

An Evaluation of the Malaysian Padi and Rice Market Structure, Conduct and Performance

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RINGKASAN

Pasaran padi sering dituduh sebagai bercorak monopoli-monopsoni dari segi strukturnya mendorong peniaga-peniaga bertindak secara pakatan dan tiada etika, membolehkan mereka mengambil keuntungan yang sangat berlebihan. Pasaran padi dalam keadaan sebenarnya adalah bersaing, tetapi kerana ujudnya pertalian kredit telah menyekat petani-petani dari menikmati faedah-faedah pasaran persaingan. Ketidakstabilan pasaran beras dan tekanan harga minimum terjamin dan harga maksimum, mendesak peniaga melakukan berbagai bagai penipuan untuk menjaga untung marginal mereka. Walaupun pada keseluruhannya, untung yang diperolehi adalah berpatutan, tetapi bukti gelagat yang tidak etika, menunjukkan bahawa, keuntungan yang peniaga-peniaga perolehi adalah lebih dari sepatutnya di dalam sistem pemasaran yang adil.

SUMMARY

It has always been alleged that the padi market is monopoly-monopsonistic in structure, including the traders to behave collusively and unethically, thus reaping excessively high profit margins. However, the market in reality is competitive but the existence of credit-tie has defied the benefits of a competitive market from being passed on to the farmers. The instability of the rice market and the pressure of the fixed minimum support and ceiling prices, forced the traders to indulge in various malpractices to maintain their profit margin. Though on the whole, the profit made by the traders is reasonable, the evidence of unethical behaviour suggests that the profit earned is higher than it should be under a fair marketing practice.

INTRODUCTION

It has always been alleged that the padi and rice market in Malaysia is imperfect and thus inefficient with middlemen frequently accused of reaping excessive and unjustified profits. Based on the government reports and articles (Rice Committee, 1953 and 1954, Thompson, 1964 and 1969 Biggs, 1971 and Ungku Aziz, 1964) the rice market can be described as being highly monopolistic and monopsonistic, exploitative, collusive, economically inefficient and operating with high profit margins for the traders; and to the disadvantage of the farmers.

Obsessed by this belief, the government has intervened in the market starting with a Guaranteed Minimum Price of \$16/- per pikul in 1949. In

1973, the National Padi and Rice Authority (or NPRA) was formed and other marketing measures were enforced with the objectives of protecting the farmers from the grip of unscrupulous middlemen, and increasing production to achieve self-sufficiency. The various marketing programmes such as licensing, setting up of rural institutions, regulatory measures, price control and grading and specifications were introduced. The latest intervention has been the introduction of a cash subsidy of \$10 per pikul which will be shown to have a significant impact on the market structure and has affected performance.

The list of grievances against the middlemen in general is unlimited. Unfortunately, the empirical evidence to support it is thin and scanty in Malaysia and in other developing countries. The few studies

Key to author's name: M.A. Fatimah

carried out in other developing countries, however, have failed to provide evidence that excessive profits earned by the market functionaries were due to the oligopolistic nature of the market (Farruck, 1970 and Lele, 1971).

Marketing margin has been erroneously used as the indicator of inefficiency and the results have been inconclusive (Spinks, 1972). Marketing margin only indicates the magnitude of the cost of marketing service involved in bringing the products from the producers to the consumers (Allen, 1959). Comparison of the farmers' share between different countries and even between different regions and areas in the country is often misleading, since the quality and quantity of services rendered by the various marketing systems are not fully evaluated. In fact high marketing margins have been a *sine qua non* for an efficient marketing system in developed countries.

Given the inconclusive evidence on market structure and the inadequacy of marketing margin as an indicator of evaluating the market, the market structure-conduct-performance approach from industrial economics provides a better alternative of assessing agricultural markets (Hill and Ingersent, 1976). The application of such a tool in the agricultural markets in the developing countries, however, is still limited.

Objectives

The objectives of this paper are firstly, to evaluate the padi and rice market structure, conduct and performance; and secondly, to determine the impact of government's marketing programmes on market structure, conduct and performance, and the farmers. However, it should be noted that the model is not adopted in its entirety for an inevitable reason, that is the unavailability of detail information and data on prices and cost, trading patterns and business relationships. This is not an uncommon problem as noted by many authors (Wharton, 1962 and Elliston, 1967).

The following analysis was based on the findings of the market survey carried out both on the farmers and the traders in 1978 in the Krian area¹.

Market Structure

Bain (1968) defined market structure as the organizational characteristics of the market which determine the relation of sellers in the market to each other, of buyers in the market to each other, of sellers to buyers and of sellers established in the

market to potential new firms which might enter it. Two major elements of market structure will be analysed, i.e., the degree of market concentration and barriers to entry.

Understanding of the padi and rice market structure is made easier by studying the distribution channel as shown in Figure 1. At the farm level, the general observation is that there are a large number of padi farmers selling to a relatively small number of padi buyers composed of Farmers Association, shopkeepers, and millers. The term "middlemen" refers to the shopkeepers, who, besides merchandising, are also involved in padi trading and financing. They also provide transport facilities to collect the farmers' padi.

