



**INDEPENDENT CONSUMER & COMPETITION COMMISSION**

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**REVIEW OF FLOUR PRICES**

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**FINAL REPORT**

***18<sup>th</sup> July 2005***

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The Independent Consumer and Competition Commission (“Commission”) is a statutory body, established under the provisions of the *Independent Consumer and Competition Act, 2002*. The Commission has been given responsibility for the promotion of competition and fair-trading, the regulation of prices for certain goods and services, the protection of consumers’ interests, and other related purposes.

The Commission has three Commissioners:

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## FOREWORD

The Commission is responsible for the regulation of the prices of “**Flour**” and flour products. In Papua New Guinea (PNG), flour grain is imported, milled and distributed by two companies, namely Associated Mills Limited (AML) and Tablebirds. AML is a subsidiary company of Goodman Fielder International (PNG) Limited (GFI) and manufactures the **Flame** and **Mothers Choice** flour brands while Tablebirds is a subsidiary of Mainland Holdings Limited (MLHL) and manufactures flour under the **3-Roses** brand.

Briefly, the previous regulatory arrangements under the *Prices Regulation Act (Chapter 320) (“the Act”)* covered the following areas:

- Review of flour prices, undertaken on a bi-monthly basis and directed at consideration of exchange rate, Australian Wheat Board (AWB) card prices and international freight cost changes;
- Annual reviews of the Annualised Non-commodity Costs such as mill run, labour, overhead manufacturing costs and international freight and handling charges; and
- The setting of a fixed retail and wholesale margin that applied to the sale of flour and flour products.

Under the new legislative changes relating to the introduction of the ICCC Act and the provisions of Section 25A (6) of the *Prices Regulation Act* as amended, the Commission has undertaken a major review of the pricing regulatory arrangements applying to flour and flour in its various variant forms and packages. This review *inter alia* considered whether continuing price control or regulation of flour prices is required, and if so the form of regulation that should apply to flour prices.

To assist the Commission in making informed decisions as part of the review, the Commission released an Issues Paper on 7<sup>th</sup> June 2004 and sought submissions from all interested parties including the local flour millers, biscuit companies, bakeries, hot-bake shops, household consumers, government agencies and other interested parties. The Issues Paper provided an overview of the matters that the Commission considered to be vital as part of the review and the processes that the Commission was to use in undertaking the review.

The Issues Paper was followed by the release of the Draft Report on 28<sup>th</sup> February 2005, which was intended to indicate the Commission’s views on the submissions that have been received and to provide the draft conclusions and determinations of the Commission on the future of price regulation for flour in PNG. Again, interested stakeholders were invited to make submissions to the Draft Report.

The Final Report now brings forth the Commission’s final price determinations which will apply to flour prices within PNG over the five year regulatory period commencing 1<sup>st</sup> July 2005 and concluding 30<sup>th</sup> June 2010.

**1.1 Background to the Review**

The function of regulating the prices of flour was previously performed by the Office of the Price Controller, through the Department of Treasury and the former Consumer Affairs Council.

The methodology that was used then to set prices for flour and associated packaged products was originally devised in 1991, and had basically remained unchanged since that time. The old methodology was usually applied on an ad hoc basis with inconsistent pricing determinations and created some difficulties in administration. Furthermore, the process whereby decisions were taken on price adjustments was not transparent as is now envisaged under the ICCA Act. Notwithstanding agreed procedures for price evaluations, reviews were more focused on current costs and not other factors such as new investment requirements, service standards, and a balancing of the interests of the regulated business and consumers as is now required under Section 21(2A) of the amended *Prices Regulation Act*.

In addition, circumstances have changed in the flour industry prompting the need for a review to decide whether there is a need to continue, amend or terminate the regulatory arrangements applying at the time of the review. The objective of this review is a consideration of whether price regulation is required for flour, and if so, what is a transparent, accountable and consistent pricing system beneficial to both consumers and the Flour Industry, and contributing to the economic development of PNG.

The review also considered the appropriateness of the Wholesale and Retail margins that were set under the previous price control regime at 11% and 10% respectively.

