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5. Author (s)

1. Stephen L. Magiera
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3.

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There appears to be little reason for maintaining the current policy system for wheat and wheat flour. Deregulation would promote competition in flour milling and would help prevent further consolidation in downstream industries. With appropriate tariffs, deregulation could be achieved with virtually no change in imports or the structure of protection (Option 1). After markets adjust to deregulation, the Government could gradually cut tariffs and adopt a more uniform tariff structure in order to reduce protection to downstream processors. This could be done in stages with Option 2, or even lower tariffs, as the ultimate goal.

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C. Stuart Callison, Chief of Party

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DEREGULATION OF THE INDONESIAN WHEAT AND WHEAT FLOUR MARKETS

Stephen L. Magiera¹

January 1995

Policy Update. Since this paper was written, the Indonesian wheat and wheat flour markets have been deregulated. Bulog's monopoly on wheat imports was eliminated and tariffs on both wheat and wheat flour were set at zero because of Indonesia's IMF commitment to eliminate all tariffs on food products. Also, several new flourmills have been opened. Although this should lead to greater competition on the domestic flour market, it is not clear that the ownership of the new mills is entirely independent of Bogasari Flourmills.

The tariffs proposed in this paper are based on the relationship between domestic and international prices which existed in the early 1990s. In 1996 and subsequent years, the Government came under pressure from the Indofood Group to change the administered price structure for wheat and wheat flour. The Group, which included Bogasari Flourmills, was undergoing corporate restructuring. Further changes in the relationship between domestic and international prices have occurred as a result of the rupiah depreciation in 1997. An analysis of the impact of these changes on the government budget and mill margins is contained in the appendix to the paper.

¹ Currently (1999-2002): Partnership for Economic Growth (PEG), International Trade Specialist, Ministry of Industry and Trade, Republic of Indonesia. PEG is a USAID-funded Project. The views expressed in this report are those of the author and not necessarily those of USAID, the U.S. Government or the Government of Indonesia.

SUMMARY

DEREGULATION OF THE INDONESIAN WHEAT AND WHEAT FLOUR MARKETS

The Government regulates nearly every aspect of the Indonesian markets for wheat and wheat flour. Bulog is the only "authorized" importer of wheat and wheat flour, and controls the ex-factory price for flour and its distribution. Bulog supplies the imported wheat free-of-charge to Indonesia's three flourmills. These mills are, in effect, Bulog's agents in the processing of wheat. They own neither the wheat nor the flour. Instead, they receive a processing fee, a fee to cover profits, and all proceeds from the sale of milling by-products.

The Implications of Current Policies

The distortionary effects of wheat policies on the budget and the profits of Indonesian flourmills may now be small. The main problem with the Government's regulatory system is that it has led to a monopoly in the flour milling industry and to the consolidation of the noodle industry under the same conglomerate that controls milling. Excess profits under the system may have been transferred from flour milling to the noodle industry, which is highly protected in Indonesia.

- Government **subsidies for imported wheat** now appear negligible. During the past six years, revenues from the sale of flour have been approximately equal to the cost of imported wheat.
- Ex-factory **prices for flour** in Indonesia are about 25 percent above world prices. However, high prices are due mostly to taxes (e.g. VAT) and other fees that are incorporated into the administered price structure. These other fees include a special government projects fee and a fee to cover Bulog management costs.
- Government licensing restrictions on distribution probably lead to excess **marketing margins** that are also passed onto consumers through higher prices for flour.
- Indonesian flourmills probably make **excess profits**, but detecting these profits is difficult since the administered price system lacks transparency. Three potential sources of excess profits are: (1) processing fees that raise mill margins to approximately \$3 per ton above those in deregulated markets; (2) flour extraction rates that are higher than those set by the Government and which result in low quality flour; (3) excessive shipping charges and unreported discounts on imported wheat. The latter can result from the fact that Bogasari Flourmills arranges all wheat imports even though Bulog is the authorized importer.
- The flour milling industry is now controlled by one company. Even though investment in flour milling has been deregulated, **investment by new companies** is unlikely unless Bulog's control over wheat imports and distribution channels is eliminated.
- The monopoly on flour has led to the consolidation of the noodle industry under P.T. Indofood Sukses Makmur, which controls 80 to 90 percent of the market.

Thus, a single conglomerate controls the upstream flour industry (Bogasari) and a major downstream user of flour (Indofood). Much of the **monopoly profits** from vertical integration may have been transferred to the noodle industry, where protection is high.

- Although the biscuit and baking industry appears to be competitive, there is concern that Indofood may move into some of the more profitable product lines of this industry as well.

Reducing Tariffs on Processed Flour Products

Effective protection for noodles and other processed products is considerably above the economy-wide average in spite of substantial tariff reductions during the past five years. The most straightforward way to reduce protection would be to cut tariffs further, to perhaps 15 percent for noodles and 20 percent for biscuits and other processed products.

Deregulation of Wheat and Wheat Flour Imports

The Government could consider eliminating the administered price system for flour and replacing Bulog's monopoly over imports with tariffs on wheat and wheat flour. Existing policies run contrary to the Government's goal of promoting small and medium scale businesses. Also, further consolidation of downstream processors under Indofood would contradict a recent Presidential order to limit the growth of vertically integrated monopolies. Deregulation would promote competition in the flour milling industry and would help prevent further consolidation in downstream industries. It would also lead to more varieties of flour on the domestic market and reduce costs to downstream industries.