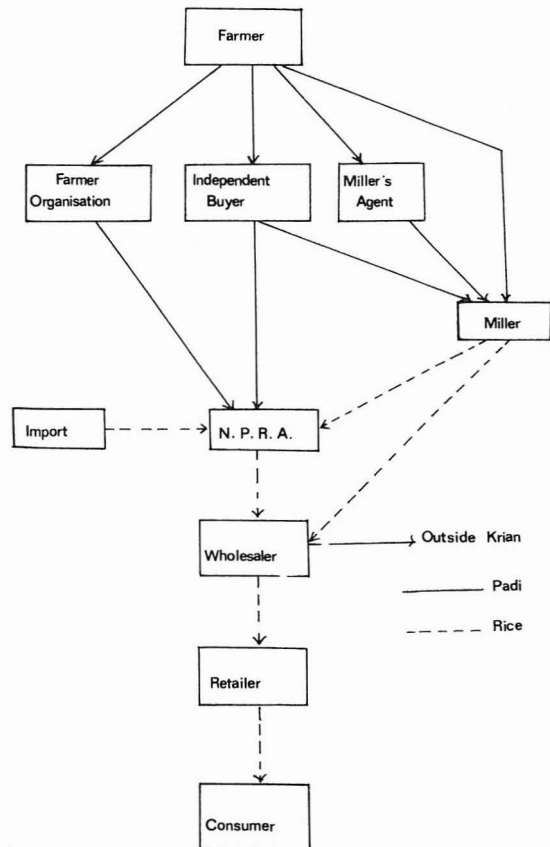


Fig. 1. Marketing Channel for Padi and Rice in Krian.

According to NPRA, in 1981, there were 1,935 licensed padi buyers (including F.As). Though the total of volume handled by each market intermediary is not known, the survey conducted by the author

For the details of the research methodology used for this study see Fatimah (1980, Chapter 3).

(Fatimah, 1980) showed that 31 per cent of the padi marketed by farmers was sold to the millers; the rest was sold to shopkeepers (only 0.9 per cent was sold through the F.As). Since 89 per cent of the padi buyers were shopkeepers we could say that the padi market at this level was competitive as they were trading 69 per cent of the market surplus among them.

It is estimated that there were 1,597 millers in Malaysia in 1981 (NPRA, 1981) excluding the unlicensed mills. In Krian alone, there were 13 millers and they bought about 85 percent of the total padi marketed by the farmers. The rest of padi was either marketed direct to NPRA, millers outside Krian or unlicensed mills. This suggests that at the miller level, the market is less competitive.

At the wholesale level, the market is expected to be concentrated. For instance, in Krian there were five wholesalers receiving rice from the millers as well as from the NPRA's complex. Though the number of licensed wholesalers for the whole of Malaysia is 2,165, that is more than the number of licensed padi buyers, there is a danger that this figure is inflated by the large number of bumiputra wholesalers whose volume of trading is significantly small compared to their counterparts who are trading in large volume².

At the retail level, the market is highly competitive as there are a large number of retailers in the market. In 1981, it is reported, that there were 25,495 licensed rice retailers in the market.

The nature of competition is affected by the barriers to entry which is defined as the extent to which established dealers can use potential market power without inducing new competition.

It is expected that the farm-level market is fairly competitive due to the low barriers to entry. This is so as capital investment and knowledge of trading required of shopkeepers are relatively low compared to those expected of millers.

The barriers to entry at the miller level are expected to be high. Firstly, this is because of the high capital investment needed to enter the commercial milling industry. A miller has also to invest in driers, transport facilities and the employment of workers. Secondly, this is due to ethnic factors and collusive behaviour of the traders. The survey in Krian (Fatimah, 1980) showed that bumiputra

mills, particularly the co-operative mills, found difficulty in getting customers for their rice as four out of five wholesalers in Krian were non-bumiputra. They reported that their customers would make orders only when there was not enough supplies from their non-bumiputra counterparts. It is well known in Malaysia³ that there is usually a strong family tie between traders. Thus, it is not surprising that the bumiputra mills have been treated as 'last resorts'. They were reluctant to sell to NPRA's complex due to the low prices offered.

As in the case of millers, capital requirements of wholesale activities are high as large amounts of capital are needed to provide transport facilities and storage; experience as well as skill of trading are also other barriers to entry.

The high barriers to entry at the wholesale market is also due to the ethnic factor. An interview with the NPRA official revealed that the collusive behaviour of the non-bumiputra traders contributed to the low participation of the bumiputra entrepreneurs in the wholesaling business. The failure of a bumiputra wholesaler in the past was also attributed to other barriers, such as lack of capital, lack of business experience, and lack of transport.

The above evidence indicates that the market was fairly competitive, particularly at the farm level, but was becoming less competitive at the higher level. However, one has to be careful in arriving at this conclusion. Though on average, in Krian, a farmer may have a choice of five to six buyers, in reality about 95 percent of them reported selling to one particular buyer over a considerable time (average dealing with a buyer per farmer was 7.7 years). The reason for this sort of behaviour was due to their heavy indebtedness to the buyers thus creating a credit-tie as well as their preference for a particular buyer (Fatimah, 1980). In Krian, about 57 percent of farmers reported that they preferred to sell to one particular buyer because he provided credit and provisions to them. In short, though the padi market is competitive, the credit-tie has resulted in the confinement of farmers' choice of buyers to one, thus defying the benefits of a competitive market.

