing Countries*, ed S. Page, pp. 23-55. London: Harvester Wheatsheaf.
- Athukorala, P. 1991. An analysis of demand and supply factors in agricultural exports from developing Asian countries. *Weltwirtschaftliches Archiv* **127(4)**: 764-91.
- Athukorala, P. 2003. Malaysian trade policy and the WTO trade policy review 2001. *World Economy* **25(9)**: 1299-1317.
- Athukorala, P. 2005. Trade policy in Malaysia: liberalisation process, structure of protection, and reform agenda. *ASEAN Economic Bulletin* **22(1)**: 19-34.
- Athukorala, P. 2006a. Post-crisis export performance: the Indonesian experience in regional perspective. *Bulletin of Indonesian Economic Studies* **42(2)**: 177-211.
- Athukorala, P. 2006b. International labour migration in East Asia: trends, patterns and policy issues. *Asian-Pacific Economic Literature* **20(1)**: 18-39.
- Athukorala, P. and S.K. Jayasuriya. 2003. Food safety issues, trade and WTO rules: a developing country perspective. *World Economy* **26(9)**: 141-162.
- Athukorala, P. and C.Manning. 1999. *Structural Change and International Migration in East Asia: Adjusting to Labour Scarcity*. Melbourne and Oxford: Oxford University Press.
- Athukorala, P. and J. Menon. 1999. Outward orientation and economic performance: the Malaysian experience. *World Economy* **22(8)**: 1119-39.

- Barlow, Colin. 1978. *The Natural Rubber Industry: Its Development, Technology and Economy in Malaysia*. Kuala Lumpur: Oxford University Press.
- Barlow, Colin. 1997. Growth, structural change and plantation tree crops: the case of rubber. *World Development* **25(10)**: 1589-1607.
- Barlow, Colin and Sisira Jayasuriya. 1987. Structural change and its impact on traditional agricultural sectors of rapidly developing countries: the case of natural rubber. *Agricultural Economics* **1(2)**: 159-74.
- Fletcher, J. 1989. Rice and padi market management in West Malaysia, 1957-1986. *The Journal of Developing Areas* **23**: 363-384.
- Fletcher, J. 1991. Regulation with growth: the political economy of palm oil in Malaysia. *World Development* **19(6)**: 623-636.
- Ganguli, S. 2003. Ethnic policies and political quiescence in Malaysia and Singapore. In *Government Policies and Ethnic Relations in Asia and the Pacific*, ed. Michael E. Brown and Sumit Ganguly, pp.233-272 Cambridge MA: MIT Press.
- Government of Malaysia. 1971. *Second Malaysia Plan, 1971-1975*. Kuala Lumpur: Government Printers.
- Government of Malaysia. 2001. *Eighth Malaysia Plan, 2001-2005*. Putrajaya: Economic Planning Unit, Prime Minister's Department.
- Government of Malaysia. 2002. *Yearbook of Statistics*. Kuala Lumpur: Department of Statistics.
- Government of Malaysia. 2005. *Monthly Statistical Bulletin*. Kuala Lumpur: Bank Negara Malaysia.
- Government of Malaysia. 2006. *Ninth Malaysia Plan*, Putrajaya: Economic Planning Unit, Prime Minister's Department.
- Government of Malaysia. 2008a. *Economic Report 2008/2009*. Kuala Lumpur: Ministry of Finance.
- Government of Malaysia. 2008b. *Summary of Tax System 2008*. Kuala Lumpur: Ministry of Finance. <http://www.treasury.gov.my/>
- Jenkins G. P. and A. Lai. 1991. Malaysia. In *The Political Economy of Agricultural Pricing Policy*, ed. A.O. Krueger, M. Schiff and A. Valdes, Vol. 2, pp. 67-106.
- Khoo, K.M. and D. Chandramohan. 2002. Malaysian palm oil industry at crossroads and its future direction. *Oil Palm Industry Economic Journal (Malaysia)* **2(2):??**
- Levin, Jonathan V. 1960. *The Export Economies*. New Haven: Yale University Press.
- Lim, D. 1992. The dynamics of economic policy-making: a study of Malaysian trade policies and performance. In *The Dynamics of Economic Policy Reforms in South-east Asia and the South-west Pacific*, ed. A.J. MacIntyre and K. Jayasuriya, pp.94-114. Singapore: Oxford University Press.
- MacBean, A.I. 1989. Agricultural exports of developing countries: market conditions and national policies. In *The Balance Between Industry and Agriculture in Economic Development*, ed. N. Islam, pp. 129-164. London: Macmillan.
- Meerman, J. 1979. *Public Expenditure in Malaysia: Who Benefits and Why?* New York: Oxford University Press.
- Myint, H. 1984. Inward and outward-looking countries revisited: the case of Indonesia. *Bulletin of Indonesian Economic Studies* **20(2)**: 39-52.
- Ness, G. D. 1967. *Bureaucracy and Rural Development in Malaysia*. Berkeley, LA: University of California Press.
- Power, John H. 1971. Structure of protection in West Malaysia. In *The Structure of Protection in Developing Countries*, ed. B. Balassa. Baltimore MD: Johns Hopkins University Press.
- Rudner, M. 1994. *Malaysian Development: A Retrospective*. Ottawa: Carleton University Press.
- Sachs, J. D. and A. Warner. 1995. Economic reforms and the process of global integration. *Brookings Papers on Economic Activity*, 25th Anniversary Issue: 1-95.

- Snodgrass, D. R. 1980. *Inequality and Economic Development in Malaysia*. Kuala Lumpur: Oxford University Press.
- Tai, Y.L. 1984. Inter-ethnic restructuring in Malaysia, 1970-80: the employment perspective. In *From Independence to Statehood: Managing Ethnic Conflict in Five African and Asian States*, ed. R.B. Goldman and J. Jayaratnam Wilson, pp. 44-61. Wilson London: Frances Printer.
- World Trade Organization (WTO).2002. *Trade Policy Review Malaysia*. Geneva: WTO.
- World Trade Organization (WTO). 2007. *Trade Policy Review Malaysia*. Geneva: WTO.
- Zubaidi, A. 1992. The welfare cost of Malaysian rice policy under alternative regimes. *Malaysian Journal of Economic Studies* **29(2)**: 1-12.