- It is sometimes argued that wheat imports should be controlled because wheat is a basic food commodity and because deregulation would lead to increased imports of a luxury food that cannot be produced in Indonesia. In fact, wheat consumption is very small relative to other basic foods, many of which are not controlled by the Government. Also, imports of wheat contained in processed products are already deregulated. Except for flour itself, there are no non-tariff import barriers on processed wheat products.

Possible Tariff Structures in a Deregulated Market

By adopting an appropriate tariff structure, the Government could eliminate wheat and wheat flour import controls with little short-run impact on the market. For example, the tariff structure could be chosen so that there is virtually no change in wheat imports and so that the existing structure of protection for downstream industries is maintained (Option 1).

- Under Option 1, tariffs on processed products are kept at current levels of 25 percent for noodles and 30 percent for biscuits. The tariff on flour is set at 15 percent, which is approximately equal to the tariff equivalent of current policies. The tariff on wheat is set at 10 percent, or 5-percentage points below that for flour. The higher tariff on flour compensates Indonesian flourmills for the low price of milling by-products.

Option 1 should lead to no change in wheat imports, but has the disadvantage of maintaining protection for flour and processed flour products, particularly the Indofood Group. Option 1 would also generate about 40 million dollars annually in transfers from Bulog to the Ministry of Finance. Bulog's largest loss would be its management fee of \$25 million.

High protection for biscuits and noodles could be reduced by moving to a more uniform tariff structure with identical tariffs for flour and noodles and a slightly higher tariff for biscuits. This could be achieved in one of two ways:

- Under Option 2, the benefits of reducing high protection for processors accrue to **consumers** through lower food prices. This is achieved by an across-the-board reduction in all tariffs. *From an economy-wide perspective, lower tariffs are the preferable goal and should represent a long-run target.* This option might also be chosen if Indonesia continues to experience rice deficits and decides to reduce rice imports by encouraging the consumption of wheat. Tariffs could be cut by an additional 5-percentage points if the Government feels that removing protection for flour milling is politically acceptable.
- Under Option 3, the benefits of eliminating high protection for processors accrue to the **Government** through higher tariffs on wheat and wheat flour. At current prices and import levels, a 20-percent tariff on wheat would generate about \$90 million annually in new revenues. This option should be chosen only if the Government wishes to constrain increases in the consumption of wheat products.

Concluding Comments

There appears to be little reason for maintaining the current policy system for wheat and wheat flour. Deregulation would promote competition in flour milling and would help prevent further consolidation in downstream industries. With appropriate tariffs, deregulation could be achieved with virtually no change in imports or the structure of protection (Option 1). After markets adjust to deregulation, the Government could gradually cut tariffs and adopt a more uniform tariff structure in order to reduce protection to downstream processors. This could be done in stages with Option 2, or even lower tariffs, as the ultimate goal.

Tariff Options for Wheat and Wheat Products

Policy Goal	Wheat	Wheat Flour	Noodles	Biscuits
Option 1: Maintain Protection	10%	15%	25%	30%
Option 2: Low Food Prices	0%	5%	5%	10%
Option 3: Raise Government Revenues	20%	25%	25%	30%

DEREGULATION OF THE INDONESIAN WHEAT AND WHEAT FLOUR MARKETS

Current Policies

The Government regulates nearly every aspect of the Indonesian markets for wheat and wheat flour. Bulog is the only "authorized" importer of wheat and wheat flour, and controls the ex-factory price for flour and its distribution. Bulog also supplies the imported wheat free-of-charge to Indonesia's three flourmills. These mills are, in effect, Bulog's agents in the processing of wheat. They own neither the wheat nor the flour. Instead, they receive a processing fee, a fee to cover profits, and all proceeds from the sale of milling by-products.

Indonesia's policies for wheat and wheat flour are similar to those for soybeans and soybean meal. However, the consequences have been very different. Soybean meal policies result in substantial subsidies from the Ministry of Finance and the potential for excess profits by Indonesia's single crushing plant. In the case of wheat flour, on the other hand, Government subsidies appear to be negligible; and excess profits, although likely, are difficult to detect. The main problem with the Government's regulatory system is that it has led to a monopoly in the flour milling industry and to the consolidation of the noodle industry under the same conglomerate that controls milling. Excess profits under the system may have been transferred from flour milling to the noodle industry, where protection is high.

The Budgetary Impact of the Administered Price System

Under the administered price system, the Ministry of Finance pays the cost of imported wheat. In return, it receives a portion of the revenues from the sale of wheat flour. These revenues have been approximately equal to the cost of imports over the past six years.

As noted above, Indonesia's flourmills act as agents in the processing of wheat. They do not pay for wheat and do not own the flour. Instead, Bulog receives all revenues from the sale of flour. A portion of these revenues is returned to the Ministry of Finance, which ultimately pays for imported wheat.

The administered price for flour includes two line items to cover the cost of imported wheat: 1) the base cost of imported wheat; and 2), a special tax on flour, called the "subsidy reserve" (Table 1). Both are deducted from Bulog's flour revenues and are returned to the Ministry of Finance.² The base cost of wheat is well below the actual cost of imports, but the subsidy reserve is adjusted regularly to reflect actual costs. Taken together, the base cost of imports

² The administered price for flour determines the allocation of flour revenues for each participant in the system: the Ministry of Finance, Bulog, and the flourmills. The administered price equals the base cost of wheat (converted to flour equivalent) plus the subsidy reserve, plus the mill processing and profit fees, plus Bulog fees and various taxes. Since VAT would be collected even if the administered price system were eliminated, it is not included in the budget calculations.

plus subsidy reserve cover the actual cost of imports. This allows the Ministry of Finance to break-even on wheat imports.³

The current budgetary implications of the administered price system are in contrast to the 1970s before the subsidy reserve was introduced. At that time, it was Government policy to substitute imported wheat for rice and there were substantial subsidies on wheat imports. The subsidy reserve was introduced in 1980 in order to eliminate the subsidy on wheat.