One of the government's measures that affects the padi market structure is the licensing of the mills. Before October 1980, the predominant feature of the padi market was the existence of a large number of unlicensed mills particularly in Kelantan,

² There are about 1,424 bumiputra wholesalers compared to 725 non-bumiputra wholesalers as at 31st December, 1981.

³ The Ethnic factor also poses as a strong barrier to entry in countries like Thailand and Philippines (Baldwin, 1972). That is the traders, particularly at the upper level of the market channel, are mainly controlled by Chinese traders.

Kedah and Perak (Vokes, 1978). Studies by Vokes (1978) indicated that their unlicensed activities were inefficient as the average recovery rate for these mills was generally much below 60 percent. The wholesalers were able to reap higher profit margins by buying the rice milled by the unlicensed millers as it was sold at cheaper price due to the low overhead cost of milling. The survey in Krian further revealed that the unlicensed activities merely weakened the operation of some of the Co-operative Mills which were in the process of amalgamating with the Farmers Association to form the new Farmers Organization. The NPRA also found it difficult to keep track of the padi movement.

However, the introduction of the new cash subsidy of \$10/= per pikul has changed the picture abruptly. To ensure that they get the coupon for the cash subsidy the farmers have to sell only to the licensed agents or buyers. So, there was a big rush of farmers selling their padi to the authorised buyers leaving the unlicensed mills with no market. As a result, most of these mills had to close down (ANON, 1981). Therefore, the new cash subsidy has indirectly solved the problem of unlicensed mills in the padi market.

An NPRA report (1982) indicates that marketing activities of the FAs are beginning to improve. The number of farmers and padi buyers selling direct to the NPRA increased as indicated by the triple amount of padi bought by NPRA'S complexes. For instance the total amount of padi bought by NPRA complexes in 1978 was 127,411 metric tonnes and it tripled to 338,207 metric tonnes in 1981 as a result of the new cash subsidy. A sudden large and unexpected influx of padi to the limited capacity of some of the NPRA'S drying and milling complexes have resulted in over-utilization of the complexes and a large amount of padi has been left to rot due to inadequate drying and storing capacities. In 1980, NPRA complexes in MADA suffered a loss of \$1m due to bad padi⁴. The government, however, is looking into the matter and many more drying and milling complexes are to be built.

Market Conduct

Market conduct as defined by Bain (1968) refers to the patterns of behaviour that enterprises follow in adapting or adjusting to the markets in which they sell or buy. The aspects studied were the buyers pricing policies and trading practices in response to changes in the market.

On the belief that the traders in the past paid lower prices, "operating in ring" or collusively and were involved in various forms of malpractices, the government has taken various measures to curb these problems. For instance, FAs were encouraged to provide an alternative marketing outlet to middlemen and adopt a licensing policy in which the licensed buyers have to adhere to the exact conditions in the license and a Minimum Support Price (MSP) for padi. To prevent the traders from making large profits, various ceiling prices for the several grades of rice have also been set up from the miller level to the wholesaler and retailer levels.

The extent to which NPRA has managed to ensure proper market conduct, can be gauged by examining the market practices of the padi buyers in terms of price of padi paid to the farmers as well as in terms of the conditions exacted in the license.

The average price of padi obtained by the Krian farmers from the millers in the main season of 1978 was \$31.50 per pikul for padi class one and \$28.80 per pikul for class two and \$26.00 per pikul for class three (NPRA, 1978). The average padi price obtained from the authorised buyers were \$31.00, \$27.50 and \$25.50 per pikul for the padi class one, two and three, respectively. This is compared with the prices offered by the NPRA at her mill in Simpang Lima as shown in Table 1.

According to the definition of the NPRA good padi should contain less than 14 per cent of moisture and no deduction will be made. Other forms of deductions are for stalk and dirt, empty and white grains, gunny and others, which is usually for gunny with a lot of patches.

As shown in Table 2, the average deduction per farmer was about 9.76 katis. Out of this 5.29 katis were deductions for moisture (Table) 3 indicating that average moisture content of farmers' padi was 17-18 per cent. Only 11 percent of the farmers managed to sell dry and clean padi; 40 percent of padi sold in the market had moisture content of more than 17 percent (Table 4).

Other than deductions for moisture content, about 90 percent of the farmers were penalised for dirt content in padi, which averaged 2.8 katis. About 16 percent of the farmers reported deductions for unripe padi, the average being 2.53 katis.

Therefore, the padi marketed by the farmers was generally poor in quality with the moisture content between 17-18 percent which is above

⁴ Conversation with an NPRA official (1982).

AN EVALUATION OF THE MALAYSIAN PADI AND RICE STRUCTURE

the minimum requirement of 13–14 percent. As a result of these various forms of deductions, the price received by farmers was reduced by \$3.12, i.e. \$28.38 per pikul for padi class one if sold to the licensed padi buyer. The farmers had also to pay transport cost, which had risen from \$0.50

per pikul per mile in 1977 to \$0.80 to \$1.50 per pikul per mile during the survey period in 1980.