**1.2 Legislative Requirements**

The Commission is undertaking this review in accordance with the amended provisions of the Prices Regulation Act (Ch. 320). In undertaking this review, the Commission is to have regard to the following:

- Sections 10, 20A, 20B, 21, 25A, 25B, 25C and 32A of the Act;
- Confidentiality and public disclosure provisions of the Act on information received in submissions; and
- The current and prospective outlook for the Flour Industry in PNG.

Under Section 10 of the Act, the Government through the Minister for Finance and Treasury has declared flour and the following related flour product differential packaging for price control purposes:

- Bakers Flour
- Cracker Flour
- Biscuit Flour
- Soft Flour
- Wheat Flour (Plain Flour)
- Wholemeal Flour
- Self Raising Flour

The ICCC Act made a number of changes to the Prices Regulation Act under which the prices for flour and its differential packages and products are controlled. In particular, the Prices Regulation Act was amended in the following ways:

- A new section, Section 20A was included which requires the ICCC to publicly notify its intention to determine a Pricing Order under Section 21 of the Act.
- Section 21 (2A) (*see Attachment*) was added which introduces specific requirements on the ICCC in terms of the matters that it must consider when making a Pricing Order, including encouraging greater efficiency, ensuring an appropriate rate of return and appropriate safeguards for quality, reliability and safety for the supplying industry, and protecting consumers from the misuse of market power by suppliers of declared goods and services.
- Sections 25A, 25B and 25C were introduced which specify the process by which a review of a Pricing Order can be undertaken including the deadlines that must be met, the requirement for the Commission to publish details of its decisions, and the form of a decision that can be taken by the Commission as a consequence of such a review.
- Section 25A (6) allows the Commission of its own accord to initiate a review.
- Section 25C (3) specifies that in response to a review, the Commission may determine to:
  - continue to apply the existing price control arrangements in their present form,
  - vary the existing price control arrangements, or
  - terminate the present price control arrangements.
- Section 32(A) provides for the declaration of goods or services for price monitoring purposes as an alternative to price control. This is a less stringent form of regulation, which effectively allows the Commission to oversee the prices being charged for the declared goods or services, without requiring the industry to incur the cost of a more heavy-handed direct price control approach.

Under a *prices monitoring arrangement*, if it is evident that price movements are not reflective of appropriate competitive market benchmarks, the Commission can recommend to the Minister for Treasury that the relevant goods or services be declared under Section 10 of the Act for full price control purposes.

These amendments to the Act increases the flexibility of the Commission in terms of its overall price control activities, and allow for appropriate mechanisms to be developed and implemented that meet the objectives of the Government in terms of price control while minimising the cost of undertaking the price control tasks, thereby ensuring that price control does not of itself create other unintended adverse economic consequences.

### **1.3 Review Process**

This current review was initiated under the provisions of Section 25A (6) of the Act. The process to be followed by the Commission is to facilitate public comment and transparency at all stages of the review.

The process involves the following broad stages:

- Public announcement of inquiry & invitation for submissions to be made to the Commission (*see Attachment*);
- Release of an Issues Paper discussing aspects of the inquiry and the major issues that the Commission believes need to be considered;
- Release of a Draft Report and the inviting of submissions on that Draft Report (*see Attachment*);
- The possible holding of Public Hearings on the Draft Report; and
- Release of the Final Report and Determinations.

Copies of submissions received by the Commission in the conduct of this review (unless treated as confidential) will be available for public viewing at the Commission's office on a 'Public File' or copies can be obtained from the Commission at a nominal cost for photocopying. This Final Report is also a public document and can be obtained from the Commission's office.

The flour industry in PNG is comprised of two local millers and importers of flour, premixes and bread components that supply flour and flour in its variant forms to the PNG market.

## **2.1 Major Players in the Flour Industry**

In PNG there are two major players in the flour industry, namely Associated Mills Limited (AML) and Tablebirds.

- AML is a subsidiary company of Goodman Fielder International (PNG) Limited (GFI), which owns 74% of AML's shares. The remaining shares are held by Melanesian Trustee Services Limited on behalf of the Pacific Balanced Fund. AML is the major participant in the flour industry, holding more than 60% of the domestic market share in PNG.

