

RENT-SEEKING PUBLIC POLICIES AND CORPORATE CONDUCT IN THE PHILIPPINE FLOUR MILLING INDUSTRY

Cesar G. Saldaña

OVERVIEW

There has been an evident change in the government's industrial development policy over the past two administrations. Under the Marcos regime, the government played a lead role in accelerating the development of industry. It provided incentives and protection to "infant industries," and made direct investments in industries. The Aquino administration reversed this policy with strategies based on the liberalization of markets and government regulatory functions, although many official incentives remain. Past policies of protection and intervention influenced the conduct and performance of industry and also had a bearing on the welfare of consumers, business firms and government. Likewise, the current shift toward liberalization invites predictions on the likely changes in relative welfare of these entities.

The flour milling industry is a good laboratory for examining the relationships between the government's development policies, corporate response to policy, and consumer welfare. Flour milling is typical of many Philippine industries in that a few large firms produce most of the market's requirements. It is a large industry

Price Waterhouse/Joaquin Cunanan & Co. Professor of Accountancy and Dean of the College of Business Administration, University of the Philippines. This study was made possible through a grant from the Alfredo Velayo Business Policy Research Chair and was conducted under the auspices of the University of the Philippines Center for Integrative and Development Studies. This financial assistance is gratefully acknowledged.

The initial idea for undertaking this study came out of previous consultancy engagements with USAID, and the comments/ideas of Lina Jensen and Dr. Paul Deuster are acknowledged. The present paper reflects comments made on previous versions by Dr. Arsenio Balisacan, Professor Randolph David, Dr. Ma. Socorro Gochoco, Dr. Gonzalo Jurado, Dr. Epictetus Patalinghug and Dean Romeo Ocampo. The financial analysis for the case of Liberty Flour Mills was conducted with the assistance of Jose Toledo, Jr. This research would not have been possible without data made available by the National Food Authority, Securities and Exchange Commission, Philippine Association of Flour Millers, Credit Information Bureau, Inc., and the Office of Senator Teofisto Guingona. The research assistance of Ma. Julie Villalalvo and Marem Lisa Macalam and the administrative assistance of Corazon Samia and Josefina Aparis are acknowledged.

with estimated sales of about ₱15 billion per year.¹ Furthermore, flour is one of those commodities considered by the government as "vital," it being a substitute for rice. The pricing and supply of flour have historically been political issues, particularly during adverse developments in rice supply and prices. As a result, the government has taken a special interest in the flour industry.

Government and Industry: Welfare Issues

The goal of development policy for this industry is to provide consumers with a sufficient supply of flour at the least long-run cost through sustained investments and operations of efficient flour mills. In practice, the implementation of measures to achieve this goal can take on various forms. In the past, the government encouraged the establishment of flour mills through incentives and other forms of support. Eventually, the flour milling industry became an organized group which effectively moderated and responded to government policies. Later, the government became involved in more active intervention measures, namely: regulation of entry, direct participation in import of wheat, price control, flour distribution, and import protection.

Industry's response to government policies was conditioned both by the external environment (being dependent on imported wheat) and by the usual profit motives. Under this regulatory regime, the industry decided on flour prices, as well as on the acquisition and allocation of wheat to the millers and on the role which flour millers were to assume relative to the government. Up until two years following the shift to liberalization, the structure (i.e., size and composition) of the flour milling industry did not change substantially.

There are welfare issues arising from the interrelationship of development policy and firm behavior in the flour milling industry. Public discussion has focused on the question of whether there is a "flour cartel," pointing to the need for an evaluation of any adverse consequences for consumer welfare of such a situation.

Summary of the Results of the Study

This article attempts to (1) identify and estimate the amount of welfare losses arising from past government industry policies, and (2)

1. In 1988, sales volume was 35.2 million bags at an average selling price of ₱224 per bag. At a reported (*Asia Week*, March 16, 1990) value added to ₱200 per bag by the country's 10,000 bakeries, total sales value of flour to end-products is estimated at ₱14.9 billion.

analyze the self-interested private corporate behavior of flour millers. Government's past policies in the industry can be described as supportive and "rent-seeking," typical of its overall economic policy of import-substitution. This policy gave rise to conditions such as border protection,² excess production (milling) capacities, price controls and a mutual dependence between industry and government. The results of relative welfare analysis done in this study indicate that a large proportion of welfare losses in the past was incurred by consumers. Government directly caused some of these losses through its profits and inefficiencies in its wheat import monopoly up to 1985. Such indirect adverse effects on welfare were associated with the government's price controls, border protection, regulation of entry and other policies restricting competition from domestic supplies and from imports.

The flour mills also directly contributed to these welfare losses by apparently sustaining flour prices at levels in excess of "normal" returns and by operating at below-optimal scale levels.³ Both of these types of corporate policies would not be sustainable unless they were adopted collectively by way of explicit or indirect coordinative mechanisms. In this manner, it is shown here that the hypothesis of cartel-like behavior is consistent with the adverse welfare results obtained. However, it is likewise emphasized that government policy was the main reason for any such cartel-like behavior of the flour millers in the past. The corporate incentives structured by government policies and its tolerance of apparently cartel-like responses by the industry made it possible for flour millers to reap the benefits of government protection.

The article also reviews some factors associated with the liberalization of wheat imports and the flour distribution policy of 1986. It is argued that the consumer welfare losses (e.g., excess profits) which persisted beyond 1986 may have precisely invited new entrants attracted by such corporate profits. With the current liberalized policy of the government, the pattern emerging appears to be one of an industry moving toward more competition, which offers a far better potential for reducing consumer welfare losses in the future.

2. The prevention of cheaper imports from entering the country through quantitative controls and tariffs.

3. "Normal" return is a subjective measure but comparisons are made in this study with returns in the food industry and standard rates of return for public investment projects.

RELATIONSHIP BETWEEN GOVERNMENT POLICY, CORPORATE DECISIONS AND FACTORS EXTERNAL TO THE INDUSTRY

Explaining Concentration in Philippine Industries

Various studies have documented the relatively high degree of concentration in Philippine industries. Highly concentrated industries are those where a few companies account for a relatively large proportion of resources and revenues of the entire industry. The study of Patalinghug (1983) reported the high degree of concentration in the food industry. Within the larger food industry involving 20 categories, flour milling ranked seventh in terms of percentage share in sales (62 percent) of the top three flour milling companies relative to total industry sales. It likewise ranked high in terms of asset concentration. Lindsey (1980) added the observation that the more concentrated industries tend to attract new entrants due to their attractive profitability. Over time, he suggested that a decline in concentration shall ensue, with a corresponding decline in industry profitability.

There are several explanations for a high degree of concentration in Philippine industries.

Government policy increases concentration. In the past, the government pursued import-substitution and rent-seeking policies. External trade was impeded, giving rise to the approach of providing incentives to establish "pioneer" companies in new industries, usually supported by border-protection measures. Partly to help ensure the viability of these companies, the government imposed restrictions on the entry of new companies, licensing and fiscal incentives and restrictions to prevent "overcrowding" of industries. These policies created rent and led to fewer companies in industries and to high concentration. The policy of "rent-seeking" is reviewed in Ashoff (1989) and used here to refer to the toleration by the government of payments (usually by consumers) to companies in excess of opportunity costs, in order to attract resources to "develop" an industry. Such a policy guarantees above-normal returns to companies allowed by the government to do business in the country. It is in this sense that rent-seeking is not necessarily an undesirable policy. Once established, even concentrated industries could attract new entrants due to their superior profitability, and the benefits of competition would set in. The problem is when new entrants could not join the industry either by government policy or by a cartel's imposition.

Concentration in some industries also comes about from the initiative of a few larger companies for accelerated growth through mergers and acquisition. A previous study of the present writer (1984) showed that in banking, increased concentration resulted from acquisitions of larger banks, leading to increased profits and further accelerating the internal growth of these larger banks. Concentration may also arise from the operation of an industry cartel, with limitation of output and of entry as objectives. In both cases, active or tacit approval by the government is required. In the commercial banking industry, the government favors a policy of increased size for "stability in the system." While the government may not explicitly support any industry cartel, its policies might amount to tacit approval of cartel-like behavior of companies.

Still another explanation for concentration would be external factors like market size interacting with scale economies. The domestic market for some basic manufacturing may be so small as to support only a few manufacturing plants at minimum operating scale, e.g., steel, glass, ceramics, etc. Similarly, natural barriers to trade work in the same direction limiting market access and protecting existing producers from new entrants. An article by Monke, Pearson and Silva-Carvalho (1987) illustrates the case of a flour cartel in Portugal which was protected by natural trade barriers typical of the flour industry: high transportation and handling costs of imports. Another example is the cement industry wherein some plants can operate with relative monopoly power in their market areas due to the high transportation costs across inter-regional borders.

Public Policy and Corporate Decisions

Consumer welfare could then be influenced by public policy and corporate decisions in an industry. The rent-seeking policy of government yielded above-normal industry profits for early entrants, at best intended by government to be temporary. It was in this way that rent-seeking was justified as a development policy and commonly adopted for "infant industries" in the Philippines. Corporate decisions are partly adaptive responses to such policies. Even a decision to agree on prices and output in a cartel is viable only if government provides tacit approval. There are also external factors like market size and economies of scale which might encourage the oligopolistic behavior of companies. Generally, it is to the advantage of consumers whenever competition among companies is fostered and cartel-like policies are actively prevented.

INDICATORS OF PUBLIC POLICY AND INDUSTRY PERFORMANCE ON A CONSUMER WELFARE BASIS

Government policy indicators. Public policy is evaluated in this study using indicators like border protection, domestic flour price controls, controls in wheat supply and prices and restrictions on capital investments and entry of new mills. Border protection measures include tariffs and duties and c.i.f. prices relative to domestic prices. Border protection may exist if actual domestic flour price exceeds flour c.i.f. price. This represents a transfer of wealth from consumers, who have to pay prices higher than the delivered cost of imports to the flour millers or to government.

Government price controls might serve to limit price increases, especially in the short term. However, if government also tolerates cartel behavior, companies can limit production, and price floors would eventually be adjusted upward. Government controls of wheat supply and any restriction on the industry would eventually be reflected in the average cost of flour. The efficiency with which government imports wheat would influence the flour millers' costs. Any restriction on entry would potentially prevent a restructuring of the industry towards increased efficiency and hamper competition.

Industry indicators. The corporate performance indicators include the rate of return, the choice of combinations of production inputs, and the selection of measures and enforcement mechanisms, if any, to sustain high flour prices and/or the low utilization level of plants. Some illustrations are offered. Above-normal rates of return can be measured by comparing actual flour industry returns relative to (a) the average cost of flour production, inclusive of an imputed cost for owners' capital; or (b) the average return in the food industry. Voluntary underutilization of fixed production capacities may be profit-maximizing if compensated for by higher prices of the restricted output. The adverse effect on the flour miller can be measured (in principle) by comparing actual production costs against the input costs at optimal production capacity. Any coordination by companies of their output and plant utilization decisions would constitute cartel behavior. However, it is inherently unobservable and difficult to measure.