Table 1: The Budgetary Implications of the Administered Price System for Wheat and Wheat Flour

Year	(a) Actual Import Price of Wheat	(b) Actual Import Price of Wheat	(c) Base Cost of Imported Wheat	(d) Subsidy Reserve (Wheat equivalent)	(e) Net Revenues to the Ministry of Finance
	\$/ton	----- rupiah per kilogram -----			
1988	142.04	239.4	147.5	98.9	7.0
1989	158.77	281.0	147.5	120.8	-12.7
1990	163.32	301.0	152.8	172.4	24.2
1991	165.00	321.8	154.5	189.6	22.3
1992	164.52	334.0	156.0	191.3	13.3
1993	175.02	365.3	156.7	192.1	-16.5
Average net revenue per kg. of wheat imported					7.5

Table notes: All data are annual averages. The actual import price of wheat (column a) is the unit value of wheat imports according to BPS. Imports of durum wheat and imports from European countries are excluded from the calculation since the flour from these wheats does not have the same price structure. Prices are converted to rupiah (column b) using annual average exchange rates. The subsidy reserve (column d) has been multiplied by the flour extraction rate of 0.74 in order to convert it to a wheat equivalent basis. Net revenues to the Ministry of Finance (column e) equal the factory cost of imported wheat (column c) plus the subsidy reserve (column d) minus actual import costs (column b). The average net revenue of 7 rupiah per kilogram is small and only about 2 percent of the average cost of imports. Because of possible aggregation errors, we cannot say whether average net revenues are different from zero.

Implications of the Administered Price System for Mill Margins

The administered price system provides an opportunity for Indonesia's flourmills to make excess profits. However, these profits are difficult to detect because the administered price

³ This conclusion differs from that of the World Bank, which often claims that Indonesian policies result in large subsidies on wheat. The Bank reaches this conclusion by comparing the base cost of wheat (column c) with actual import prices (column b). As noted in Table 1, the base cost of wheat is well below the actual cost of imports. However, the subsidy reserve makes up the difference and there is no subsidy.

system lacks transparency and because excess profits can be obtained from a number of different sources.

Three of the potential sources for excess profits are:

- (1) Under Indonesia's administered price system, wheat flourmills receive a processing fee, a fee to cover profits, and all proceeds from the sale of milling by-products. Since the flourmills do not pay for wheat, these three items constitute the processing margin. Over the past six years, the margin has averaged \$52 per ton of flour produced (Table 2). This is about \$3 per ton above the average margin (\$49 per ton) received by flourmills in the United States over the same period.⁴
- (2) The Government uses a 74-percent extraction rate for wheat into flour when it sets prices. Indonesia's mills can increase margins by producing more flour using a higher extraction rate.⁵ Higher extraction rates result in a lower quality flour with a higher bran content. In contrast, flourmills in the United States produce a higher quality flour using extraction rates of 73 percent or less.
- (3) Bogasari Flourmills arranges all imports of wheat even though Bulog is the only authorized importer. Bogasari also owns its own shipping line and port facilities for the transport of wheat. This gives rise to the possibility of excessive shipping charges and unreported discounts on imported wheat.

One important difference between U.S. and Indonesian flourmills is that U.S. mills depend more than Indonesian mills on the sale of by-products for their profitability. The average revenue from the sale of by-products in the United States is about \$30 per ton of flour produced, compared with \$20 per ton in Indonesia. Lower revenues in Indonesia may be due to underdeveloped markets for by-products, particularly wheat bran which is used as an animal feed.

As a result of weak markets for milling by-products, Indonesian flourmills rely heavily on the processing and profit fees for their overall profits. These fees have been constant over the past six years and have thus declined in real terms (Table 2). On the other hand, revenues from the sale of bran have been increasing. Nevertheless, mill margins in Indonesia would likely fall if the administered price system is eliminated. We estimate that a flour tariff that is 5-percentage points above the tariff on wheat would maintain margins at current levels in a deregulated market.⁶

⁴ Processing margins are not identical to profits. Indonesian flourmills may be more profitable than U.S. mills because of lower labor costs and because of Government regulations that require the mills to produce only three types of flour. The latter results in lower processing costs. On the other hand, Indonesia also has regulations that prohibit flourmills from owning physically integrated downstream processing plants. These regulations do not prevent the flourmills and downstream processing companies (e.g. noodles) from being owned by the same conglomerate, but they may lower profitability.

⁵ The flourmills reportedly obtain an 80-percent extraction rate for wheat imported from Saudi Arabia.

⁶ The conclusions of this section differ from those of the World Bank, which reported that Indonesian margins are well above those in the United States [See "Indonesia: Agricultural Transformation Challenges and Opportunities," September 1992]. The Bank's analysis is based on a comparison of flour margins in the United States with those in Indonesia. By neglecting milling by-products, however, the Bank may overestimate margins in Indonesia. There is little information on revenues from by-products in Indonesia, even though these

Flour milling might be profitable in Indonesia even without protection. This is because transportation differentials may favor bulk shipments of wheat over smaller shipments of flour. If the mills are not profitable in an unprotected market for flour, it is probably in Indonesia's economic interest to import flour rather than wheat.