AML operates two flour mills, one in Port Moresby and the other in Lae, processing and distributing flour under the brand names "Flame" and "Mothers Choice" to all parts of the country. AML's products range from a 1kg pack to a 50kg bag and are sold for household consumption and for commercial use such as by biscuit companies, food processors and bakeries.

AML employs 500 people who work in the flour mills in Lae and Port Moresby.

- Tablebirds is the other major player in the flour industry in PNG and is wholly owned by Mainland Holdings Limited. The company has a flour mill in Lae producing flour under the "3-Roses" brand for distribution and sale in PNG. Tablebirds also operates a chicken growing and processing facility, producing chicken products under the brand name "Tablebirds". The milling operation run by Tablebirds also produces animal food products such as poultry food pellets.

AML held a monopoly of the PNG flour market for many years until Mainland Holdings Limited established a new flour mill in 2000 through its Tablebirds subsidiary. This operation has since provided competition to AML and currently holds about 30% of the market with an objective to increase its share to 35% of the total flour market in PNG.

Tablebirds mills and sells flour in packaging sizes ranging from 1kg packs to 50kg bags for various consumers including food processors, bakeries, biscuit factories, bake shops and households. Tablebirds primarily sells its product in larger package sizes for commercial users.

In addition to selling in pre-packaged packs, both millers also sell flour in bulk without packaging to some of their major clients, especially larger industrial users of flour products. It is evident in submissions received that Tablebirds undertakes bulk sales for a larger volume of its total output in comparison to AML, of which smaller packs for household consumption account for a larger volume of its total output than bulk sales.

Other suppliers to the domestic market are essentially importers. As discussed further below, there has been a gradual growth in imported flour products over recent years as import barriers have been lowered and various flour based bakery ingredients have been imported duty free as they fall outside the existing tariff definitions. While directly imported supplies represent a small component of the total market (around 10%), it has been a growing part of the market in recent years.

Under the provisions of Section 25C (3) of the Act, the Commission is required when undertaking a review of this nature to consider whether to:

- continue the existing price control arrangements in their present form,
- vary the existing price control arrangements, or
- terminate the present price control arrangements.

The first step in this review process therefore is to consider whether or not some form of price regulation should be retained for flour prices in PNG. For the Commission to form a view on this matter it must address issues surrounding the extent to which competition exists in the relevant market, the degree of countervailing power consumers hold, and the opportunity for new entrants to enter the market or substitute products to compete against declared goods.

In the following sections the Commission addresses these issues.

### **3.1 Import Competition**

PNG does not produce its own grain crops. Rather, it imports wheat grain or flour products milled from wheat grain. As a consequence, access to international markets for the supply of flour or grain for milling into flour products represents the primary source of these products for the domestic market. Barriers to entry for flour or grain will significantly influence the degree to which competition and contestable market behaviour can operate in PNG.

To protect the local flour milling industry in its infancy stages the Government placed a tariff on the importation of overseas flour products.

Initially a 40% tariff was imposed on imported flour to support the local industry. However, that tariff was reduced in 2003 from 40% to 20%. A further reduction in the tariff is expected as part of the Government's tariff reform program. As a consequence of the reduction in the tariff to date, there has been growing competition for the supply of flour products in the domestic market, particularly for the supply of flour as an input to other manufacturing activity (e.g. bakeries). This has been particularly evident in the area of imported premix flour used to make bread. To protect their market share the two domestic millers, AML and Tablebirds compete vigorously with each other and with flour premixes and bread ingredients imported free of duty from Fiji, Solomon Islands and Europe. This competition is primarily directed at the larger industrial users of flour products.

A further reduction in tariff protection is expected to occur in 2006 when tariffs will be reduced to 15%. It is expected that this will result in a

downward trend in the prices of competing flour products over the first quarter of 2006. This tariff reduction will also further open up the domestic market to competition and will facilitate more imported flour and premixes entering the PNG market.