External factors. There are also external factors which impact on consumer-producer welfare — world wheat prices, c.i.f. flour prices, etc. These external factors are used in the study to serve as benchmarks for estimating welfare losses. For example, the cost of import protection granted to domestic flour millers can be estimated by comparing actual domestic prices against c.i.f. flour prices. Simi-

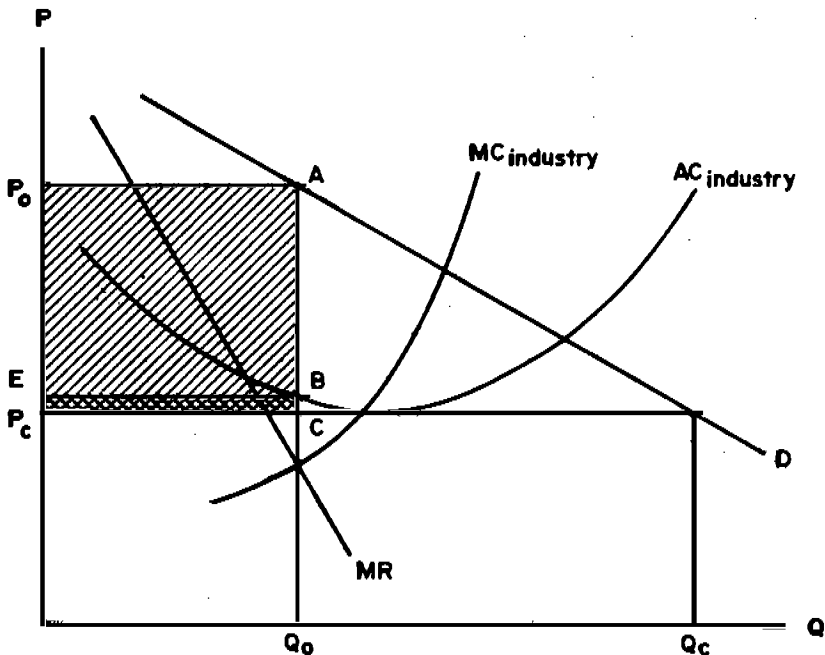
larly, the efficiency of government wheat import operation can be assessed by comparing actual c.i.f. import prices against world wheat prices.

AN APPROACH FOR EVALUATING THE WELFARE EFFECTS OF PUBLIC POLICY AND INDUSTRY BEHAVIOR

A Simplified Analytics for Cartel Behavior Tolerated by Government

In economic theory, perfect competition results in the maximum level of production and the lowest flour prices, set at the average full cost (i.e., the "social cost") of flour. In contrast, if flour millers behaved in an oligopolistic manner after their own interest, they could restrict production and keep prices high. No welfare loss would be incurred under the competitive scenario while the oligopolistic approach would result in "excess profits" for flour millers. Following Monke et al. (1987), a diagram showing a cartel as against the perfect competition solution is shown in Figure 1.

Figure 1
OLIGOPOLISTIC VERSUS COMPETITIVE EQUILIBRIUM
FLOUR OUTPUT LEVELS AND PRICES



The competitive equilibrium is possible when due to excess profits of the cartel, new millers enter the industry and the average cost (AC) curve expands to the right, as shown in Figure 1. Price is at P_c and production quantity at Q_c . In contrast, the oligopolistic approach implies the higher price of P_o and restricted output, P_o/Q_o . Obviously, competition means only recovery of costs while oligopoly implies a price which exceeds full cost. The motive for a cartel is to secure "excess profits" by enforcing the higher price and restricted output, Q_o , directly (or implicitly) on its members. If the cartel is successful, the result is a transfer of wealth ("welfare loss") from consumers to flour millers by an amount equivalent to the shaded area in Figure 1, bounded by the points P_oABE . It is to be noted that the industry "average cost" includes all costs, including a reasonable return on capital invested.⁴ The amount of this transfer is an empirical question which is conditional on the actual demand curve for flour and milling costs. While Figure 1 shows a relatively elastic demand curve, the regression of actual flour demand against real flour prices indicates that Philippine flour demand is relatively inelastic,⁵ i.e., consumers do not reduce their flour consumption in proportion to flour price increases. The implication: the cartel policy of restricting output would be a profitable strategy if it were enforceable by members and allowed by government.

It should also be noted that at Q_o , the cartel operates at a production level lower than one associated with its minimum average cost. Hence, another welfare loss is that due to inefficient production, represented by the area $EBCP_o$. Total welfare loss from these two sources is shown as the area P_oACP_o in Figure 1.⁶

Conditions like a small number of firms, an inelastic demand, restricted entries of competition and border protection serve to attract the setting up of cartels. However, a cartel can operate only

4. It is in this sense that the term "excess profits" is defined, i.e., returns exceeding the reasonable return on capital invested *under competitive conditions*.

5. The regression is in the logarithmic form: $\text{Ln Flour Sales (Bags)} = \text{Constant} + \text{Ln Real Flour Price}$. The slope of the regression represents an estimate of the price elasticity. The slope is found to be negative (-0.69), implying an inelastic demand that is statistically significant at the .001 level. The corresponding statistics are: R-squared = 0.65; T (DF=12) = -4.77.

6. This is the general model for a cartel (oligopoly) with firms of similar size and efficiency. An alternative scenario would be a cartel with a price leader and other firms as price followers, the leader being the least cost producer. Its cost advantage would enable it to enforce a threat to drive prices down with its production should the other cartel members not follow their assigned production quotas. For a time, OPEC's Saudi Arabia operated in this manner. The Philippine flour milling industry does not fit this alternative model as it consists of companies of comparable size and cost efficiency.

if government policy tolerates its existence. In particular, government can adopt three measures to oppose the cartel, namely:

- 1) exercise its regulatory powers to break up the cartel and allow new entrants;
- 2) allow the entry of flour imports by reducing tariffs; and
- 3) impose domestic flour price control.

The first option is a political action, similar to antitrust action in the US. If successful, this could force the industry to the competitive solution of the price-quantity pair P_o, Q_o — clearly the most preferred result. The welfare loss-reducing potential of allowing flour imports depends on the c.i.f. price of flour. Due to high transportation and handling costs of imported flour, c.i.f. prices may remain higher than the average cost of the industry, and domestic prices can still be set in parity with imports to yield excess returns to millers.⁷ Government price controls can also reduce welfare loss. However, in practice, the government price control implementors do not know the average cost of the industry and often become a "captive" of cartel lobby on prices. Even if price controls are "effective," companies can respond to such policy by limiting production, leading to upward pressures on the price ceiling. Of the three policies, it can be argued that allowing new entrants offers more possibilities for improving consumer welfare.

Measures of Welfare Effects

The preceding concepts of excess returns and inefficiencies arising from any cartel behavior would be analyzed in relation to underlying industry conditions and to government tolerance of such behavior or involvement in industry operations. The "first-best" flour price, equal to average cost, shall be used as reference point. Under their assumption, actual excess profits per unit would be:

Excess Profits Equals
Actual Domestic Price Less Average Cost of Flour at Optimum
Production Capacity

7. There is also the other possibility of subsidized flour from countries like the US and EEC. Prices of such imports may be less than the cost of local flour. Strategic considerations may come in, since this situation is similar to dumping exports in a local market. In the long run, the viability of local flour millers should be protected against such practices (if they exist).

The key step is to decompose excess returns into their separate explanatory factors. From the conceptual economic model, five potential explanatory factors could be identified, namely:

1. Due to government policy:
 - a) border protection;
 - b) inefficiencies in wheat imports; and
 - c) profits of NFA on wheat sale to millers;
2. Due to corporate decisions:
 - d) excess private company profits; and
 - e) excess costs due to underutilized milling capacities.

Table 1 indicates the methods for calculating each factor. When recast in a financial accounting format, Table 1 can be seen as Figure 2. The diagram shows that excess returns and costs, whether due to government or to industry policy, are passed on to the consumers by being tacked on to the minimum full cost of flour. The relative amounts of excess returns and costs in Figure 2 are only for illustration, and the actual amounts are to be empirically estimated.

Figure 2: Flour Production Cost, Excess Returns to Industry and Costs Due to Government Intervention

<u>Excess Returns and Costs</u>	<u>Price/Cost Levels</u>
Border Protection	Domestic Price of Flour
Excess Private Return	CIF Flour + Tax and Duties + Handling
Wheat Operations of NFA: Inefficiencies in Import Operations	Actual Average Cost (at actual production scale, using NFA-purchased wheat)
Profits in Sale of Wheat to Millers	Actual Average Cost (at actual production scale, using own-imported wheat)
Production Inefficiency	Estimated Average Cost (at optimum production scale, using own-imported wheat)
AVERAGE FULL COST OF FLOUR	

Table 1
BREAKDOWN OF EXCESS PROFITS AND INEFFICIENCIES

Factor	Computation
<i>Government policy</i>	
1) Border protection (BP)	BP = Import duties
2) Inefficiencies in wheat imports (WI)	WI = NFA wheat sales price to millers less flour c.i.f. price
3) Profits on sale of wheat sales to millers (PS)	PS = NFA wheat sales price to millers less flour cost to NFA
<i>Industry policy</i>	
1) Excess private return (PR)	PR = Ex mill flour price less average cost using NFA-imported wheat
2) Production inefficiency (PI)	PI = Actual average prod'n cost less estimated cost at full capacity

Items (2) and (3) under government policy in Table 1 involve the attribution of welfare effects to the entry of the National Food Authority as the sole importer of wheat for the flour industry. The industry's cost curve shifts depending on the efficiency of the wheat import operation of NFA and its profit margins on the sale of imported wheat to millers. The net effects are deadweight loss for the inefficiencies and a transfer from the flour millers to the government for the NFA profits. In turn, the flour millers may be constrained to restrict production and raise prices, thereby passing on some of the NFA-related profits and costs to the consumers.

In summary, the consumer directly bears the burden of any excess profits of the private flour milling companies, revenues of the government, and of any losses incurred by (a) government in implementing its policies, or (b) by industry in enforcing any cartel-like restrictions in production. Identifying the amount and relative importance of each burden on consumers, if any, over the pre- and postderegulation period 1979-89 is a first objective of this article. A second objective is to predict future directions for the industry from a policy standpoint.

Following is a review of the flour industry in the context of the preceding conceptual approach.

HISTORICAL BACKGROUND OF THE FLOUR INDUSTRY

Government Incentives and Cooperative Allocation in the Industry's Early Years

A previous research (Saldaña 1989) conducted a historical analysis of the flour milling industry from its inception right up to 1989. This section freely draws from data and analysis in that report and adds the dimension of excess profits and inefficiencies that adversely affect the consumers.

The flour milling industry was established around the early 1960s⁸ with government support through incentives, concessionary foreign exchange rates and tax exemptions under the development policy of "import substitution." By 1970, there were five millers and all were allowed to freely import their wheat requirements. In the early 1970s, the Central Bank imposed quotas on wheat volume imports and on foreign exchange due to the scarcity of foreign exchange. Meanwhile, the world wheat supply situation tightened and prices increased. By that time, price control had already been set by the government. The organization of flour millers, the Philippine Association of Flour Millers (PAFMIL), lobbied for price increases and for government to assist in imports of wheat at "affordable prices" (i.e., reduced import duties and taxes).

In 1976, the Central Bank restricted the imports of nonagricultural machinery and equipment in "overcrowded" industries, and flour milling was included due to the low average capacity utilization of the industry. Coincident with foreign exchange restrictions, rising wheat prices and price controls, the government in June 1974 decreed the exclusive importation of wheat by the National Grains Authority (NGA), later renamed NFA. Thus the industry shifted from voluntary allocation of wheat among firms as forced by foreign exchange ceilings to one where a government agency (NGA) was the sole importer and administrator of wheat import allocation. Wheat imports under NGA were exempted from duties, taxes and other charges.