The preceding evidence tends to justify the high deduction rate imposed on the farmers as the quality of padi was generally poor. However, the

TABLE 1
Minimum Support Price for Padi at Farm Gate*

| Class of padi | Examples of Variety | Price per pikul (\$) |
|---------------|--|----------------------|
| Long | Jaya, Mat Candu, Kedah No. 1 | 30.00 |
| Medium | Mahsuri (Merah & Putih) Bahagia Kedah No. 2 | 28.00 |
| Short | Mahsuri Biasa, Kedah No. 3, Tangkai Rotan | 26.00 |

Source: N.R.P.A., Bagan Serai, March 1978.

* The Minimum Support Price for Padi remained the same till to date, except that since October 1980, the farmers were paid with cash subsidy of \$10/- per pikul.

TABLE 2
Total Deduction made on Farmers for the Main Season of 1978

| Deduction (kati) | Number of Farmers | Reporting Percentage |
|---------------------|-------------------|----------------------|
| Less than 5 | 11 | 11.7 |
| 5-10 | 43 | 45.7 |
| 10-15 | 23 | 24.5 |
| 15-20 | 9 | 9.6 |
| more than 20 | 8 | 8.5 |
| Average 9.76 kati's | 94 | 100 |

TABLE 3
The Type and Average of Deductions made on Farmers for the Main Season of 1978

| | Average deduction (kati) | Number of farmers reporting |
|-------------------|--------------------------|-----------------------------|
| Moisture content | 5.29 | 90 |
| Dirt | 2.80 | 85 |
| Unripe padi | 2.53 | 15 |
| Not winnowed padi | 2.70 | 27 |
| Gunny | 2.80 | 85 |
| n = 94 | | |

TABLE 4
Details of the Deduction for Moisture Content for the Main Season 1978

| Percentage of moisture content | Deduction (kati) | Number of farmers reporting |
|--------------------------------|------------------|-----------------------------|
| less than 14% | — | 11 |
| 15% – 16% | 2 | 19 |
| 16% – 17% | 4 | 22 |
| 17% – 18% | 5 | 17 |
| 18% – 19% | 6 | 4 |
| more than 19% | more than 8 | 17 |
| 17% – 18% (average) | 5.29 (average) | 90 |

deduction made on the padi could have been a little less. This is because there are reasons to believe that deductions made were charged unjustifiably. During the main season of 1977, no farmers were reported to have been penalised by more than 18 katis (personal communication with NPRA, 1978). Whereas, in the main season of 1978, as shown earlier, nearly 18 percent of farmers were deprived of more than 15 katis⁵ through deductions.

The reason for this seems to be the instability of the rice market. In the main season of 1977, it was reported that the local market for rice was fairly good as the harvest during the season was bad. Nearly 1,000 acres of padi were destroyed by rats and insects. It is reported that supplies were available

only from four districts, i.e. Semanggul, Selinsing, Bagan Serai and a smaller part of Kuala Kurau. This decrease in quantity resulted in a high demand of rice in Krian as well as from the surrounding areas of Province Wellesley and Matang. Therefore there was high demand for padi from the private millers which resulted in competition among the millers to get more padi. As a result, the price of padi between January and April in 1977 was higher than the MSP of padi at the NPRA's complex (Table 5).

The price of padi of class one went up as high as \$33.00 per pikul in February 1978. However, by early March 1978, the local rice market was deteriorating as the millers had excessive padi in storage. Thus they were reluctant to buy more padi.

TABLE 5
Comparison of Padi Prices at Mill Level for the Main Season of 1977 and 1978 in Krian

| Year | Type of padi | Period | | | | | | | |
|------|--------------|---------|-------|----------|-------|-------|-------|-------|-------|
| | | January | | February | | March | | April | |
| | | 1-15 | 16-31 | 1-15 | 16-28 | 1-15 | 16-31 | 1-15 | 16-31 |
| 1977 | Long | 31.50 | 31.50 | 31.50 | 32.00 | 32.00 | 32.00 | 32.00 | 32.00 |
| | Medium | 28.00 | 28.00 | 28.00 | 28.00 | 28.50 | 28.50 | 28.50 | 28.50 |
| 1978 | Long | 31.00 | 32.00 | 32.50 | 33.00 | 31.00 | 30.50 | 29.50 | 30.00 |
| | Medium | 28.00 | 32.00 | 30.00 | 30.00 | 28.50 | 28.00 | 28.00 | 28.00 |

Source: N.P.R.A., Bagan Serai, 1978.

⁵ It was also revealed that the high rate of deduction in the main season of 1978 was not due to the weather as the rain level in the two seasons did not vary very much.