Despite the scheduled reduction in tariff protection, flour imports will still attract a 15% tariff rate from 2006. This can be expected to have an impact on the extent to which importers can compete with the domestic millers. The reduction in the tariff will encourage the domestic industry to improve its competitiveness although competition will still be restrained, particularly for industrial users. As a result, there is the possibility that consumers in general will continue to pay prices for flour and flour based products that are inflated by the effect of the tariff. This can have the effect of passing higher costs through to final consumers of the products produced by these industrial consumers of flour, such as biscuit and noodle manufacturers. Submissions to the Commission note that imported biscuits have doubled their market share in the last five years, and have argued that this is a consequence of the cheaper prices for flour in other markets.

It should also be noted however, that the domestic millers have a natural advantage in that they are more readily able to meet the demand of the domestic flour using industry. This convenience to the market factor can compensate in some way for the potential for higher tariff influenced prices in PNG, but would need to be considered on a case-by-case basis.

In its submission to the Draft Report, Lae Biscuit Company argued that flour exhibits the properties of a 'Giffen good' in some circumstances in PNG. That is, because of the 'essential good' nature of flour throughout much of the economy, as the price of flour and flour based products increase, domestic consumers will buy more flour for use to produce their own bread and scones rather than buying the increasingly expensive pre-baked products. However, at the same time they will have less disposable cash income available for other important nutritional goods such as tinned fish and tinned meat, and thus their consumption of these other goods will decline. It is argued that this scenario is evident in settlement communities where, as the prices of flour-based products such as bread, scones and buns rise reflecting higher flour prices and the effect of the tariff, people cut their use of other products out of their budgets and purchase more flour in order to make their own bread, scones and buns.

The Commission acknowledges that the use of a tariff can have the effect of diverting expenditure in ways that were perhaps not originally intended. The Commission also notes that the Government is currently undertaking a program of tariff reductions, and this will remove some of the artificial barriers to efficient prices and competition in the domestic market that a tariff is by its nature, creates. When considering the supposed benefits of tariff protection for 'infant industries' and the like, it is important that the wider impact of a tariff be considered so that the overall net benefit or net cost of the tariff is fully understood. In terms of the flour industry, these 'net benefit' issues need to be carefully considered as part of the program of gradual tariff reductions that has been underway for a number of years and may still take a number of more years to complete.

Despite imported flour still carrying a tariff of 20% (to be reduced to 15% in 2006), flour can be imported duty free from the Solomon Islands and Fiji, and premixes are free of duty from all locations. With the emergence in the domestic market of many smaller bakeries supplying the demand for bread across the country, there has been a fragmentation of one of the largest single consumer groups for flour in the country, namely the larger bakeries. The two domestic flour millers can no longer be assured of this part of the market, particularly as bakeries take to importing their flour or flour mix needs directly from overseas.

For this part of the market there has been a significant change in the competitive situation since price regulation was first introduced. Alternative sources of supply from overseas are now available and act as a constraint on the market power of the two domestic flour millers.

However, for the domestic household sector, there has not been as significant a change in the level of competition. The primary products consumed by this sector are the plain and self-raising styles of packaged flour which still attract a tariff of 20% (free from Fiji and Solomon Islands). While the reduction in this level of protection from 40% to 20% (and the further expected reduction in the tariff to 15% in 2006) increases the potential for competitive imports to act as a constraint on any use of the market power held by the two domestic millers, it does not represent as considerable a constraint as that evident within the market for flour products used by bakeries.

For food manufacturers and commercial consumers of flour other than domestic bakeries, the opportunity to avoid the current 20% tariff is not as great as for those consumers of bakery pre-mixes. These larger non-bakery commercial consumers do have some market (countervailing) power in terms of their ability to negotiate between the two domestic millers and it is evident through changes in delivery technologies from 50kg bags to bulk flour delivery, that this countervailing power is being applied. However, it is only as the tariffs are further reduced that this consumer group will have further viable options in terms of overseas supply at non-tariff protected competitive prices.

### **3.2 Competition between the Two Local Millers**

Prior to 2000, there was only one domestic miller and with the protection of a tariff of up to 40%, that miller held a dominant position in the domestic market. With the establishment of the second miller in 2000, that new miller has since captured around 30% of the domestic market.

The industry has argued that there is competition in the PNG market for staple food including flour. They have argued that consumers have a variety of choices for staple foodstuff, and flour products compete with other staple foods such as rice, tinned fish, tinned meat, frozen food, noodles and biscuits. The industry believes therefore that it is constrained in its pricing behaviour by the availability of alternative foods that consumers can purchase. The industry also argues that this competition

with other foodstuffs extends to alternative foods such as subsistence production.