In 1976, NGA coordinated with the flour millers in instituting a system of wheat allocation based on "normal capacity utilization" instead of rated capacity. The wheat allocation was revised in 1977 when the smallest flour miller, Pacific Flour Mills (PAFM), requested

8. The first flour mill, Republic Flour Mills, was built in 1958.

an additional allocation of wheat, contending that its previous allocation was less than its breakeven volume. The request was favorably evaluated by NGA with the other flour millers. An additional wheat allocation was given to PAFM which was deducted from the other millers on a pro-rata basis. One can see elements of the "captive regulator" hypothesis⁹ in this relationship, namely: (a) NGA structured an arrangement which ensured the viability of every member of the industry; (b) decisions were jointly made by NGA and the industry; (c) any later adjustments due to adverse market factors were done cooperatively (i.e., by agreement rather than by market forces); and (d) the PAFM case shows the government's tolerance of cooperative behavior within the industry.

For a period of eight years (1978-85), NFA implemented the adjusted wheat allocation system. Any deviation from the system was based on formal agreements between the flour millers and NFA. There was an incentive to NFA as a sole importer of wheat: the 1975 decree allowed NFA to fix the wheat grain sales price to the millers, allowing for the possibility of "profits" to NFA for such sales. Since NFA did not make separate reports to the public on any such "profits," this was a flour production cost element that was hidden from, but fully absorbed by, the consumers. Any losses incurred by NFA in wheat imports were also neither separately reported nor rigorously accounted for under the government's accounting system. Significantly, the separation in wheat imports and flour production led to a government agency undertaking the importing function for private industry. As a monopolist, NFA could simply pass on its costs to the flour millers. This separation of function resulted in distorted incentives: there was no compelling reason for NFA to become very efficient in its wheat import function.¹⁰ In subsequent years, both the PAFMIL and outside observers (e.g., the World Bank) pointed out the inefficiencies of NFA in wheat imports.

Liberalization: External Influences

The impact of the financial, political and economic crisis of 1983-85 was felt in the increases in prices of both wheat and flour. In late 1983, NFA announced plans to take over the flour distribution by requiring flour millers to sell their flour output only to

9. A hypothesis in the economics of regulation which claims that over time, the regulator becomes constrained to act in accordance with the interest of the regulated companies.

10. In particular, the timing of purchases of wheat is crucial due to wide changes in world prices of wheat. Handling and losses due to undershipment at source are also serious problems as pointed out in a World Bank (1984) report.

NFA at fixed prices. In April 1984, the Marcos Cabinet approved the return of wheat imports and flour distribution functions to the private sector ("liberalization"). Part of the impetus for this policy was reported to have come from the World Bank as one of the conditions for the release of the \$300 million structural adjustment loan for Philippine agriculture.¹¹ A similar policy suggestion was made as a concomitant measure agreed upon by the government under the FY 1985 PL 480 Program grant from the United States, covering the deregulation of wheat imports, flour distribution and fertilizer. These liberalization measures were to (1) open the Philippine markets to foreign suppliers of these commodities, and (2) require local producers to become more efficient. The measures are reflected in an NFA communication (shown as Annex 1) reaffirming the government's agreement.

In mid-1985, an Executive Order issued by President Marcos ended NFA's wheat import function and transferred this role as well as flour distribution to the private sector. (Prior to implementation of this order, there was an interesting episode involving an attempt by government to effectively transfer wheat and flour importation to a federation of bakers (PHILBAKE) by giving it a foreign exchange allocation. After several months of protest and adverse publicity for PHILBAKE, Marcos withdrew his order.¹²) By late 1985, liberalization had been completed and NFA relinquished its wheat importation role.

From 1986, NFA was relegated to the role of an interested observer of the flour industry. For example, NFA Administrator Emil Ong observed that flour prices remained high despite the decline in world prices of wheat in 1985 and 1986.¹³ PAFMIL responded with information on increased volumes of wheat imports associated with NFA's turnover of this role to the private sector. The increased visibility of the flour milling industry, combined with continued public interest in the subject, encouraged legislative inquiry into the industry. Senate Resolution No. 94 was passed directing the Committee on Trade and Commerce "to inquire into the rising prices of flour allegedly due to the existence of a cartel among the existing eight flour millers in the country."

The findings and recommendations, shown in Committee Report No. 235, concluded that "there appears to be a cartel,"

11. *Daily Express*, April 24, 1984.

12. The PHILBAKE incident is described in some detail in Saldaña (1989).

13. *Bulletin Today*, August 7, 1987.

although the detailed basis for this finding was not specified.¹⁴ The recommendations included (a) asking PAFMIL to "roll back flour prices" and to "utilize their excess/idle milling capacity"; (b) the establishment of a Flour Regulatory Board with regulatory authority over flour imports; and (c) a monitoring role for NFA including a duty-free flour import authority should it be "established by the Department of Agriculture that flour prices have risen and that a flour shortage exist." These recommendations reflect the politically sensitive nature of flour as a commodity (i.e., requiring involvement by the Department of Agriculture) and the lobby/influence of the bakers' group relative to PAFMIL.

The 1988 PAFMIL Annual Report includes a discussion of capacity expansion by members and by new flour milling companies that were to be established (See Table 2).

Government Policies and Cartel-like Behavior

Overall, the dominating factors in the conduct and performance of the flour milling industry were the presence of government intervention and external circumstances — foreign exchange restrictions

Table 2
SCHEDULED EXPANSION PLANS OF EXISTING AND
NEW FLOUR MILLING COMPANIES

Expansion of Flour Mills	Location	Est. Capacity (MT, 275 days)
<i>A. Existing</i>		
1. Wellington Flour Mills	Manila	82,500
2. Pillsbury Mindanao	Iligan City	55,000
3. General Milling Corp.	Manila & Cebu	n. a.
4. Universal Robina Corp.	Davao	n. a.
<i>B. New Flour Mills</i>		
1. Uni-Asia Industrial	Quezon Province	99,000
2. Delta Flour Mills	Manila	1,100,000
3. Foremost Flour Mills	Iloilo	1,100,000
4. Morning Star	Manila	n. a.
5. Purefoods	Batangas	n. a.
6. Mindanao Flour Mills	Cotabato	n. a.

14. Item 2 in "Findings" briefly noted that "the wheat imports of PAFMIL members always fall below industry milling capacity by 500,000 MT."

and economic crisis. The need for the flour millers to form an organized front appears to be partly a consequence of threats (and opportunities) from government policies. The flour millers are clearly capable of organized response to external factors and government policies. For its part, the government appeared tolerant of such organized response and, in fact, undertook steps supportive of what could be called the cartel-like behavior of millers, as follows:

- 1) Border protection under the "import substitution" policy.
- 2) Allocation of incentives and privileges to an initial number of millers who built capacities far in excess of the market requirements for the succeeding 10-20 years.
- 3) Restriction of entry and imports of machinery and equipment, thereby creating "rent" for existing millers.
- 4) Allowing the cooperative allocation of wheat imports, whether by the flour millers or through NFA.
- 5) Waiving import taxes and duties should adverse world wheat markets develop (as in the early 1970s). This move insulated local millers from adverse conditions which might have weeded out the less efficient producers.
- 6) Exercise of price control on a reactive basis rather than basing it on estimates of the long-run marginal cost of the industry.
- 7) An overall policy of support for the flour industry due to the related objective of grains price stabilization.

In the context of these government policies, the industry organized themselves to further their own private interests by adopting the following policies:

- 1) Joint imports or purchase of wheat from NFA.
- 2) Allocation of wheat imports among members to ensure the financial viability of each PAFMIL member.
- 3) The carrying out of a coordinated lobby for regulated flour prices and the enforcement of these prices among its members, as well as for government assistance (e.g., for reduced duties in the early 1970s when world wheat prices rose).

These are identified conditions for a "cartel" instituted through government acquiescence and implemented by industry. At this point it would be appropriate to define the meaning of the term "cartel." From an economic viewpoint, in Hirshleifer (1976).

a *cartel* is a group of independent firms attempting, via collusive agreement, to behave as a collective monopoly. Each firm in a cartel agrees to produce less than it would under unrestrained competition, the overall effect being to drive the prices up so that all in the group will benefit. (p. 296)

The term "cartel" has also been used loosely to mean companies cooperating to keep prices up for consumers, thereby increasing their profits. From Webster, it is defined as

a combination of independent commercial or industrial enterprises designed to limit competition or fix prices.

In practice, the act of "limiting competition" or "fixing prices" is not observable. A cartel can also be noted in a positive sense. For example, it was not uncommon to see announcements by PAFMIL in the newspapers that it was keeping prices low by asking its members to follow an agreed price. Many industry associations take pride in being able to "help the government" by their ability to enforce agreed prices among their members. In the Philippine context, government itself often asks industry to "control" prices in support of public goals, an action which, in turn, recognizes that cartel-like enforcement of prices may be done by industry.

Finally, it is to be noted that the flour industry has many of the features of a natural monopoly. High interborder transportation and handling costs serve as natural protection for domestic producers from external trade. This factor may be offset by subsidies of flour export countries in the European Economic Council (EEC) and the U.S. The same costs also apply to some extent within the regions in the country, leading to natural markets where local flour millers stand to gain some cost advantages. There are also economies of scale in joint imports of wheat, primarily through price and handling cost advantages. The relatively small natural domestic markets, the perishability factor and high inventory carrying costs inhibit the setting up of large storage facilities (silos) as a key competitive strategy for a flour miller. The main weakness of any cartel is that it is advantageous for any one member of the cartel to produce more than its quota. Such behavior does not seem feasible for the flour industry. Joint imports and allocation of wheat implies full observability (and automatic enforcement) of each member's production. Small natural markets, high transport costs, high fixed costs, and high inventory costs deter a flour miller from producing more than its usual market share. In fact, the size of the flour millers' local markets was one of the guidelines used by NGA and PAFMIL in allocating wheat import quotas.

ANALYSIS OF OVERALL PERFORMANCE RESULTS

Some of the key industry performance indicators are prices of imported wheat, domestic flour, and, with the intervention of

NFA (up to 1985), wheat. In competitive markets, a price decline in a dominant input (wheat) would be reflected in a decline in output (flour) price. If flour price does not decline at the same rate as wheat cost, this can be interpreted as extra market power by industry. A second indicator is growth in volume of wheat and flour. The growth patterns can indicate a potential for economies in wheat imports and flour production. New entrants to the industry, production capacities and capacity utilization are also reflective of government incentives and controls, as well as of industry response to demand. Finally, the profitability of flour millers provides an indication of any excess returns, particularly when related to the broader food manufacturing industry and analyzed over time.

These three industry performance indicators are examined in turn.

Price Movements

During the 1975-89 period, world wheat c.i.f. prices ranged from a high of \$204 in 1980 and a low of \$118 per metric ton in 1987. However, the peso has depreciated substantially from an average of ₱6.77 in 1975 to ₱21.70 per dollar in 1989. Annex 2 shows the average wholesale (ex mill) flour price, wheat c.i.f. price and NFA wheat price to millers both at actual and constant 1988 prices (using the NCR wholesale price index). All prices are in pesos after adjusting for the average current peso-dollar exchange rates (shown in Annex 6).