AN EVALUATION OF THE MALAYSIAN PADI AND RICE STRUCTURE

The mills in Province Wellesley were facing the same problem. It was also reported that the outflow of padi and rice outside Krian had reduced from 131,626 pikuls of padi and 153,431 pikuls of rice (for the months of January to April 1977) to 44,260 pikuls of padi and 47,861 pikuls of rice in the same months of 1978. The excessive rice supply in Krian market resulted in a fall in the price of rice. For instance, the wholesale price of rice fell from \$97.000 per bag for the months of January-March in 1978 to \$93.50 per bag in April 1978 (Table 6).

to the millers was subjected to further deductions which determined the size of their margin. However, since the deduction was arbitrary and unpredictable, depending on the quality of padi, the buyers had to make sure that in the event of a high deduction, it would not reduce their margins. The effect of the deduction at the mill level on the padi buyers' market practices and margin is shown in Table 7.

As indicated in the table, padi buyers who were able to reduce the cost of purchase through deducting more at the farm level than at the mill

TABLE 6
Comparison of Rice Prices at Wholesale Level for the Main Season of 1977 and 1978 in Krian

| Type of Rice | 1977 | | | | 1978 | | | |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Jan | Feb. | March | April | Jan. | Feb. | March | April |
| A1 | 94.00 | 93.50 | 93.50 | 93.50 | 96.00 | 97.50 | 97.50 | 93.50 |
| A2 | 84.00 | 84.00 | 83.00 | 84.00 | 86.00 | 87.50 | 87.50 | 83.50 |
| B1 | 80.00 | 80.00 | 80.00 | 80.00 | 83.00 | 85.50 | 86.00 | 82.00 |
| B2 | 74.50 | 74.00 | 74.00 | 73.50 | 78.50 | 79.00 | 79.50 | 76.00 |
| B3 | 72.50 | 72.00 | 71.50 | 71.00 | 72.50 | 72.50 | 72.50 | 69.00 |

Source: N.P.R.A., Bagan Serai, 1978.

The fall of the price of rice put pressure on the millers' margin as they had to buy padi at the MSP. Under a free market, the price of padi would fall below this level. This pressure resulted in the millers buying less as well as at reduced cost through citing high deduction rates on the padi.

For instance, the total amount of padi brought by the millers fell from 438,998 pikuls in the main season of 1977 to 431,700 pikuls in the main season of 1978. Consequently, the total amount of padi bought by the NPRA complex increased from 43,366 pikuls to 62,618 pikuls, an increase of 44 percent. Usually, the padi buyers were reluctant to sell to the NPRA because of its low price. However, according to the NPRA official interviewed, the buyers were reluctant to sell to millers due to poor demand as well as the excessive deductions.

The burden of the market pressure was also experienced by licenced padi buyers. Padi sold

level, seemed to get a higher margin. For instance, for buyer 1, the deduction at the farm level was 13 percent compared to 10 percent at the mill level. He made a net margin of \$1.20 per pikul of padi. The same applied to buyer 3. However, in the case of buyer 1 (load B), 2 and 4, the deductions at the farm level were less than the deductions at the mill level. As a result, their net margins were low; for instance, buyer 4 only earned a net margin of \$0.33 per pikul padi class one. In short, the buyer anticipation of the millers' rate of deduction, which during the survey period was high, forced them to maintain their margin by charging a high deduction at the farm level.

The fact that the deduction rate imposed on padi was not consistent both at the farm and mill levels indicates the arbitrariness of the deduction system.⁶ This arbitrariness, as well as the already poor quality of padi marketed,⁷ encouraged the buyer to become involved in

⁶ In most cases the buyers dried the padi before selling it to the millers, which reduced the deduction rate at the mill level. However, this is not necessarily so as proven in the case of buyers 1 (load B) and 4 in Table 11; i.e., the deduction at the farm level is more than at the mill level.

⁷ The survey showed that poor quality of padi marketed was due to the existence of farm-level constraints faced by the farmers. They are, first, lack of drying and cleaning facilities, second, lack of labour and third, financial constraints.

TABLE 7

Calculation of Net Margin of Four Dealers on Selected Loads (per pikul of padi)

| Buyer | Load | Deduction on farmers (kati) | Average buying prize (\$) | Quantity purchased (pikul) | Purchase cost | Average Selling price | Deduction (pikul) | Net weight | Sales | Margin per load | Gross margin per pikul | Marketing cost | Net margin per pikul |
|-------|------|-----------------------------|---------------------------|----------------------------|---------------|-----------------------|-------------------|------------|---------|-----------------|------------------------|----------------|----------------------|
| 1 | A | 13 (10%) | 26.40 | 50.67 | 1337.69 | 31.50 | 5.07 (10%) | 45.60 | 1436.40 | 98.71 | 1.95 | 0.75 | 1.20 |
| | B | 10 (10%) | 24.80 | 40.50 | 1004.60 | 28.20 | 3.65 (9%) | 36.85 | 1039.17 | 34.57 | 0.85 | 0.75 | 0.10 |
| 2 | B | 8 (8%) | 25.34 | 44.80 | 1135.23 | 29.00 | 4.34 (9.7%) | 40.46 | 1173.34 | 38.11 | 0.85 | 0.75 | 0.10 |
| 3 | A | 13 (13%) | 26.03 | 24.75 | 644.24 | 31.00 | 2.64 (10.7%) | 22.11 | 685.41 | 41.17 | 1.50 | 0.75 | 0.83 |
| 4 | A | 8 (8%) | 28.00 | 33.25 | 941.00 | 31.00 | 2.06 (6.2%) | 31.19 | 966.89 | 35.89 | 1.08 | 0.75 | 0.33 |

unwarranted deductions without fear of being verified.