Table 2: Mill Margins under Indonesia's Administered Price System

Year	(a) Processing Fee	(b) Profit Fee	(c) Revenue from the Sale of By- Products	(d) Processing Margin	(e) Processing Margin
	----- rupiah per kilogram of flour produced -----				\$/ton
1988	48.5	12.5	31.1	92.1	54.60
1989	48.5	12.5	32.7	93.7	52.90
1990	48.5	12.5	35.0	96.0	52.10
1991	48.5	12.5	36.9	97.9	50.20
1992	48.5	12.5	41.7	102.7	50.60
1993	48.5	12.5	43.3	104.3	50.00
Average processing margin per ton of flour produced					51.73

Table notes: Processing margins are very rough estimates. Revenues from the sale of by-products are based on assumed extraction rates of 74 percent for flour and 24.6 percent for by-products. There is no readily available price for wheat by-products in Indonesia. Revenues are based on the assumption that mills receive the export unit value for bran multiplied by 80 percent. The 80-percent is the 1990 ratio of the unit value of total bran sales to the unit value of bran exports (*Statistik Industri Besar dan Sedang, Bagian II 1990*).

Implications of Government Policies on the Price of Flour

Government policies raise prices for flour in several ways. First, the Government sets and an ex-factory price for flour that is above world prices. Second, Government regulations on distribution reduce competition. This leads to excess marketing margins that are passed onto consumers through higher prices for flour.⁷

Ex-factory prices for wheat flour in Indonesia are about 25 percent above world prices (Table 3). However, Indonesia's high prices are due mostly to taxes (e.g. VAT) and other fees that are incorporated into the administered price. If VAT is excluded, for example, ex-factory prices in Indonesia would only be 14 percent above world prices. The rest of the

are an important component of processing margins (See notes to Table 2). If mill revenues from by-products are identical to those in the United States, Indonesian margins would indeed be excessive.

⁷ The discussion in this section is limited to the impact of Government policies on the price of flour. Processed flour products are also protected in Indonesia. This raises consumer prices for end products.

price difference is due mainly to a special government projects fee, fees to cover Bulog management costs, and bank and insurance fees related to imports. Of these fees, the Bulog management fee is the most important.

Table 3: Indonesian Flour Prices Compared with World Prices

Year	(a) Actual Import Price of Wheat	(b) Flour Equivalent Price of Imported Wheat	(c) Implied World Price for Flour	(d) Ex-Factory Price of Flour	(e) Tariff Equivalent (Inclusive of VAT)	(f) Tariff Equivalent (Exclusive of VAT)
	----- rupiah per kilogram -----				----- percent -----	
1988	239	323	354	463	31	19
1989	281	380	417	496	19	9
1990	301	407	446	586	31	20
1991	322	435	477	616	29	18
1992	334	451	495	616	24	14
1993	365	493	541	616	14	4
Average tariff equivalent for wheat flour					25	14

Table notes: The actual import price of wheat (column a) is obtained from Table 1. The flour equivalent price (column b) is the wheat import price divided by the flour extraction rate of 0.74. The implied world price for flour (column c) is assumed to be the flour equivalent price of wheat plus the average margin between flour prices and the cost of wheat in the United States (9.7 percent of the cost of wheat). The tariff equivalent inclusive of VAT (column e) is column "d" divided by column "c". The tariff equivalent exclusive of VAT (column f) is obtained in the same fashion after subtracting VAT from the ex-factory price of flour.

The distribution of wheat flour is handled by the Association of Sugar and Flour Distributors (GAPEGTI), cooperatives, and through direct sales to large downstream users. Licensed distributors handle the largest share, approximately 60 percent. The number and composition of distributors has apparently been unchanged since the early 1970s when Bulog took control of the wheat market. Furthermore, there are apparently some "brief-case" distributors who do not actually deal in flour. Instead, they sell their allocations to other distributors.

Lack of competition in distribution channels leads to excessive distribution margins and higher prices for consumers. In Indonesia, it is difficult to measure the excess profits in distribution channels since margins contain a variety of taxes and other mark-ups. It appears, however, that marketing margins for flour are high. During the past several years, the average margin between the ex-factory price for flour and the retail price in Jakarta has been about 150 rupiah per kilogram. In contrast, margins for rice and fertilizer have been about 50

and 80 rupiah per kilogram, respectively.⁸ Marketing margins in Indonesia are also much higher than those in Malaysia, where margins are about 50 rupiah per kilogram.

Who Pays the High Price for Wheat Flour?

The main end-users of wheat flour are households for direct consumption and the flour processing industry (Table 4). Estimates of the amount of flour consumed in each end-use are very unreliable. However, the most important end-user is probably the noodle industry, which consumes 30 to 45 percent of all flour produced in Indonesia. The next most important end-users are probably the bread industry and households. Other end-uses are biscuits, miscellaneous baked goods and snack foods.

Table 4: Wheat Product Consumption by Income Group and Region*

	Income Group and Proportion of Population			Region	
	Upper 18%	Middle 44%	Lower 36%	Urban 31%	Rural 69%
	----- percent of product consumed by each group -----				
Households	48	42	10	41	59
Noodles	46	41	13	44	56
Bread	78	19	3	78	22
Biscuits	45	41	14	41	59

*Source: Estimated from SUSENAS 1990.