Annex 2 shows that nominal prices increased only 2.4 times from 1975 to 1988 for wheat but increased 3.7 times for the wholesale price of flour over the same period. The most interesting point is the jump in flour price by 100 percent in 1984, associated with a similar 100 percent increase in NFA wheat price to millers, at a time when wheat c.i.f. cost increased by only 37 percent. Figure 3a presents nominal flour, NFA and world wheat prices in graphical terms. The "margin" between flour sales price and wheat cost prior to 1984 was smaller than after 1984.¹⁵ However, in 1984 and again in 1986, there were marked increases in this margin.

Figure 3b shows that on a constant 1988 price basis, wheat and flour prices have declined but by only 53 percent for flour relative to the 70 percent for wheat over 1975-88. The pattern of declining real flour price did not hold for 1984 and 1986, when real prices increased, as shown in Figure 3b.

15. This is only a flour sales price to wheat cost margin, rather than sales less cost in the usual financial statement sense.

Figure 3a
 ACTUAL FLOUR AND WHEAT PRICES
 1975 - 1989

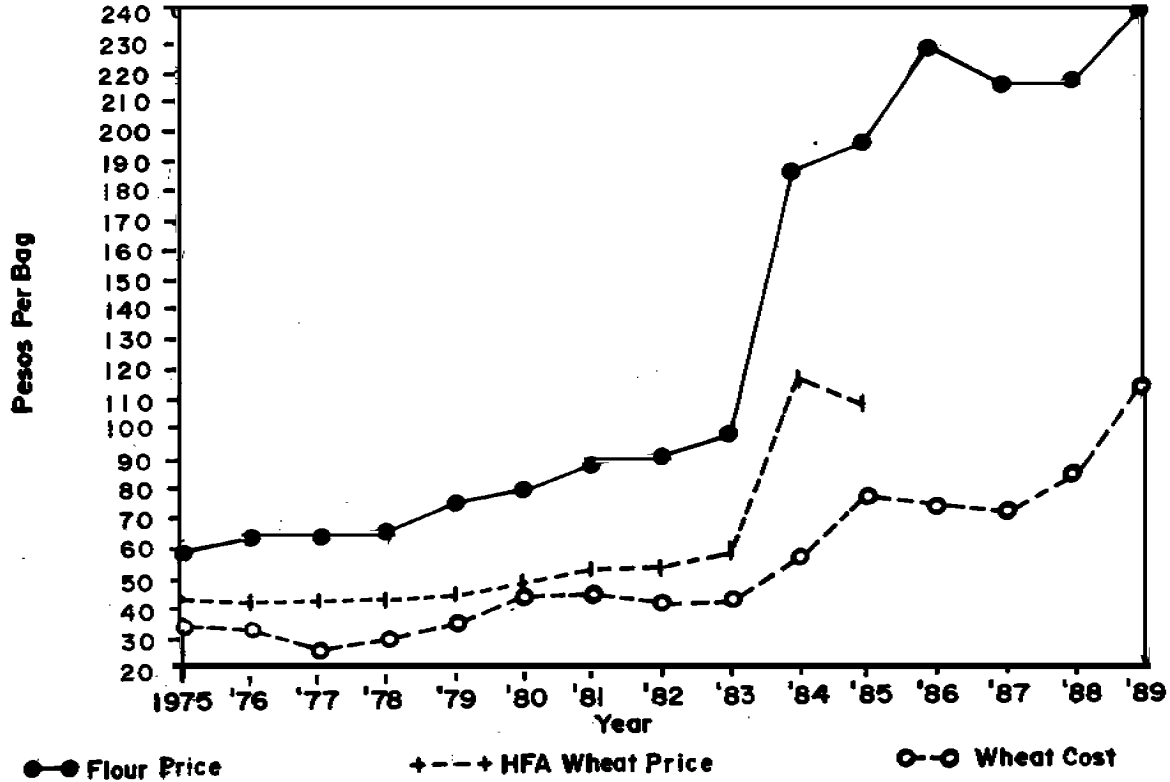
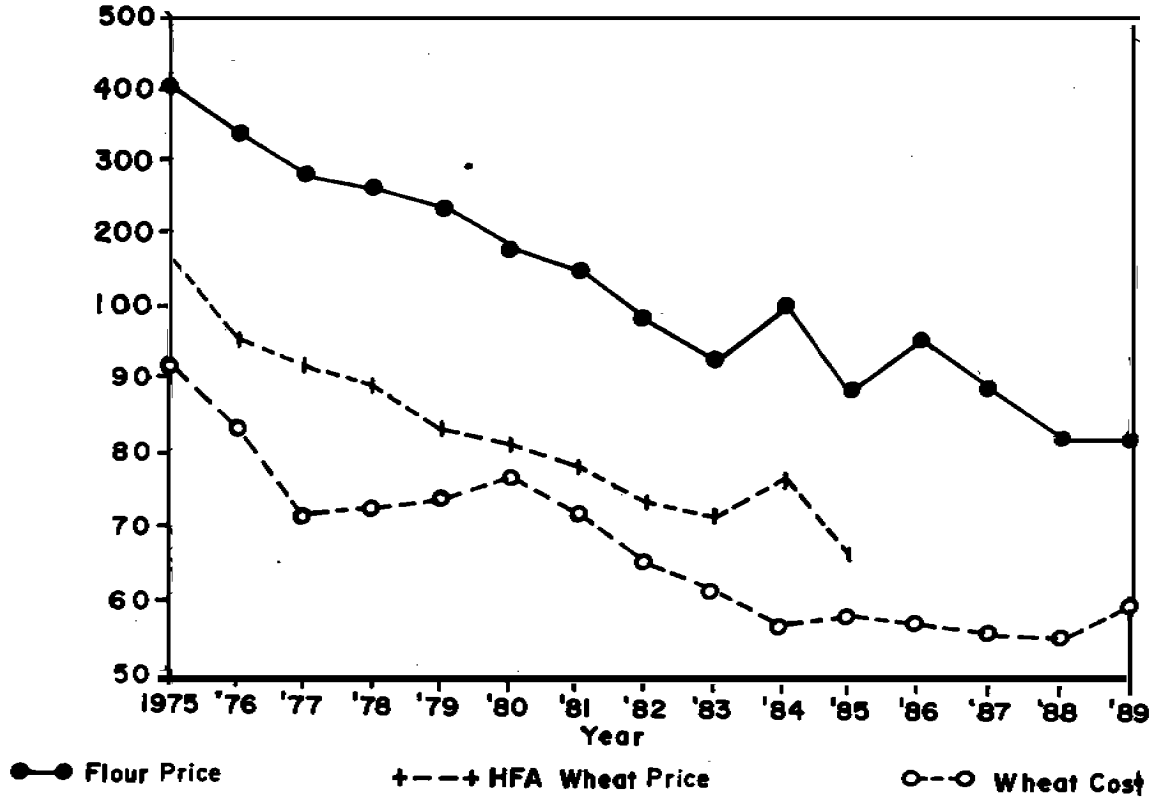


Figure 3b
FLOUR AND WHEAT PRICES
 (At constant 1988 prices)



Production and Sales Volume and Capacity Utilization

The industry has grown from a wheat usage level of 515,000 MT in 1975 to 1.1 million MT by 1988, or an average annual growth rate of about 7 percent (see Annex 3). Production and sales followed the same pattern, with sales growing from about 400,000 MT in 1975 to 845,000 MT in 1988. Stagnation and decline across all activity indicators were experienced for 1983-86 as a result of the economic crisis.

Annex 4 presents the number of millers, production capacity levels, and utilization rates over 1975-88. The figures show the entry of the last member of PAFMIL, Pacific Milling Corporation in 1976. Since then, there has been an increase of only 158,000 MT or 13 percent in production capacity for the industry. With growth in market demand, capacity utilization increased from 46 percent in 1975 to 81 percent in 1988, except for declines in 1984 to 1986. Figure 4 shows the capacity utilization of the industry. For 1989, the industry estimated its capacity utilization at 91 percent. The two largest flour millers, RFM and PFM, accounted for about 37 percent of total industry milling capacity as of 1988.

While it is known that these two flour millers control a large part of industry capacity, there is no data on breakdown of actual flour sales by company. In this respect, the usual economic measures of market concentration to reflect the degree of market power by companies such as the various concentration ratios and the Hirshman-Herfindahl index¹⁶ cannot be applied due to lack of firm-specific flour sales data. Most companies have many products other than flour. Flour constitutes a smaller percentage of revenues for larger firms like RFM, Universal Robina and General Milling. In any event, low relative concentration would not have provided much information. The cartel hypothesis in fact implies that output is allocated among its members to improve industry profits rather than to allow competition for market shares in which the more efficient firms would dominate.

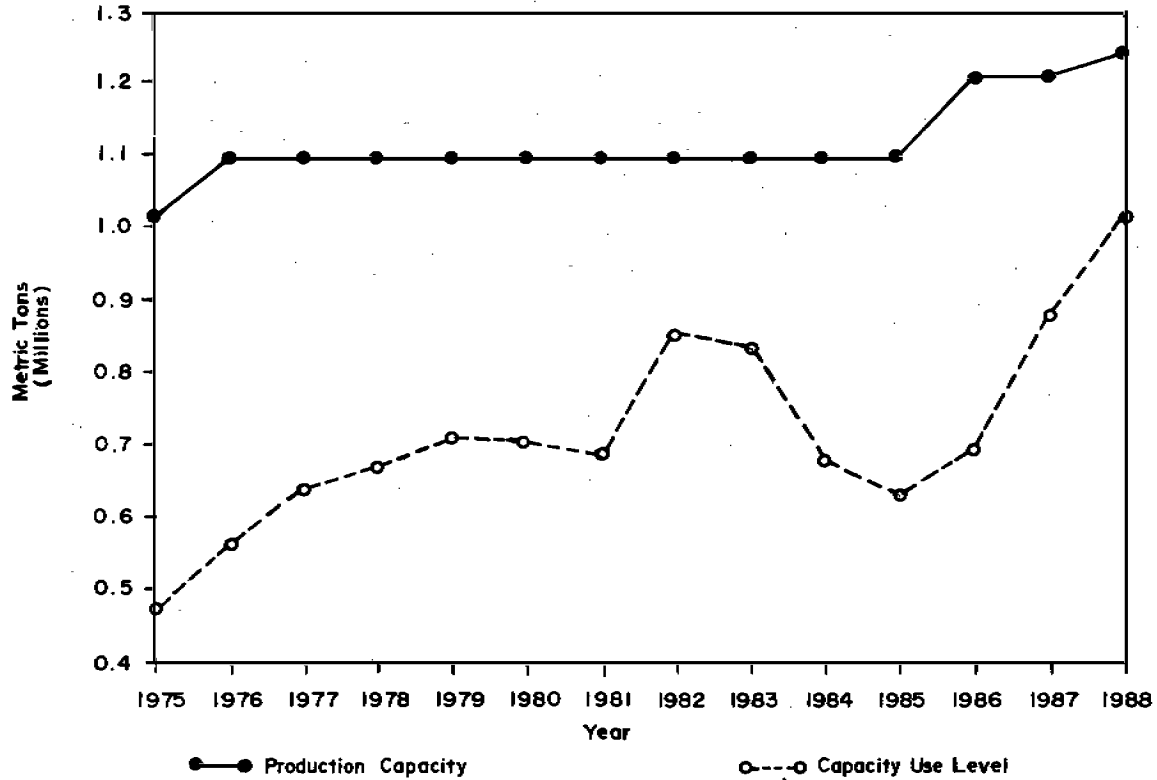
Industry Profitability

Based on audited financial statements of seven of eight flour millers, the accounting return on average stockholders' equity (ROE) is calculated, shown as Annex 5.¹⁷ The industry ROE consistently

16. A comprehensive concentration index which uses all firms' data and which is more applicable to relatively homogeneous (single-line-of-business) industries.