With regard to the extent to which the padi buyers have adhered to conditions in the license, the survey showed that, though in general they followed the conditions, there were cases of cheating especially in weighing and in traders not providing receipts to the farmers (Fatimah, 1980).

Market Performance

Market performance is defined by Bain (1968) as the composite end results which firms, in any market arrive at, in pursuing whatever lines of conduct they espouse. As for the padi and rice market, the relevant concept in measuring performance is through the analysis of marketing margin. To show the extent the market functionaries took advantage of the alleged imperfect market structure, the margin is evaluated in terms of the market competition and practices (Fatimah, 1980 and Rashid 1973).

In an effort to control traders' profit margins the government introduced the New Rice Price Control.⁸ Under this new Rice Price, the rice is divided into various grades and maximum price was set for all First-Hand Sales (sales by importers and millers) and also for wholesalers and retailers. The difference in prices at the several market levels in the various price zones is designed to take into account production, transport costs, insurance, rent of godown facilities and a "reasonable" margin of profit for traders. The MSP posed as the floor price.

Based on the above prices, we could then estimate a "reasonable" profit margin for each of the market functionaries. For instance, the minimum margin specified for wholesalers and retailers on the first eight grades of rice in zone A are presented in Appendix I.

The miller's gross margin on the first eight grades of rice, derived from the maximum price of first-hand sales of rice and support price of paid of \$30 and \$28 per pikul for padi class one and class two are presented in Appendix II. There is a clearer variation in the miller's margin for the different grades, the reason being that while there were 11 main sub-grades of rice, A1-A4, B1-B4 and C1-C3, there were only three classes of padi, 1, 2 and 3. From any given quantity of class 1, 2 and 3, it is only possible to obtain a certain percentage of each rice subgrade, there being an inverse relationship between quantity

of the grade and the quantity obtained. In the case of rice B3 and B4, the margin is negative. However, the income realised from the sale of by-products should be added to the miller's margin for all grades to arrive at their total gross margin.⁹ However, the miller's profit margin varies depending on the prices paid to the seller. In reality, the prices paid were \$1.00 to \$2.00 above the MSP.

The analysis of the marketing margins of the traders and functional analysis of the margins are presented in Tables 8 and 9, and 10. The marketing margins for rice A1 and B1 were 36 percent and 37 percent of the retail price. Out of this, 12 percent was marketing costs for both grades. With regard to profit margin for rice A1, the dealers' share of profit margin was 2 percent, the millers' 5 percent, the wholesalers' 3 percent and the retailers' 5 percent.

The analysis indicates that the Krian farmers' share of the final retail value of rice of both types was between 64 to 65 percent. The farmers in MADA, earned about 68 percent of the final value. In India, it is 66.8 percent, in Indonesia it is between 72 and 80 percent (Krishna, 1967) whereas the farmers' share of other agricultural produce in India ranges from 67 to 81 percent. But the farmers' share in the developed countries is much less. For instance, the grain producers in United Kingdom only receive 20 percent of the final value of the product (Barker, 1980).

Based on the above evidence, we could say that the rice farmers' share is high, but this does not necessarily mean that the marketing system is efficient. At the farm-level, though the market is competitive, the existence of various imperfections, particularly the credit-tie, has reduced the farmers' share of the final price.

As for the profit for the dealers, the profit they earned seemed reasonable in view of; firstly, the market pressure that they were facing; secondly, the buyers also incurred various marketing costs which were not easily verified. These costs were incurred in their marketing-financing-merchandising ventures which included the costs of money loaned out by the buyers to the farmers, consumers and intermediaries; costs of social help extended to the farmers and cost of entertainment at their premises. Furthermore, the risk and uncertainties of their business were high due to the instability of the padi and rice market.

⁸ For details see NPRC: New Rice Price Control, NPRC.

⁹ In Krian, the values of such by-products for a large mill amounted to \$8.01 per bag of rice A1 outturn. Hence most of the "loss" on the lower grades is compensated for by the sale of by-products.

TABLE 8
Marketing Margin for a Gunny of Rice (163 katis)
Grade A1 and B1 in Krian in the Main Season of 1978