At one time, wheat products were considered luxury foods that were consumed only by high-income households in urban areas. Today, Indonesia's highest income group still consumes from 45 to 78 percent of all wheat products (Table 4). However, consumption has also spread to wider segments of the population. The middle-income segment of Indonesia's population now consumes from 19 percent to 42 percent of all wheat products, and total rural consumption exceeds that in urban areas.⁹ The one exception is bread, which is a convenience food that is still consumed primarily by high income consumers in urban areas.

Implications of the Administered Price System for Processing Industries

The main problem with the Government's regulatory system is that it has led to a monopoly in the flour milling industry and to the consolidation of the noodle industry under the same conglomerate that controls milling. Excess profits under the system may have been

⁸ See "The Wheat Flour Industry in Indonesia," CPIS Working Paper No. 2 by Rum Ali and Quizon; and "Gainers and Losers from Indonesia's Sugar Policies," CPIS Working Paper No. 12 by Quizon, Rum Ali, and Wismoyo.

⁹ Per-capita consumption in rural areas is still less than in urban areas, but total consumption is higher because of a higher population.

transferred from flour milling to the noodle industry, which is highly protected in Indonesia.

The Flour Milling Industry. The Indonesian flour milling industry is controlled by Bogasari Flourmills (85 percent) and Berdikari Sari Utama (15 percent).¹⁰ However, Bogasari also manages the Berdikari mill, giving it a monopoly over the entire Indonesian market. Prima Flourmills of Singapore was once one of the major shareholders in the Berdikari mill, but sold its interest in 1983. The ostensible reason was that the mill could not obtain adequate allocations of wheat from Bulog and was forced to operate at well under full capacity.

Flour milling was removed from the negative investment list several years ago. Even so, there were no applications for investment by new companies until after a "65-percent" export requirement was removed in June 1993. Although BKPM has since approved six investments by new companies, we are unaware of construction work on any of the approved mills. Furthermore, Bogasari, or its shareholders, apparently has a part interest in several of the new companies. One independent company, which had received approval for new investment, has disconnected its telephone.

Recent applications for new investment in flour milling are apparently based on forecasts for a rapid expansion in flour consumption. However, Bulog's control over imports of wheat and the domestic allocation of flour is likely to inhibit investment by new companies.

- (1) New flourmills must make arrangements with Bulog for imports of wheat. Although Bulog could transfer the right to import to the new mills, it must still approve all imports and sign the import contracts.
- (2) New flourmills must also make arrangements with Bulog for the distribution of flour. According to Bulog, existing flourmills are able to meet the current demand for flour and are planning significant capacity expansions. Thus, domestic flour allocations for new companies are not guaranteed, and these companies may have to rely on exports to sell flour. In other words, Bulog will continue to restrain competition on the domestic market by restricting domestic distribution.

Thus, investments by new companies are unlikely as long as Bulog controls the market. ***In order to introduce more competition into the flour milling industry, Bulog's control over imports and distribution channels would have to be eliminated.***

The Noodle Industry. The noodle industry in Indonesia has been in existence since the late 1960s when flour was imported under various food aid programs. In recent years, the industry has grown rapidly and production is estimated to have doubled in the past five years.

The noodle industry is now dominated by a single company, P.T. Indofood Sukses Makmur, which controls 80 to 90 percent of the Indonesian market. The remaining 10 to 20 percent of the market consists mostly of low-end, relatively inexpensive products.¹¹ Competition in this

¹⁰ Berdikari also owns Wotraco, a trading company which is a licensed distributor of flour. The President of Wotraco is also the Chairman for the Indonesian Association of Sugar and Flour Distributors.

¹¹ Indonesia also imports noodles, but imports are mostly high-priced, specialty products that are consumed by foreigners. There are apparently several Indonesian producers in the high-end market.

segment of the market is fierce since the noodle industry is open for investment and there are several producers of low-end products. According to one source, profits margins in this market are about half those in that part of the market dominated by Indofood.

Indofood gained control over the market through expansions of existing companies and through buy-outs of competitors during the past 20 years. Although Government policies may now have little impact on the profits of Indonesia's flourmills, they may be the main reason for the consolidation of the noodle industry under Indofood. By creating a monopoly in the flour milling industry, Government policies have also created a situation in which downstream processors have no choice but to purchase their major input from a single company. This favors Indofood, which has long been controlled by same conglomerate that controls Bogasari.¹²

There are several ways in which Indofood can benefit from its ties to Bogasari. First, Indofood's supply of flour is more secure than is the case for other downstream manufacturers. Second, Indofood can by-pass existing distribution channels and obtain flour more cheaply direct from Bogasari. Third, Indofood probably receives a more consistent, high quality flour; and so has lower production costs. This is discussed below.

Government policies have a major impact on the quality of flour in Indonesia. As noted earlier, it is in Bogasari's interest to achieve high flour extraction rates in order to increase processing margins. This lowers the quality of flour. Furthermore, the quality of Indonesian flour tends to be inconsistent. Although the Government sets quality standards for each type, these standards are fairly broad. Thus, the quality of individual batches of the same flour can vary considerably. Since the price is the same, Bogasari can ration higher quality flour to preferred customers. Other processors receive a lower and more variable quality of flour. This raises production costs since these processors must adjust their production runs to the type of flour received.¹³

Government policies also provide the potential for large profits in the noodle industry. Tariffs on noodles are 25 percent. Assuming that prices for wheat flour are 14 percent above world prices, we estimate that effective protection for the noodle industry is well over 150 percent. Since Indofood now export noodles, its production costs appear to be competitive with those internationally. Thus, high protection is apparently not needed. Furthermore, high protection for a single conglomerate appears to contradict Government policies of promoting small and medium scale businesses.