17. In calculating the ROE, the appraisal increase on fixed assets was deducted from the stockholders' equity of each company.

Figure 4
INDUSTRY CAPACITY PERFORMANCE
1975 - 1988



increased annually from 14 percent in 1981 to 39 percent in 1988. However, the ROEs should be interpreted with caution, again since RFM, Robina and General Milling are diversified companies while Wellington has substantial financial holdings. Nevertheless, analysis shall proceed keeping such limitation in mind.

For the pre- (before 1985) and postderegulation (1985 and later) periods, the industry experienced higher average returns after deregulation, or 35 percent compared to 20 percent before deregulation.¹⁸ In fact, every company performed better after deregulation. Pillsbury-Mindanao (57%), Wellington (45%), and Liberty (39%) were the most profitable firms after the deregulation. It is to be noted that these three companies have similar milling capacities and are the least diversified flour millers in the industry.

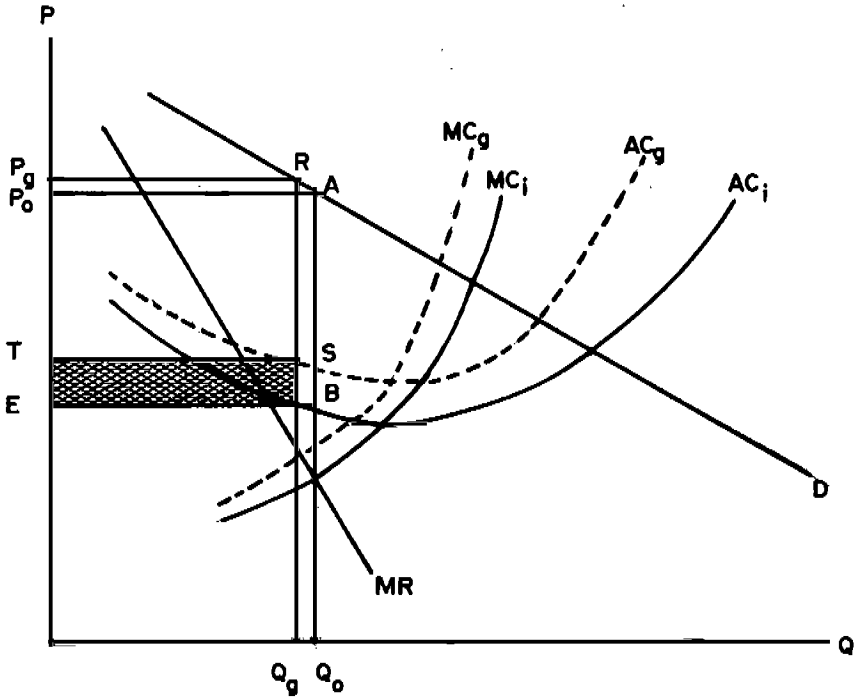
Annex 5 also compares the profitability of the flour milling industry and the overall food manufacturing industry (among the *Business Day Top 1000*). The last column of the Annex shows that the return of the flour industry exceeded that of the food industry for all years from 1981 to 1989 — 28 percent as against 12 percent. When segmented into the pre- and postregulation periods, the comparison reveals that the average flour industry return exceeded that of the food industry by about 12 percent for each period. In effect, while improved economic conditions by 1986 increased the profitability of the food sector, the flour milling companies simply continued to show the same excess return compared to other food companies. After controlling for overall industry influence, the last column and row cell of Annex 5 shows no difference in the excess return of the flour milling relative to the food industry, indicative of the same substantial market power of the flour milling companies even after deregulation. The intended benefits of deregulation — bringing flour prices down and keeping flour millers' profits in line with the food industry's — were not yet evident up to three years after deregulation. An explanation shall be offered for this phenomenon after an analysis of the components of these excess returns at the end of this article.

ESTIMATING THE COSTS AND BENEFITS OF NFA INTERVENTION IN WHEAT IMPORTS

The costs and benefits of the NFA wheat import scheme can be cast in the analytic diagram shown as Figure 5. The study's findings

18. One-way analysis of variance analysis indicates significant difference in ROE between 1981-84 and 1985-88 for the pooled sample of all firms for all years (at the 0.001 level).

Figure 5
EFFECTS OF NFA INTERVENTION IN
WHEAT IMPORTS



justify the representation of an upward shift in the flour industry's cost curves, AC_g and MC_g , in Figure 5. The immediate results are decreased production, from Q_o to Q_g , and increased prices, from P_o to P_g . After considering NFA's added cost and the price-quantity adjustments, the industry's excess return is the new area bounded by P_gRST in Figure 5.

The added cost to the industry due to NFA intervention corresponds to the area bounded by $TSBE$ which consists of (a) profits of NFA on wheat trade, and (b) NFA's own inefficiencies in its wheat imports. Only the first item is a wealth transfer from industry to government. Item (b) is a deadweight loss, an argument for liberalization of the wheat trade. This analysis then presents several questions as follows:

- 1) Did NFA's intervention increase, or decrease, the overall cost of the flour industry?

- 2) If it increased costs, how much of it was due to —
- a) Profits?
 - b) Inefficiency?

The answer to the first question is already evident in Figures 3a and 3b. NFA's sale prices of wheat to millers substantially exceeded wheat c.i.f. costs in all years except 1980 and 1981. The declines in real wheat cost in 1976-78 and 1983 were not followed by similar rates of decline in NFA's wheat selling prices. What is quite surprising is that the decline in real terms of wheat costs in 1984 coincided with a substantial *increase* in wheat price to millers. This indicates that NFA might have generated substantial margins from its wheat operations. Further, some of its price increases were not justified by corresponding increases in general price levels.

The second question is whether such potential margins for NFA were converted to "profits" (i.e., transfers from millers to the national budget) or whether they were lost as transaction costs. Annex 6 shows some results. The dollar value of wheat imports (column 1) was converted to local currency using the average peso-dollar exchange rate (column 2). The figure so derived (column 4) becomes the estimated cost to NFA of imported wheat. The selling price of wheat to millers (column 5) is compared to the cost of wheat to NFA in column 4. This provides an estimate of gross profit per MT to NFA. When multiplied by the actual tons of wheat sold to millers, an estimate of the average total amount of profits that *should have been* generated by NFA is made (column 8) as follows:

(Total Wheat Sales in Pesos to Millers) less (Estimated
Total Wheat Cost in Pesos to NFA) Equals Estimated
Gross Profit of NFA

This estimated gross profit can then be either realized or lost possibly due to inefficiency:

Estimated Potential Gross Profit of NFA = Realized Gross Profit + Other Costs of NFA

One measure of realized NFA gross profit is the reported profits of NFA per its accounting system. This is shown as column 9. The estimate of "other costs" is potential gross profit (column 8) less reported NFA gross profit. The results indicate that NFA's realized profits were lowest in 1975 and 1980 (₱97 million and ₱48 million, respectively) and highest in 1984 at ₱583 million. An interesting finding concerns the estimate of "other costs." Data show the least "other cost" occurring in 1975, 1979 and 1980 but registering a high of ₱1.05 billion in 1984 and ₱704 million in 1985. On average,

estimated NFA losses amount to ₱306 million per year, or about 56 percent of its potential surplus from wheat operations. These estimates of costs due to unexplained "other costs" appear substantial and in agreement with a finding by World Bank (1984) that "since NFA gained monopoly control on importing wheat, domestic prices to the millers have been on average about 32 percent higher than border prices implying an implicit tariff that is higher than private importing with a tariff of 20 percent."

NFA's intervention was associated with excess burden to flour consumers and producers, e.g., up to ₱1.6 billion in 1984. While part of this amount represents government revenues, a large component was due to outright losses directly borne by flour consumers and millers. Moreover, this burden is not similar to tariff as cited in the World Bank report because of its nontransparent nature.

ESTIMATING THE COST OF BORDER PROTECTION

Historical flour imports have been marginal, reaching their highest level in 1986 at about 13 percent of domestic sales. While the government has imposed tariffs on flour imports, the levels could not be considered as prohibitive, set at 30 percent for most of the 1975-88 period under review. Annex 7 presents flour import data in relation to domestic sales and prices. The relevant period to look at is 1985-88 when substantial flour imports entered the country. This also coincides with the profitable years of the industry. C.i.f. values for imports during the period of 1985-88 range from 40 to 50 percent of domestic ex mill prices. Even with the tariff and estimated (5%) handling costs, imports cost only an average of 76 percent of ex mill flour price during the same period. Since eventually all flour (whether domestic or imports) must sell at the going wholesale (ex mill) price, the difference of 24 percent must be the estimated margin of the flour importer. Some qualifications may be made regarding the foregoing estimates:

- a) Handling and distribution costs for flour may be higher than 5 percent for the importer.
- b) Imported flour even under the "bread flour" category may include the lower quality variety which is sold at lower prices.

Both possibilities would reduce the actual profits of the importer. There could also be other barriers to free imports of flour, particularly in the distribution aspect and in the linkage to flour users. Bakers may prefer to purchase from local millers who can

assure regular supply. In this industry, the government's tariff policy appears to have restricted imports to an average of 2 percent of the domestic flour market. Tariff constitutes the additional cost to the consumer due to border protection.

ESTIMATING EXCESS RETURNS AND PRODUCTION INEFFICIENCY: FLOUR MILLERS

The study estimates excess returns and production cost effects of apparent production decisions and policies by flour millers based on audited company financial statements. A better alternative would have been to use detailed cost estimates by the flour millers themselves, but these were not available.

Three companies of identical capacities are assumed typical of flour milling operations, namely: Pillsbury-Mindanao, Liberty and Wellington. Of the three, only Pillsbury-Mindanao had mainly flour milling operations, making possible the analysis of its financial statements as a single line-of-business report. Liberty has other lines of related business (livestock, groceries) while Wellington is a joint flour milling and investment corporation. In estimates of costs and returns on flour milling, it is necessary to: (a) allocate costs and revenues, and (b) apportion the owner's equity capital across lines of business. While the allocation process may be arbitrary, it provides a first approximation of excess returns and costs.

From Pillsbury-Mindanao's financial statements cost of sales information, "social cost of production" is estimated:

$$\begin{aligned} \text{Social Cost} &= \text{Cost of Production (Net of depreciation) at full} \\ &\quad \text{production capacity} \\ &+ \text{Selling and Administration Cost} \\ &+ \text{Other Expenses (Income)} \\ &+ \text{Social Rate of Return (15\% of Average Stock-} \\ &\quad \text{holders' Equity)} \end{aligned}$$

The cost of production for Pillsbury-Mindanao excludes "management fees" and "technical assistance fees" paid by the company to related companies. These items are considered as part of the returns to owners. Depreciation was excluded and, in lieu, a social rate of return was added. The 15 percent rate is the usual rate set by NEDA in appraising development projects. Stockholder's equity includes only contributed capital and retained earnings.¹⁹ In

19. Revaluation capital, which is a book adjustment to reflect current value of fixed assets, is excluded.

effect, the "social cost" is defined as the *minimal* cost of producing, selling and financing the production of flour with returns set at the maximum that is acceptable to society. It is calculated for full production capacity per year (300 days) and assumes that all costs vary with production except selling and administrative costs. To estimate the potential production inefficiency resulting from any restriction of output the production cost at full capacity is compared to cost at actual production level. In effect, the difference is the additional cost due to production below full capacity.