| Trade Level | Rice A1(1) | | Rice B1(2) | |
|--|-----------------|--|-----------------|--|
| | Charges (\$) | Price (\$) | Charges (\$) | Price (\$) |
| (a) Producer level | | | | |
| Gross Price(a) | | 83.88 | | 77.00 |
| Transport Cost(b) | 1.92 | | 1.92 | |
| Deductions(c) | 8.05 | | 7.51 | |
| Net price to producer | | 73.91 | | 67.57 |
| (b) Dealer level | | | | |
| Deductions | 7.43 | | 6.93 | |
| Transport cost(d) | 1.10 | | 1.10 | |
| Commission(e) | 1.38 | | 1.38 | |
| Profit | 2.81 | | 1.40 | |
| Mill gate price(f) | | 86.63 | | 78.38 |
| (c) Miller level | | | | |
| Milling cost | 5.93 | | 5.93 | |
| Gunny | 0.70 | | 0.70 | |
| Revenue of by-products(h) | 8.01 | | 6.41 | |
| Profit | 5.95 | | 2.91 | |
| Price per bag of rice ex-mill | | 91.20 | 81.50 | |
| (d) Wholesaler level | | | | |
| Transport (from Bagan Serai to Ipoh) | 2.00 | | 2.00 | |
| Handling charges | 0.40 | | 0.40 | |
| Storage | 0.25 | | 0.25 | |
| Profit | 3.65 | | 6.35 | |
| Wholesaler price ex- <i>Ipoh</i> (i) | | 97.50 | | 90.50 |
| (e) Retailer level at <i>Ipoh</i> | | | | |
| Retailing cost | 0.70 | | 0.70 | |
| Profit | 6.12 | | 6.60 | |
| Retail price(j) | | 104.32 | | 97.80 |
| Value of by-product | | 8.01 | | 6.42 |
| Total final value | | 112.33 | | 104.22 |
| | | Marketing margin per kati of rice A1 is \$0.23 | | Marketing margin per kati of rice B1 is \$0.22 |

Notes

(1) and (2) It takes 2.75 pikuls of paid of Mat Candu and Mahsuri to produce 1 bag of rice A1 and B1, respectively, at a conversion rate of 66 percent.

Gross price for Mahsuri is \$28.00 per pikul.

(a) Gross price for Mat Candu is \$30.50 per pikul.

(b) Average transport cost per pikul is \$0.70 per pikul per mills.

AN EVALUATION OF THE MALAYSIAN PADI AND RICE STRUCTURE

| | | | |
|-----|---|-----|--|
| (c) | Average deduction per farmer is 9.76 katis per pikul and for the dealer is 9 katis per pikul. | | For padi Mahsuri: |
| (d) | Average transport cost for dealer is \$0.40 per pikul per mile. | | (1) Fine Bran 20 katis @ \$0.17 = \$3.40 |
| (e) | Commission for dealer (miller's agent) is \$0.50 per pikul. | | (2) Course Bran 6.25 katis @ \$0.05 = 0.31 |
| (f) | Mill-gate price is \$31.50 per pikul for padi Mat Candu and \$28.50 for padi Mahsuri. | (i) | (3) Broken rice 8.75 katis @ \$0.31 = 2.71 |
| (h) | Revenue of the saleable by-products is calculated as follows: For padi Mat Candu: | (j) | Total <u>\$6.42</u> |
| | (1) Fine Bran 20 katis @ \$0.17 = \$3.40 | (k) | The wholesale price for rice A1 to Ipoh (which is under zone B) is \$17.94 per bag of 30 katis as for B2, the wholesale price is \$15.90 per bag of 30 katis. |
| | (2) Course Bran 6.25 katis @ \$0.05 = 0.31 | | The retail price of rice A1 at Ipoh is \$0.64 per kati dan \$0.60 per kati for rice B1. |
| | (3) Broken rice 8.75 katis @ \$0.43 = 4.30 | | Marketing margin for rice A1 is \$112.33-\$73.91 = \$38.42 or \$0.23 per kati; i.e. 42.55% of the consumer price. Marketing margin for rice B1 is \$104.22-\$67.57. = \$36.65 or \$0.22 per kati; i.e. 37.47% of the consumer price. |
| | Total <u>\$8.01</u> | | |

TABLE 9
Functional Analysis of Marketing Margin
(per bag of rice A1)

| | Charges/cost (\$) | Percentage of Marketing Margin | Percentage of Consumer Price \$104.32 per bag |
|---|----------------------|---|--|
| Transport, handling, deduction retailing and commission | 13.01 | 33.87 | 12.47 |
| Milling cost | 5.93 | 15.44 | 5.68 |
| Gunny | 0.70 | 1.83 | 0.67 |
| Storage | 0.25 | 0.65 | 0.23 |
| Dealer's profit | 2.81 | 7.31 | 2.69 |
| Miller's profit | 5.95 | 15.47 | 5.71 |
| Wholesaler's profit | 3.65 | 9.50 | 3.50 |
| Retailer's profit | 6.12 | 15.93 | 5.87 |
| Total | 38.42 | 100 | 36.82 |

TABLE 10
Functional Analysis of Marketing Margin
(a bag of rice B1)

| | Charges/costs (\$) | Percentage of Marketing Margin | Percentage of Consumer Price \$97.80 per bag |
|---|-----------------------|---|---|
| Transport, handling, retailing commission and deduction | 12.51 | 34.13 | 12.78 |
| Milling cost | 5.93 | 16.18 | 6.06 |
| Gunny | 0.70 | 1.91 | 0.72 |
| Storage | 0.25 | 0.68 | 0.26 |
| Dealer's profit | 1.40 | 3.82 | 1.43 |
| Miller's profit | 2.91 | 7.94 | 2.98 |
| Wholesaler's profit | 6.35 | 17.33 | 6.49 |
| Retailer's profit | 6.60 | 18.01 | 6.75 |
| Total | 36.65 | 100 | 37.47 |

Though their profit seemed reasonable, the evidence of malpractices suggest firstly that their profit is higher than it should be under a fair marketing practice. Secondly, it denotes the inefficiency of the deduction system. Lastly, it implies that the government's licensing policy and MSP failed to ensure a fair trading practice and thus fair prices to the farmers.