The Baking Industry. The baking industry produces an extremely diverse set of products, ranging from biscuits and snack foods to bread and other fresh-baked goods. The leading firm in the biscuit industry is P.T. Khong Guan Biscuits and its affiliated companies. However, the market share of the entire Khong Guan group of companies appears to be well

¹² Both companies were once divisions of the Salim Group. Since 1992, Indocement has owned a controlling interest in both companies.

¹³ In other countries, flour millers produce many more types of flour and adjust the quality of flour to the needs of downstream processors. Rationing is done through the price mechanism. Since flour quality varies with the type of wheat used and with the amount of grinding and sifting, it is fairly easy to produce many qualities at little additional cost.

under 40 percent. The market share of the next largest producer is under 10 percent. Thus, the biscuit industry appears to be fairly competitive.

The remainder of the baking industry appears to consist of smaller producers, some of which are household enterprises with strong seasonal production cycles and with regionally differentiated products. Because of the diverse range of products and low levels of demand, Indonesian conglomerates may be less inclined to enter this market.

Although the baking industry appears to be more competitive than the noodle industry, there are fears that Indofood may eventually dominate some of the more profitable product-lines in this industry. Like noodles, it has the power to integrate downstream into this industry. Indofood has already established a snack foods division that controls a major share of the market for high-end products, and it recently opened a joint-venture manufacturing plant for biscuits.¹⁴

Like the noodle industry, the baking industry appears to be highly protected. Tariffs for biscuits and baked goods range from 25 to 35 percent, with tariffs of 30 percent on most products. In spite of higher tariffs, however, effective protection appears to be lower than for noodles. This is because the baking industry uses a number of raw materials that are themselves highly protected in Indonesia, particularly sugar, dairy products, and margarine.

Reducing Tariffs on Processed Flour Products

Indonesia has reduced tariffs on processed flour products substantially during the past five years. In 1989, tariffs on processed flour products were 50 to 60 percent. By 1994, they had been lowered to between 25 and 35 percent. Nevertheless, effective protection for flour products remains well above the economy-wide average. Since the distortionary effects of wheat policies on the profitability of Indonesia's mills may now be small, the main beneficiaries of this protection may be downstream industries, including the Indofood-Bogasari group.

The most straightforward way to lower protection would be to make additional cuts in the tariffs on processed flour products. The tariffs on noodles and biscuits could be cut to 15 percent and 20 percent, respectively.¹⁵ This would lower effective protection for each product to the economy-wide average of about 50 percent. The suggested tariff on biscuits is slightly higher than the tariff on noodles because biscuit manufacturing uses relatively more raw materials that are highly protected in Indonesia. If the tariff on biscuits were set at the same level as for *noodles*, effective protection for biscuits would be less than for noodles. If the tariff on biscuits were set at the same level as for *flour*, effective protection for biscuits could be negative.

¹⁴ In the baking industry, flour quality may be even more important to profitability because of the very narrow range of quality characteristics demanded and because of the small-scale nature of the industry. For example, a small-scale bread producer may find that a specific batch of flour has poor baking qualities. As a result, the producer will have to pay the additional cost of hiring a technician to analyze the quality of the flour. Large-scale producers own laboratories and are able to spread the cost of testing flour over a large number of production runs.

¹⁵ In the discussion that follows, the tariff on biscuits serves as a proxy for tariffs on all processed flour products other than noodles. In the tariff code, there are over a dozen tariff-lines for processed flour products, with tariffs ranging from 25 percent to 35 percent. More thorough study would be needed for more refined recommendations on tariffs for each product.

Since the tariffs suggested above would still provide some effective protection for processors, further reductions are possible. However, significantly lower tariffs could lead to serious instability in manufacturing operations unless imports of flour are deregulated. This is because the price of a primary raw material (flour) is fixed by the Government, while prices for end products are deregulated and adjust to world market conditions. If, for example, the world price for noodles falls while the Indonesian price for flour is held fixed, profit margins in the noodle industry could quickly turn negative, leading to temporary plant shut-downs. This is a recurrent problem in deregulated product markets with controlled input prices. In order to achieve further reductions in tariffs without risking instability, the Government would have to deregulate imports.

Deregulation of Wheat and Wheat Flour Imports

Opening up Indonesia's wheat and wheat flour markets to imports would have several advantages:

- *With an appropriate tariff structure, deregulation would lead to competition between imported and domestic flour, and thereby eliminate Bogasari's monopoly over a major input in the food processing industry. It is not clear that this would have much immediate impact on the noodle industry, which is already dominated by Indofood.¹⁶ However, deregulation would provide firms in the biscuit and baking industries an alternative source of flour.*
- *By allowing an alternative source of flour, deregulation would reduce the likelihood that Indofood will eventually dominate the biscuit and baking industries. This is one way of promoting small and medium scale business. It is also in-line with a recent Presidential order that would limit the growth of vertically integrated monopolies. Instead of restricting the growth of vertically integrated monopolies, the Government could eliminate the regulations that facilitate the formation of these monopolies.*
- *Deregulation would permit more types of flour to be produced in Indonesia and would result in more consistent quality of flour. This would eliminate one element of inefficiency in the current system. Downstream users would benefit from lower costs of production since they could purchase flour that is more suited to their needs, and with less variation in quality. Bogasari's costs of production would change little.*
- *Deregulation might also lead to investment in flourmills by new companies. In Malaysia, for example, there are six highly competitive flourmills in a market that is one-half the size of Indonesia's market.¹⁷ In Indonesia, new*

¹⁶ Indofood has established several well-known brands of noodles. This provides a barrier to entry which new firms might find difficult to overcome.