The results, assuming that Pillsbury-Mindanao represents the cost structure of the typical flour mill, is shown in Annex 8.

The estimated excess profits can be divided into pre-1984 and post-1984. Up to 1984, the excess profits of Pillsbury-Mindanao did not exceed ₱10 per bag or 10 percent of flour selling price. However, beginning 1984, estimated excess profits increased to ₱21 per bag in 1985, and ₱96 per bag in 1986 or 11 percent and 42 percent of selling price, respectively. Again, it should be recalled that the excess profits estimate includes "management fees" and "technical assistance fees" paid by the company to its related interest. To the extent that such fees were payments for the minimum required management inputs, the estimates of excess profit are overstated.²⁰

The estimated cost of curtailed production appears to be small, from 3 percent of the selling price in 1983 to 7 percent in 1986. Since plant costs considered are not included as "fixed," these estimates may be understated. This excess cost element has decreased in the last three years (1986-88) due to increasing plant utilization associated with increased consumer demand.

The results for the comparison case (Liberty Flour Mill) shown as Annex 9 follow a pattern similar to that of Pillsbury-Mindanao.²¹ There were also higher excess profits for Liberty during the postderegulation period. Estimates of excess profits for Liberty did not exceed 6 percent in 1985 compared to as high as 12 percent after 1985. The cost of curtailed production also reached its highest level in 1986, about 10 percent, and declined after that year as market demand expanded. A difference in Liberty's data lies in the non-separability of management/technical compensation from its other operating expenses.

20. Hence, there is some basis for considering these fees as excess profits since they increase or decrease with the profits of the company over time, indicating the discretionary and ownership nature of the payments.

21. For Liberty, an allocation of costs, revenues, and equity had to be done across the company's major product categories. Flour constituted about 80-90 percent of the company's costs of production per audited statements and the allocation method was based on this relationship.

SUMMARY OF RESULTS AND CONCLUSIONS

Summary Results

Focusing on the case of Pillsbury-Mindanao as a surrogate for the flour industry, and initially on the year 1984, the impact of industry conditions and government intervention on consumer welfare is illustrated in Figure 6.²² Insofar as corporate/industry decisions are concerned, the impact of excess profits amounted to 8 percent while the curtailment of production increased costs by 3.7 percent, both of average ex mill flour price. These are added costs to consumers, all together accounting for about 12 percent of the ex mill flour price. Excess profits are a transfer of wealth from consumers to flour millers, while higher costs due to reduced output are a loss to consumers but not a gain to the producers either (i.e., a dead-weight loss). Government policy, as reflected in the 1984 reported profits of NFA of 22 percent of ex mill flour price, constituted a wealth transfer from consumers to government. The estimated inefficiencies of NFA placed at 75 percent of the ex mill price for 1984 which were not accounted for in the transactions (see Annex 6) are a potentially important loss to consumers. The net result to the consumer in 1984 of adverse industry conditions and government intervention in 1984 was flour that cost them ₱185 instead of ₱122 per bag. From a first-best perspective, ex mill flour prices could have been 28 percent lower in that year. This estimate does not even include any hidden NFA inefficiencies. The welfare loss in 1984 was the total amount of "extra" ₱63 shouldered by consumers which was split ₱41 (65 percent) to government and ₱22 (35 percent) to industry. During that year, the government generated its biggest profits, more than those realized by flour millers.

Figure 7 has been derived from Annex 8 to conduct the same type of analysis for the entire period 1979-88 using the surrogate case of Pillsbury-Mindanao. Up until 1983, excess industry profits, excess factory costs and NFA profits were all relatively small. During this period, NFA partook of the larger part of the excess profits. In 1984, there was an abrupt increase in flour prices, and NFA received most of the excess returns. After deregulation, production costs went down (with lower wheat prices) and flour prices increased slightly. NFA's profits disappeared entirely and all excess profits were captured by the flour millers. The effect of deregulation at least within

22. All figures are based on Table 2.

Figure 6
 SUMMARY OF EXCESS PROFITS, EFFECTS OF CURTAILED
 PRODUCTION AND COST OF GOVERNMENT INTERVENTION
 (Per bag of flour, 1984)

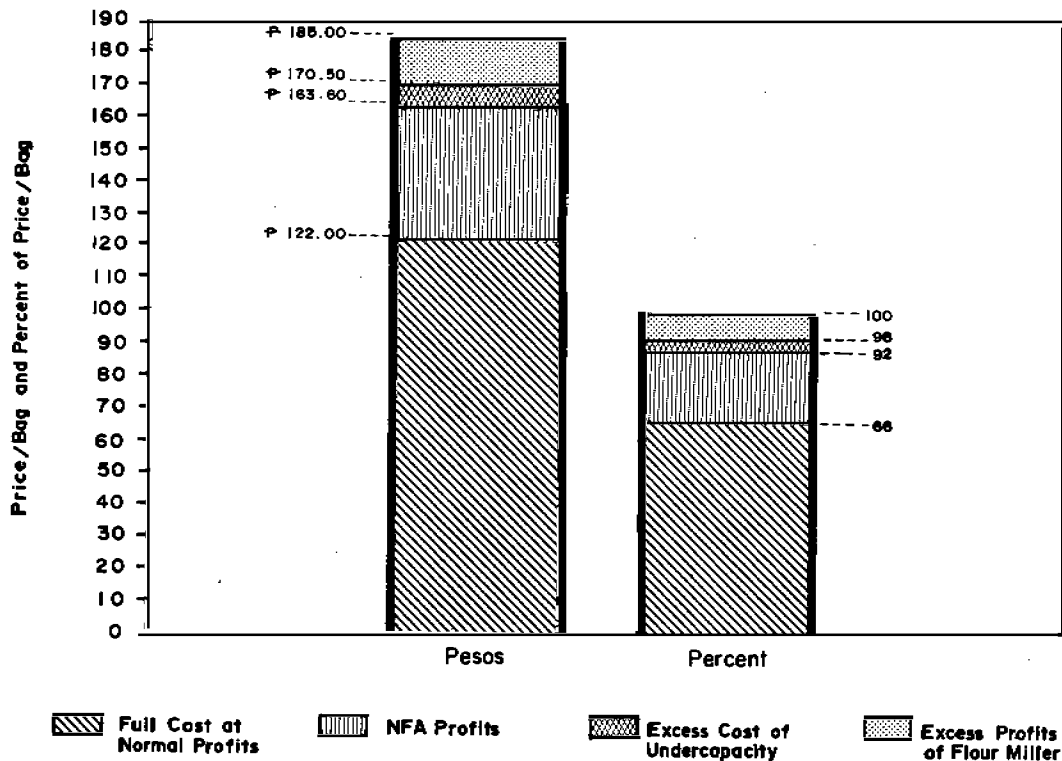
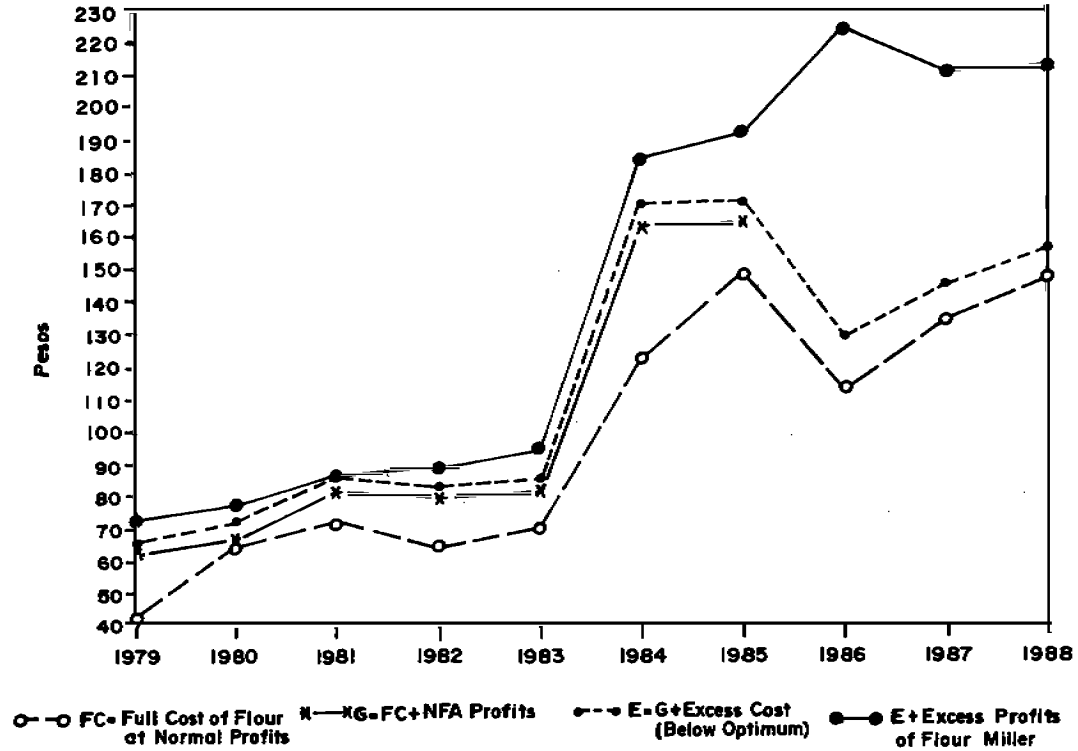


Figure 7
 COMPONENTS OF CONSUMER WELFARE LOSSES DUE TO
 GOVERNMENT AND INDUSTRY POLICIES
 (Per bag of flour, 1979 – 1988)



three years of its implementation, was a transfer of wealth from government (NFA profits) to the flour millers.

In Figure 7, it appears that all gains from deregulation were captured by the flour millers and not by consumers. Because of the structure of the industry, the withdrawal of government from the marketplace did not reduce flour prices. That the flour price increased when there was a contemporaneous decline in wheat costs to the flour millers during postderegulation further underscored the plight of the consumer. By that time, the government had lost the ability to immediately remedy the situation.

In free markets, the prospect of large profits attracts imports and new entrants. The soundness of the government's policy of liberalization is evident in the highest imports recorded from 1986 to 1988 (see Annex 7). However, due to the 30 percent tariff and high cost of financing and handling, imports had a limited effect on local flour prices. More significantly, liberalization allowed the entry of new flour millers who very likely noticed the high industry profits in 1986-88 and decided to invest right away. But considering the long setup period for such capital-intensive projects, these investments in new flour mills took some time to become fully operational. Meanwhile, during such a period of "adjustment," incumbent firms earned above-normal profits.

CONCLUSIONS

The usual *caveats* should be made about data limitations and the estimation procedures used in this study. The conceptual model proposed here was designed to assess the general magnitudes of: (a) excess industry profits; (b) inefficiencies by industry and government; and (c) "profits" of government. All of these factors represent excess costs to consumers, or a decline in their welfare.