As for the millers, the profit seemed to be reasonable in view of the fact that it was within the limit allowed and the various milling costs incurred. Again the fact that in the period of market instability the millers turned to excessive deduction to avoid losses suggests, as in the case of padi dealers, their profits could have been a little lower, if excessive deductions had not been carried out.

The profit margins for the wholesaler and the retailer seemed reasonable, particularly in comparison with the margin limits allowed by the government. Though the retailer's margin seemed to be the highest (i.e. 15-18 percent of the marketing margin), it is reasonable as the market was fairly competitive and the volume of rice

traded was small as the consumers generally only bought small quantities of rice. However, the evidence of fraudulent, illegal activities as well as selling rice to another market without obtaining permission¹⁰ suggests that it was likely that in reality, their profit could have higher.

Analysis of the marketing costs indicates that deduction alone accounts for more than half of the marketing cost, or 19 percent of the marketing margin for rice A1. This suggests that if good quality padi is produced, the rate of deduction could be reduced and the deduction at the mill level could be avoided and thus marketing efficiency could be increased.

CONCLUSION AND POLICY IMPLICATIONS

Judging from the analysis, it would seem that the market is efficient and the traders are not making excessive profits as alleged. But this does not imply that the market on the whole is efficient either because imperfections have been detected both in market structure and conduct. The imperfections took the form of the existence of a credit-tie

¹⁰ It is frequently reported in Krian in other areas in Malaysia (Vokes, 1980) of illegal rice movement made by the wholesalers without obtaining permits to take advantage of higher price of rice in other zones. They have been also frequently caught fraudulently including broken rice as high as 10 per cent into a bag of rice A1 (The Straits Times, various issues 1980-81).

AN EVALUATION OF THE MALAYSIAN PADI AND RICE STRUCTURE

which defies the benefits of competitive market from being passed on to the farmers, excessive unjustified deduction by padi buyers and other market malpractices carried out by the traders. The farmers were partly to be blamed for producing poor quality padi which induced the buyers to deduct excessively. However, the government's ceiling price for rice together with the inability to control market instability forced the traders to maintain their squeezed margin (in the period of excessive supply of rice) through excessive deduction. This was made easier by the already inefficient grading systems.

Therefore, there is a need firstly, to look into the deduction system. Research should be carried out to devise a method that can measure the moisture content of padi accurately. A better grading and specification for padi needs to be clearly defined. Secondly, severe instabilities of rice in the market should be avoided and this calls for an efficient regulation of supply and demand of rice. Thirdly, malpractices in the market need to be reduced through a higher enforcement of the licensing policy. There is also a need for an economic analysis of the credit in the system. Since this is a package of marketing plus credit services, neither service can be fully evaluated without including the other.

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APPENDIX I

Minimum Gross Market Margins of Wholesalers and Retailers at Maximum Prices Specified in the Price Control Order (\$1 per bag of rice)

| Rice Grade | Wholesaler's Margin (\$) | Retailer's Margin (\$) |
|------------|--------------------------|------------------------|
| A1 | 4.30 | 7.18 |
| A2 | 4.30 | 7.14 |
| A3 | 4.30 | 7.09 |
| A4 | 4.30 | 8.06 |
| B1 | 4.30 | 7.67 |
| B1 | 4.40 | 8.15 |
| B3 | 4.40 | 6.99 |
| B4 | 4.40 | 8.09 |

SOURCE : Maximum First Hand Sales NPRA.

APPENDIX II

Millers Gross Margin Under Price Control on the Sale of Grade A and B Rice, Assuming Maximum First-Hand Sale Prices and Padi Support Prices of \$30 and \$28 per Pikul for Class One and Class Two (\$ per bag of rice)

| Padi Grade | Millers buying price \$/pikul padi | Millers buying price (a) (\$) | Rice Grade | Selling price (b) (\$) | Profit margin (\$) |
|------------|------------------------------------|-------------------------------|------------|------------------------|--------------------|
| A | 30 | 82.50 | A1 | 91.20 | 8.70 |
| A | 30 | 82.50 | A2 | 83.10 | 0.60 |
| A | 30 | 82.50 | A3 | 75.00 | 7.50 |
| A | 30 | 82.50 | A4 | 61.00 | 2.50 |
| B | 28 | 77.00 | B1 | 84.10 | 7.10 |
| B | 28 | 77.00 | B2 | 77.10 | 0.10 |
| B | 28 | 77.00 | B3 | 70.10 | - 7.10 |
| B | 28 | 77.00 | B4 | 57.60 | -19.40 |

SOURCE : Same as Appendix I.

NOTES : (a) Based on 65 per cent recovery rate
(b) Miller's maximum price