¹⁷ Malaysian tariffs for wheat and flour are zero and 5 percent, respectively. However, the Government maintains restrictive licensing requirements on flour imports in order to protect the mills. In contrast to Indonesia where only three types of flours are produced, Malaysian mills produce four types of flour with many sub-varieties.

investment might occur on those islands that are currently without milling facilities. However, investment by new companies will become more unlikely if Indofood continues to expand its control over downstream processing industries. By controlling downstream industries, Indofood ensures a captive market for flour produced by Bogasari.

In the past, several arguments have been made against deregulation of wheat imports. These arguments no longer appear very relevant. They include:

- *Wheat should be controlled because it is a basic food commodity that substitutes for rice.* In fact, wheat consumption is extremely small relative to other basic food commodities. For example, per-capita consumption is approximately 5 percent of rice consumption (in calories). Wheat consumption is also smaller than the consumption of other basic staples such as corn and cassava, neither of which is controlled by the Government.

Furthermore, the situation has changed dramatically from the 1970s when the Government actively promoted imports of wheat as a substitute for imported rice. At that time, the administered price system was a convenient vehicle to import wheat and to subsidize its use. Now, Indonesia has achieved trend self-sufficiency in rice; and the administered price system for wheat is no longer necessary.

- *Deregulation will lead to increased imports of a commodity that cannot be produced in Indonesia.* In fact, the Government could deregulate wheat with virtually no impact on imports by adopting the tariff equivalent of current policies. Also, imports of wheat contained in processed products are already deregulated. Except for flour itself, there are no non-tariff import barriers on processed products.
- *Import controls are needed to stabilize wheat flour prices on the domestic market.* In fact, the gains from price stability are likely to be very small and accrue mostly to high income groups. These groups could easily bear the cost of increased price instability due to tariffication, especially if prices for processed products are lowered. Furthermore, the Government does not stabilize prices for many of the food staples that are consumed by the poor (e.g. cassava and corn).

Possible Tariff Structures in a Deregulated Market

The Government could consider eliminating the administered price system for wheat and replacing Bulog's monopoly over imports with tariffs on wheat and wheat flour. By adopting an appropriate tariff structure, deregulation would have little short-run impact on the market. For example, the tariff structure could be chosen so that there is virtually no change in wheat imports and so that the existing structure of protection for downstream industries is maintained. Furthermore, other tariff options can be chosen to meet other policy goals. Several such options are discussed below. Each would be compatible with Indonesia's commitments under GATT.

- Under Option 1, the current structure of protection for wheat and wheat products remains unchanged even though non-tariff import barriers and the administered

price system are eliminated (Table 5). Tariffs on processed products are kept at current levels of 25 percent for noodles and 30 percent for biscuits. The tariff on flour is set at 15 percent, which is approximately equal to the tariff equivalent of current policies. The tariff on wheat is set at 10 percent, or 5-percentage points below that for flour. The higher tariff on flour compensates Indonesian flourmills for the relatively low price of milling by-products. Without this protection, the margins received by the mills would likely fall after deregulation.¹⁸

Although Option 1 would have little impact on protection for flour milling and other downstream industries, it would change the transfers that occur between government agencies. As noted earlier, the administered price system includes a special projects fee, fees to cover Bulog management costs, and various other items that are presumably associated with imports. Replacing the administered price system with a 10-percent tariff on wheat would generate about 40 million dollars annually in transfers from Bulog to the Ministry of Finance. The most significant loss would be the Bulog management fee of about \$24 million annually. If necessary, some of the new tariff revenues could be placed in a special account that is used to offset the decline in Bulog fees.

Table 5: Tariff Options for Wheat and Wheat Products

Policy Goal	Wheat	Wheat Flour	Noodles	Biscuits
Option 1: Maintain Protection	10%	15%	25%	30%
Option 2: Lower Food Prices	0%	5%	5%	10%
Option 3: Raise Government Revenue	20%	25%	25%	30%
Option 4: Transitional Tariffs	10%	15%	15%	20%

Even though Option 1 should improve competition in markets for flour and downstream products, the immediate welfare gains are likely to be small. By adopting the tariff equivalent of current policies, high effective protection for noodle and biscuit manufactures, particularly the Indofood Group, would be maintained. Thus, this option might be adopted only temporarily to allow an orderly transition to a more market-oriented system. After markets adjust to deregulation, the Government might then reduce high effective protection for downstream processors.