The objective of this article is to determine *any* possible consequences of the past industry structure and of government policies, rather than to determine whether a "flour cartel" existed. Nevertheless, the observation of systematic adverse effects on consumer welfare is consistent with the results achievable by a cartel. Certain observable patterns of cooperation, low production capacities and past industry pronouncements shown here can be considered as "cartel-like" in nature. In like manner, direct intervention by government in wheat imports need not be adverse to consumer interest. Unfortunately, government intervention resulted in "profits" at the expense of consumers. There are several qualitative dimensions to the issue worth mentioning as final remarks.

First, the entry of the government in imports of wheat did not reduce the welfare loss to the consumers. In effect the government performed as a "purchasing department" of the flour millers, albeit an inefficient one. The flour millers largely passed on the costs of government's direct involvement in wheat imports to the consumers. Similarly, the subsequent exit of government did not immediately diminish the excess profit position enjoyed by the flour millers. The adjustment process in terms of entry for new firms took time, and the incumbent flour millers meanwhile reaped above-normal profits.

Second, it was government's acquiescence that enabled the flour millers to select policies which gradually brought about a "cartel-like" situation. Of special importance were the government's policies allowing joint wheat imports, cooperative allocation of imported wheat, disallowing expansion through a ban on new plant and equipment imports, and price controls operated with little knowledge-base concerning flour production and distribution costs. It also highlights the weakness of a price-regulation approach whereby the regulator is dependent on the industry for vital cost information.

Third, it should be noted that "profits" by NFA were plowed back for government use, e.g., for financing its rice price stabilization program. In this sense, NFA's "profits" should be called a surplus to differentiate it from the profits of flour millers. Having made that point, the negative aspects of NFA's intervention were shown to have far outweighed the good aspects. NFA's surplus placed it in an ambiguous position, one that is not conducive to correct behavior. For instance, should NFA have "maximized" its surplus? That would have been a policy decision harmful to consumers. Or should it have "minimized" its surplus? That would have amounted to a policy of "promoting" the consumption of imported flour over that of local rice farmers' output. It is this sense of ambiguity that made (and continues to make) government inherently incapable of undertaking intervention in the flour industry. The losses of NFA due to inefficiency were a further negative aspect. Unlike a tax, such implicit costs were not visible to consumers and to industry. It follows that the public cannot monitor and control its own government instrumentality in that regard. These are important arguments in favor of liberalization.

Fourth, and more positive, the remedies to the problems identified in the study are self-evident. Since government was instrumental in setting the cartel-like condition in the industry, its hand would likewise be crucial in reversing that condition. One set of policy options is to "break up" the industry using legislation similar to anti-trust schemes in the US. Legislation already exists covering persons

"who enter into agreement . . . or take part in combination in the form of trust in restraint of trade or prevent free competition."²³ A recent industry position paper by the Philippine Chamber of Commerce and Industry suggested that existing legislation on anti-collusion be strengthened, probably in terms of its tenor and enforcement. However, such a regulatory approach calls attention to the fact that many Philippine industries also consist of only a few firms. An alternative set of policy options would involve allowing (1) the entry of new flour millers, (2) the expansion of existing ones, and (3) flour imports. However, there are also penalties under this approach, in terms of possible instability in prices or bankruptcies of flour millers. Between the two options, the latter would at least permit the penalties to be borne directly by the private sector, the group which must make the consumption and production choices. Such a situation should be far more conducive to correct choices by consumers and flour millers.

Finally, one can readily predict the possible consequences of deregulation in the flour milling industry. Given the exceptionally profitable years 1984-87, many new companies recognized the excess profits being generated and entered the industry. Such capacity decisions should be reflected in the additional production of flour by 1990 onwards. In that case, PAFMIL would face some tough choices. The restriction of output depended crucially on government acquiescence on the nonentry of competition and price adjustments (although under "price control"). With deregulation, PAFMIL cannot take in many new members since that would mean absorption by existing members of the resulting costs of curtailed production, with little prospects of upward adjustment in prices. However, the economies of importing wheat shall continue to be a main rationale for continued "cartelization" of the industry. Since none of the new entrants is large enough to dominate the industry, prospects are for the formation of a new wheat import group outside PAFMIL. Competition can be expected between these two (or more) large flour milling groups. From a consumer welfare viewpoint, competition between two "cartelized" groups may not necessarily lead to a "first best" scenario, but is probably still better than the situation which prevailed during the period studied in this article.

23. RA 1956, "An Act Amending Article 186 of the Revised Penal Code Concerning Monopolies and Combinations in Restraint of Trade."

**Annex 1: Policy Measures Included as Conditionalties in Grant by the US
to the Philippines Under PL 480**

14 May 1985

Mr. Ramon Cardenas
Deputy Director-General
National Economic and
Development Authority
Amber Avenue, Pasig
Metro Manila

Dear Mr. Cardenas:

We refer to your 1st Indorsement dated 23 April 1985 concerning NFA's request to avail of the US PL480 Title I facility.

PROPOSED SELF-HELP MEASURES

The USAID may wish to consider as self-help measures, the general policy measures and guidelines incorporated in NFA's Development Thrusts and Strategies for 1985 to 1989, among which:

- 1) NFA's stabilization function to focus on rice, corn and wheat
- 2) The level of market intervention for the purpose of stabilization to be set on the basis of operational and financial efficiency and effectiveness
- 3) NFA's role in commodities other than rice, corn and wheat to center on market development rather than actual involvement in marketing activities
- 4) Development of a responsive and responsible private sector as the main concern in terms of facility development
- 5) Assessment of programs/project and facility development to be assessed on the basis of NFA's main mission of stabilization and on economic viability

It will be recalled that these policy guidelines are the same guidelines recommended by the ADB in the *Organization and Systems Study for NPA*, and to which the World Bank has expressed concurrence. It is also on the basis of these policy guidelines that NFA has agreed to the following more specific policy changes:

- 1) Deregulation of rice price in October
- 2) Opening up of wheat importation to the private sector, subject to NFA's supervision by way of prior licensing and approval of import permit
- 3) Opening up of flour distribution to the private sector
- 4) Eventual subsidiarization or privatization of Kadiwa operations, depending on the outcome of the study which the ADB, in principle, has agreed to sponsor under a separate Technical Assistance Grant.

Annex 1 (Continued)

UTILIZATION OF LOCAL CURRENCY PROCEEDS

As to the sales proceeds, we propose to use these in strengthening the post-harvest capability of small farmers. The most pressing needs of small farmers are on-farm storage and drying facilities which the farmers themselves can manage and operate and communal irrigation systems.

Attached is a copy of NFA's Development Thrusts and Strategies: 1985-1989 for your reference.

Very truly yours,

ROMEO R. LACSON
Deputy Administrator

cc: ODAL
OM

Annex 2
Wheat CIF and Flour Ex-Mill Prices
Actual and Constant 1988 Basis
(1975-89)

Year	At average actual prices			Wholesale price index (1988=100)	At average constant prices (base year = 1988)		
	Flour wholesale price (P/bag)	NFA Wheat price to millers (P/bag)	Wheat c.i.f. cost (P/bag)		Flour wholesale price (P/bag)	NFA Wheat price to millers (P/bag)	Wheat c.i.f. cost (P/bag)
1975	57.75	42.50	33.23	12.8	452.53	333.03	260.38
1976	63.65	42.22	32.87	15.2	419.83	278.47	216.80
1977	63.53	42.01	25.73	16.2	392.60	259.60	159.01
1978	64.97	41.99	28.05	17.0	381.83	246.76	164.83
1979	73.19	42.97	33.53	19.8	370.17	217.34	169.59
1980	77.77	47.14	42.28	22.7	343.13	207.98	186.54
1981	86.52	51.64	43.08	26.5	327.00	195.18	162.82
1982	89.17	51.67	39.11	30.4	293.73	170.23	128.83
1983	93.70	56.42	39.03	35.3	265.77	160.04	110.71
1984	185.00	113.72	53.58	60.8	304.29	187.05	88.13
1985	192.31	105.46	73.69	77.9	246.82	135.36	94.58
1986	224.68	n. a.	71.48	79.3	283.41	n. a.	90.17
1987	211.76	n. a.	68.56	85.4	248.06	n. a.	80.31
1988	213.05	n. a.	80.74	100.0	213.05	n. a.	80.74
1989	236.81	n. a.	111.88	110.6	214.11	n. a.	101.16

Sources: National Food Authority; PAFMIL.

Annex 3
Production and Sales Volume: Wheat and Flour
Domestic Production, Sales and Imports
(1975-88)

Year	Wheat usage m.t. ¹	Growth rate (%)	Domestic flour (m.t.)		Growth rate (%)	Imported flour	
			Production	Sales		m.t.	Growth rate (%)
1975	515,459		392,661	398,006			
1976	617,053	19.71	470,052	462,722	16.26		
1977	699,944	13.43	533,196	532,169	15.01		
1978	732,832	4.70	558,249	562,256	5.65		
1979	774,569	5.70	590,043	581,799	3.48		
1980	768,988	-0.72	584,105	586,432	0.80		
1981	749,238	-2.57	626,706	632,573	7.87	15,150	
1982	935,287	24.83	689,195	686,477	8.52	13,402	-11.54
1983	912,019	-2.49	691,942	693,770	1.06	10,770	-19.64
1984	740,920	-18.76	564,421	551,183	-20.55	8,775	-18.52
1985	689,387	-6.96	523,069	537,375	-2.51	27,292	211.02
1986	759,285	10.14	575,835	577,892	7.54	92,124	237.55
1987	959,342	26.35	718,524	729,549	26.24	46,231	-49.82
1988	1,105,993	15.29	831,238	844,456	15.75	57,907	25.26
Average:							
1975-88	782,880	6.82	596,374	598,333	6.55		
1975-80	684,807	8.56	521,384	520,564	8.24		
1981-85	805,370	-1.19	619,067	620,276	-1.12	15,078	40.33
1986-88	941,540	17.26	708,532	717,299	16.51	65,421	71.00

¹ 1975-78 was estimated based on historical wheat: flour ratio.

Sources: National Food Authority; PAFMIL.

Annex 4
Production Capacity and Utilization
Industry and by Company
(1975-89)

A. By Industry:

Year	Number of millers	Production capacity (MT, 275 working days)	Capacity utilization (percent)
1975	7	1,015,047	46.55
1976	8	1,096,058	51.61
1977	8	1,096,058	58.54
1978	8	1,096,058	61.29
1979	8	1,096,058	64.78
1980	8	1,096,058	64.31
1981	8	1,096,058	62.66
1982	8	1,096,058	78.22
1983	8	1,096,058	76.27
1984	8	1,096,058	61.97
1985	8	1,096,058	57.66
1986	8	1,208,533	57.59
1987	8	1,208,533	72.77
1988	8	1,240,800	81.71
1989	8	1,241,600	91.00

B. By Individual flour miller (as of 1988):

	m. t.	25 kg. bags
1. Republic Flour Mills	270,000	10,900,000
2. Liberty	164,600	6,584,000
3. Wellington	164,600	6,584,000
4. Pillsbury-Mindanao	164,600	6,584,000
5. Universal Robina	137,600	5,504,000
6. General Milling	129,600	5,184,000
7. Philippine Flour Milling	129,600	5,184,000
8. Pacific Flour Milling	81,000	3,240,000
Total	1,241,600	49,664,000

Sources: National Food Authority (NFA); PAFMIL.