While accepting the view that flour is but one of a range of foodstuffs available in the market, the Commission is inclined to support the view that flour has '*a particular uniqueness of convenience*'<sup>1</sup>. Though other products compete with flour and can sometimes be considered as substitutes, in the urban environment flour is quite unique in terms of its limited ability to be substituted by other products (although packaged flour may be substituted for flour based products such as scones, breads, and buns).

It is argued that to be competitive, local producers have to deliver products of high quality and ensure that the price is fair and competitive. The industry argues that as tariff rates have fallen the flour industry has had to make changes to their activities to deliver a better quality product, while at the same time improving manufacturing efficiency and lowering costs to achieve prices that meet market demands and respond to consumer expectations.

The Commission has noted the change in the domestic industry since the commencement of the Tablebirds mill in Lae and the reduction in tariffs on flour. While there has been a gradual reduction in the share of the market held by AML as Tablebirds has captured about one-third of the total market and imports have taken around 10% of the market, the overall market is still held predominately by the two domestic millers which continue to have the benefit of a 20% tariff. The emergence of competition for flour supplies to bakeries and other food product manufacturers will ultimately benefit consumers in terms of the costs charged by the final product manufacturers. There is a danger however, that the two domestic millers will use their market position to recover any fixed or operating costs that are no longer recoverable from bakery and other commercial customers, from other consumers and in particular the household sector. The previous price control mechanism potentially allowed this transference of costs from one customer group to another and although this may not have been the intention of the millers themselves or of the price control mechanism, there was the opportunity at least for this form of cross subsidisation to occur.

The experience from the entry of a new miller into the domestic market suggests that there are potentially opportunities for further new entry and increased contestability in the domestic market if prices (and returns) generated by the domestic industry reach 'monopoly profit' levels. However, there remain constraints in terms of the extent to which the level of competition between the two millers (and any possible new entrant, be it another domestic mill operator or imports) will flow through to the household sector in particular. For example, while the two local millers handle some of their own distribution/wholesaling activities, they are still dependent on a fragmented retail sector for the supply of product to final consumers. Within the larger centres of Port Moresby and Lae and to a lesser extent in other larger towns such as Madang, Mt Hagen, Goroka

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<sup>1</sup> Lae Biscuit Company Ltd, Submission to Inquiry, 11 April 2005

and Rabaul/Kokopo, there is a degree of competition between retailers. This is limited in these centres only by the extent that household consumers are able to access transport to travel to the different retail shops that exist in these centres.

This competition between retail outlets (supported by advertising in daily newspapers, on radio or on TV) serves to place a cap on the margin that can be applied at the retail level on flour products. At the wholesale level also, there is evidence to support the view that in these larger centres there is competition between wholesalers in the supply of product to the various retail outlets.

However, in the smaller towns and remoter locations, there is not the same degree of competition between retail outlets or possibly between wholesalers. This is not an issue that is exclusive to flour, but is common to other products that are retailed outside of the major centres where there is some degree of competition between retail outlets.

The anecdotal evidence is that retail outlets in remoter areas, particularly small roadside stores and bush stores, will charge what the market will bear. To the extent that alternative sources of supply are available (for example, villages arranging their own bulk supply and transport from a larger centre or town) there is a limit to what the smaller trade stores can charge. They will normally seek to maximize their price to ensure cost recovery (including possibly the high cost of transport) while at the same time keeping prices within limits that the local household consumers can afford to pay.

The industry has argued that flour competes with other foodstuffs and that as such, the price of these competing goods places a 'market' cap on the price that can be charged for flour. To the extent that consumers must make a choice between whether to spend their limited cash on say tinned meat or on flour, or whether they can afford to buy flour or alternatively rely on traditional starch type products such as taro and yams, there is a limit to what price manufacturers, wholesalers or retailers can charge for flour. However, there are certain unique properties of flour that make it virtually impossible to replace or substitute in an urban setting, especially in the manufacture of other products such as scones, bread, buns and cakes. The same could be said for industrial users of flour who use it as an input in the manufacture of other products. So to argue that these alternative foodstuffs represent competitive alternatives that will ensure the price for flour is kept at a level commensurate with the efficient economic cost of production would be to misinterpret the evidence.