High effective protection for noodle and biscuit manufacturers could be reduced by moving to a more uniform tariff structure with identical tariffs for flour and noodles and a slightly higher tariff for biscuits. The higher tariff for biscuits compensates for the fact that this industry uses a larger proportion of other inputs that are protected in Indonesia. A more uniform tariff structure could be implemented in one of two ways:

- Under Option 2, the benefits of reducing high protection for processors accrue to **consumers** through lower food prices. This is achieved by an across-the-board reduction in all tariffs. *From an economy-wide perspective, a low-price option is*

¹⁸ There is little economic justification for providing protection to the mills. The tariff on flour could be set at the same rate as for wheat if this is politically acceptable or if prices for milling by-products reach world levels in Indonesia.

the preferable goal and should represent a long-run target. This option might also be chosen if Indonesia continues to experience rice deficits and decides to reduce rice imports by encouraging the consumption of wheat.¹⁹ Tariffs could be cut by an additional 5-percentage points if the Government feels that removing protection for flour milling is political acceptable.

- Under Option 3, the benefits of reducing high protection for processors accrue to the **Government** through higher tariffs on wheat and wheat flour. At current prices and import levels, a 20-percent tariff on wheat would generate about \$90 million annually in tariff revenues. This option should be chosen *only* if restricting wheat imports is a political necessity.²⁰ Higher tariffs on wheat and flour would constrain imports, even though imports are deregulated. However, any policy which raises prices of intermediate products would be contrary to the Government's policy of promoting non-oil exports. Even in the case of wheat, Indonesia has developed export markets for several processed products. Raising the price of flour would make these products less competitive on world markets.

Concluding Comments

There appears to be little reason for maintaining the current policy system for wheat and wheat flour. While high effective protection could be dealt with by lowering tariffs alone, deregulation would promote competition in the flour milling industry and help prevent further consolidation in downstream industries. With an appropriate tariff structure, deregulation could be achieved with virtually no change in imports or the structure of protection (Option 1). After markets adjust to deregulation, the Government could gradually cut tariffs and adopt a more uniform tariff structure in order to reduce high protection for downstream processors. This could be done in stages, with Option 4 as a transitional tariff structure and with Option 2, or even lower tariffs, as the ultimate goal.

¹⁹ Wheat is a cheaper source of calories on world markets and is more widely traded than rice. Consequently, Indonesian purchases of wheat would have little impact on international prices, and it might be preferable to import wheat rather than rice.

²⁰ Indonesian wheat imports have expanded by 40 percent since 1988 and are likely to be highly elastic with respect to income and prices.

APPENDICES

Appendix Table 1: The Budgetary Implications of the Administered Price System for Wheat and Wheat Flour

Year	(a) Actual Import Price of Wheat	(b) Actual Import Price of Wheat	(c) Fictitious Factory Cost of Imported Wheat	(d) Subsidy Reserve (Wheat equivalent)	(e) Net Revenues to the Ministry of Finance
	\$/ton	----- rupiah per kilogram of imported wheat-----			
1988	142.04	239.4	147.5	98.9	7.0
1989	158.77	281.0	147.5	120.8	-12.7
1990	163.32	301.0	152.8	172.4	24.2
1991	165.00	321.8	154.5	189.6	22.3
1992	164.52	334.0	156.0	191.3	13.3
1993	175.02	365.3	156.7	192.1	-16.5
1996	255.10	597.5	156.16	194	-247.3
1998 (April)	150.00	1,155.0	156.16	669	-329.8
1998 (July)	175.00	2,450.0	211	1,166	-1,073.0

Table notes: All data are annual averages, except for 1998. The actual import price of wheat (column a) is the unit value of wheat imports according to BPS. Imports of durum wheat and imports from European countries are excluded from the calculation since the flour from these wheats does not have the same price structure. Prices are converted to rupiah (column b) using annual average exchange rates. The subsidy reserve (column d) is converted to a wheat equivalent basis by multiplying by the flour extraction rate of 0.74. Net revenues to the Ministry of Finance (column e) equal the factory cost of imported wheat (column c) plus the subsidy reserve (column d) minus actual import costs (column b).

At current prices/exchange rates and assuming wheat imports of 3.5 million tons per annum, the annual subsidy for wheat flour would be:

**3.8 Trillion Rp, or
268 Million U.S. Dollars**

Appendix Table 2: Mill Margins under Indonesia's Administered Price System

Year	(a) Processing Fee	(b) Profit Fee	(c) Revenue from the Sale of By-Products	(d) Marketing Cost	(e) Processing Margin	(f) Processing Margin
	----- rupiah per kilogram of flour produced -----					\$/ton
1988	48.5	12.5	31.1		92.1	54.60
1989	48.5	12.5	32.7		93.7	52.90
1990	48.5	12.5	35.0		96.0	52.10
1991	48.5	12.5	36.9		97.9	50.20
1992	48.5	12.5	41.7		102.7	50.60
1993	48.5	12.5	43.3		104.3	50.00
1996	71.71	12.5	49.83		134.0	57.20
1998 (April)	71.72	12.5	163.82		248.0	32.20
1998 (July)	132.00		297.86	25.0	454.9	32.50

Table notes: Processing margins are very rough estimates. Revenues from the sale of by-products are based on assumed extraction rates of 74 percent for flour and 24.6 percent for by-products. There is no readily available price for wheat by-products in Indonesia. Revenues are based on the assumption that mills receive the export unit value for bran multiplied by 80 percent. The 80-percent is the 1990 ratio of the unit value of total bran sales to the unit value of bran exports (Statistik Industri Besar dan Sedang, Bagian II 1990).

Processing margins internationally are about \$50 per ton. The administered price increase in 1996 increased mill margins to an excessive amount. Because of the recent devaluation of the rupiah, margins have since dropped to under \$50 per ton.