Annex 5
Return on Average Stockholder's Equity (Percent)
Flour Milling Industry versus Food Manufacturing Industry
(1981-89)

Year	RFM	Liberty	Welling	Pills	Pacific	Robins	Milling	Flour industry ¹		Food mfg. ²	Excess return of flour over food mftg.
								Mean	S.D.		
1981	10.8	18.8	17.1	16.7	8.0	n. a.	n. a.	14.3	4.1	9.5	4.8
1982	12.8	23.5	11.1	21.8	5.1	n. a.	n. a.	14.9	6.9	5.3	9.6
1983	13.5	34.4	31.4	32.0	9.4	n. a.	n. a.	24.2	10.5	8.1	16.1
1984	12.9	43.2	42.9	29.8	10.3	n. a.	n. a.	27.8	14.2	11.6	16.2
1985	12.2	28.7	31.2	51.8	13.6	12.3	n. a.	25.0	14.3	n. a.	n. a.
1986	18.0	43.0	52.5	54.2	24.3	29.8	n. a.	37.0	13.8	23.7	13.3
1987	19.9	45.8	54.1	69.0	26.8	28.8	n. a.	40.7	17.2	28.9	11.8
1988	53.0	37.8	40.5	51.1	27.6	n. a.	22.1	38.7	11.2	27.6	11.1
1989	31.8	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.			
SUMMARY:											
1981-1989:											
Mean	20.6	34.4	35.1	40.8	15.7	23.6	22.1	27.8	11.5	16.4	11.8
S. D	13.0	9.3	14.5	17.1	8.6	8.0	n. a.	9.6	4.0	9.2	3.7
1981-1984:											
Mean	12.5	30.0	25.6	25.1	8.2	n. a.	n. a.	20.3	8.9	8.6	11.7
s. d	1.0	9.5	12.4	6.1	2.0	n. a.	n. a.	5.9	3.8	2.3	4.8
1985-1988:											
Mean	25.8	38.8	44.5	56.5	23.1	23.6	22.1	35.3	14.1	26.7	12.1
s. d	16.0	6.5	9.3	7.3	5.6	8.0		6.1	2.1	2.2	0.9
Excess Return Due to Deregulation (1985-88 less 1981-84):											
Mean	13.3	8.8	18.9	31.4	14.9	n. a.	n. a.	15.1	5.2		0.4 ³

Sources: 1. Audited Financial Statements of Companies.
2. Business Day Top 1000 Corporations.
3. Excess return due to deregulation after controlling for food industry influence.

Annex 6
Estimated Profits and Costs of Government
Wheat Import Monopoly
(1975-85)

Year	Value of wheat imports (c.i.f.) (\$)	Average pesos to US dollar rate	Peso value of imports		Sales to millers average price/m.t.	Gross profit per m.t. of wheat sales to millers	Actual m.t. of wheat sales to millers	Estimated gross profit of NFA wheat sales (P 000)	Reported gross profit of NFA (P 000)	Estimated cost of NFA inefficiency	
			Total	Pesos/m.t.						(P 000)	Percent of total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1975	89,852,137	6.77	606,944,967	1,329.15	1,700.00	370.85	448,753	166,422	97,422	68,980	41.4
1976	129,135,748	7.23	933,651,458	1,314.72	1,888.72	374.00	734,080	274,535	81,750	192,785	70.2
1977	85,171,875	7.47	836,233,906	1,029.22	1,680.28	651.06	627,268	408,391	183,999	224,392	54.9
1978	113,683,909	7.44	845,808,283	1,121.89	1,679.47	557.58	695,697	387,907	170,172	217,735	56.1
1979	155,745,985	7.39	1,150,962,829	1,341.25	1,718.86	377.61	908,251	342,966	281,682	61,284	17.9
1980	175,584,687	7.40	1,299,328,684	1,691.18	1,885.54	194.36	751,841	146,125	48,314	97,811	66.9
1981	189,918,295	7.51	1,426,286,395	1,723.18	2,065.76	342.58	856,195	293,315	134,380	158,935	54.2
1982	170,751,455	7.86	1,412,848,438	1,564.30	2,066.93	502.63	894,892	449,799	264,634	185,165	41.2
1983	148,471,540	8.48	1,259,038,659	1,561.22	2,256.99	695.77	861,623	599,494	198,402	401,092	66.9
1984	153,981,854	10.99	1,692,260,576	2,143.29	4,218.51	2,075.22	787,524	1,634,287	583,220	1,051,067	64.3
1985	116,982,407	16.70	1,953,606,197	2,947.71	4,548.77	1,601.08	570,466	913,348	209,322	704,026	77.1
Annual Average								510,599	204,847	305,752	55.6

Sources: National Food Authority: (1), (3), (5), (7), (9); Central Bank: (2).

Annex 7
Flour Import Quantity and Prices
(1975-88)

Year	Imported		Average pesos to US dollar rate	Total value (pesos)		Imported flour price per bag (pesos)		Flour import price as percent of to ex mill price/bag (in percent)		
	Quantity (bags)	Percent of domestic Sales		F.o.b.	C.i.f.	F.o.b.	C.i.f.	F.o.b	C.i.f.	C.i.f.+ tariff + handling
1975	385,605	2	6.77	18,410,521	22,059,943	47.74	57.21	83	99	122
1976	153,925	1	7.23	3,293,843	5,122,195	21.40	33.28	34	52	120
1977	157,828	1	7.47	3,649,170	5,798,909	23.12	36.74	36	58	96
1978	18,154	a	7.44	513,933	645,822	28.31	35.57	44	55	91
1979	240,710	1	7.39	10,053,289	10,768,575	41.77	44.74	57	61	102
1980	—	—	7.40	—	—	—	—	—	—	—
1981	1,238	a	7.51	75,370	163,200	60.88	131.82	70	152	254
1982	1,439	a	7.86	117,476	254,695	81.64	177.00	92	198	330
1983	6,208	a	8.48	493,316	1,460,536	79.47	235.28	85	251	418
1984	202,480	1	10.99	18,691,286	19,849,863	92.31	98.03	50	53	88
1985	789,980	4	16.70	58,476,286	71,433,131	74.02	90.42	38	47	78
1986	3,098,493	13	18.74	285,831,325	352,891,778	92.25	113.89	41	51	74
1987	1,186,197	4	20.40	84,371,442	105,383,483	71.13	88.84	34	42	70
1988	1,395,451	4	21.02	114,559,210	144,460,791	82.09	103.52	39	49	81
Average	587,516	2		46,041,267	56,945,609	61.24	95.87	54	90	148

Source: Central Bank (Import Quantity and Value); NFA (Domestic Sales and Prices).

^aLess than one percent.

Annex 8
Estimated Excess Profits and
Cost of Curtailed Production Level:
The Case of Pillsbury-Mindanao Flour Milling Co.
(1979-88)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<i>Pesos per bag</i>										
Ave. Wholesale Price of Flour/25Kg Bag	73.19	77.77	86.52	89.17	93.70	185.00	192.31	224.68	211.76	213.05
Actual Cost of Production	67.57	71.07	85.43	82.69	84.29	170.46	171.06	129.06	145.10	156.08
Excess Profit at Actual Capacity	7.62	6.70	1.09	6.48	9.41	14.54	21.25	95.62	66.66	56.97
Fixed Cost Per Bag at Actual Capacity	6.44	7.55	8.33	6.40	6.34	10.95	11.77	26.52	20.24	21.13
Fixed Cost Per Bag at Full Capacity	2.75	3.55	3.94	3.18	3.52	4.11	5.38	9.89	9.59	12.18
Cost of Curtailed Production Levels	3.68	4.00	4.39	3.22	2.82	6.84	6.40	16.63	10.65	8.95
<i>Percent of flour sales price per bag</i>										
Actual Cost to Sales Price	89.59	91.39	98.75	92.74	89.95	92.14	88.95	57.44	68.52	73.26
Excess Profit to Sales Price	10.41	8.61	1.25	7.26	10.05	7.86	11.05	42.56	31.48	26.74
Cost of Curtailed Production Levels	5.03	5.15	5.08	3.61	3.01	3.70	3.33	7.40	5.03	4.20

Source of basic information: Audited financial statements of Pillsbury-Mindanao Flour Milling Co.; NFA (for average ex mill prices of flour).

Annex 9
Estimated Excess Profits and
Cost of Curtailed Production Level:
The Case of Liberty Flour Milling Co.
(1980-88)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
<i>Pesos per bag</i>									
Ave. wholesale price of flour/25Kg bag	77.77	86.52	89.17	93.70	185.00	192.31	224.68	211.76	213.05
Actual cost of production	70.56	82.82	83.84	81.32	157.34	n.a.	171.59	160.49	n.a.
Excess profit at actual capacity	7.21	3.70	5.33	12.38	27.66	n.a.	53.09	51.27	n.a.
Fixed cost per bag at actual capacity	5.43	7.57	6.21	8.15	16.35	18.63	37.66	37.29	29.58
Fixed cost per bag at full capacity	2.22	2.70	3.14	4.51	7.10	7.88	15.67	18.94	18.52
Cost of curtailed production levels	3.21	4.88	3.07	3.64	9.26	10.76	21.98	18.35	11.06
<i>Percent of flour sales price per bag</i>									
Actual cost to sales price	90.73	95.72	94.02	86.79	85.05	n.a.	76.37	75.79	n.a.
Excess profit to sales price	3.15	3.25	3.75	5.54	4.51	n.a.	9.13	11.80	n.a.
Cost of curtailed production levels	4.13	5.64	3.44	3.88	5.00	5.59	9.78	8.67	5.19

Source of basic information: Audited financial statements of Liberty Flour Milling Co.; NFA (for average ex mill prices of flour).

REFERENCES

- Ashoff, Guido. "Rent-Seeking: A new Concept in the Economic Theory of Politics and the Debate on Development Theory." *Economics* 40 (1989), Institut fuer Wissenschaftliche Zusammenarbeit, Tuebingen, West Germany.
- Hirshleifer, Jack. *Price Theory and Applications*, Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1976.
- Lindsey, C. "Changes in Market Concentration in Philippine Manufacturing: 1960-70." *Philippine Review of Economics and Business* XVII (March/June 1980).
- Monke, E.; Pearson S. and Silva-Carvalho, J. "Welfare Effects of a Processing Cartel: Flour Milling in Portugal." *Economic Development and Cultural Change*, The University of Chicago, 1987.
- Patalinghug, Epictetus, E. "Market Concentration in Philippine Food, Home Appliance, and Textile Industries." *The Philippine Review of Economics and Business* XX (June 1983): 215-232.
- Saldana, Cesar G., "The Philippine Commercial Banking System: Structure, Performance and the Impact of the Capital Buildup Program of 1972." *The Philippine Review of Economics and Business* XXI (September and December 1984).
- _____. *Corporate Versus Consumer Welfare: The Case of the Philippine Flour Milling Industry*, GOP-UP ORC Project No. 08805 SS, Series of 1988, University of the Philippines, Diliman, Quezon City, December 28, 1989.
- Weiss, Leonard W., and Strickland, Allynd D. *Regulation: A Case Approach*. McGraw-Hill, Inc., 1976.
- World Bank, *Country Sector Report: Philippines*, Annex 4: "Agriculture: Issues in Pricing Policy," July 10, 1984.