Consumers will always have to make choices between alternatives, and these alternatives range from, for example, clothing to housing to foodstuffs to entertainment to education to medicines. Within these various choices that have to be made given the limited financial resources available to most consumers, there may be some close substitutes, and therefore the price of one might influence the price of the other. In the PNG context both rice and flour are currently subject to price regulation. Other potential substitutes such as taro, kaukau, yams or English potatoes are

not subject to price regulation but are heavily influenced by seasonal patterns.

The Commission accepts that there has been greater contestability in the flour market with the advent of the second miller. It does not accept however, that the price of flour particularly for household consumers is kept at economically efficient cost reflective levels by the existence of supposedly alternative foodstuffs (with the possible exception of rice or similar high starch products). Indeed, the Commission notes with concern that notwithstanding the emergence of greater contestability at the manufacturing level, the retail (and possibly wholesale) activity beyond the larger centres exhibits very little competitive tension.

### **3.3 Countervailing Powers of Consumers**

The countervailing powers of consumers are an important aspect to consider in reviewing the need for price regulation.

The largest individual consumers of flour in PNG are local businesses including bakeries and processed food manufacturers who use flour based products in their production processes. Potentially these consumers hold significant countervailing power that could counter any market power that might be held by the local flour millers or flour suppliers. Thus, prices for flour products for these consumers could be kept in check by the respective powers of the suppliers and consumers. With the further anticipated reduction in tariffs and continuing zero tariffs on bakery premixes, this countervailing power can be expected to remain strong.

However, the Commission is also conscious of the large group of consumers, mainly domestic households who hold very little countervailing power in terms of the prices charged for flour products. These consumers have little countervailing power in terms of prices charged for flour beyond the power not to purchase flour if some form of substitute is available. However, for many domestic uses, including the making of scones, buns, bread and cakes there is no ready substitute for flour.

Thus, with little or no countervailing power, the smaller consumers, namely domestic households, find themselves in a position where they cannot individually act to limit any market power held by the two domestic millers.

### **3.4 Commission's Final Findings**

The Commission is required to come to a view as to whether some form of price regulation is still required for flour. From its examination of the market and its development over recent years, the Commission has found that:

- the market for the supply of flour and flour products has undergone some reform in recent years in terms of the level of

competition, but is still heavily influenced by the two domestic millers;

- although the tariff barrier to imports of flour is expected to fall to 15% by 2006, it is not expected to be removed completely over the next five years;
- large commercial consumers of flour and flour products have access to a range of alternative suppliers of flour including the importation of flour premix products at zero tariff rates. They are also able to exercise a degree of countervailing power in their negotiations on price and supply, effectively negating some of the market power of the two millers;
- smaller consumers, primarily households, have little countervailing power and are effectively price takers;
- the market for household consumers is further complicated by the limited retail competition in areas outside of the main towns, thereby further reducing contestability for this sector of the market;
- because of the unique properties of flour, there are no true substitutes for flour, especially in its use as an input in the manufacture of other products both by household consumers and processed food manufacturers.

The regulation of prices at the mill door stage and the regulation of the wholesale and retail margin have less importance for that sector of the market comprised of larger commercial customers. Essentially these customers are able to negotiate on more or less equal terms with the domestic flour millers and have access in many instances to offshore imported supplies.

Thus, notwithstanding that for these customers the cost of flour is an input cost to their final output (be it bakery products or other processed foodstuffs), there is less need for direct price regulation for these consumers as a single group.

However, for smaller consumers, and in particular domestic households, there is little opportunity for alternative imported supplies to meet their needs. Furthermore, they hold little if any countervailing power in the domestic market. There is also a danger that given the different market conditions in this part of the market, there might be a temptation for the domestic industry to transfer costs that it cannot recover from the more competitive end of the market servicing larger consumers to the household sector.

Smaller consumers also face a market with limited wholesale and retail competition. While this may not be unique to flour, or as great a problem in the larger urban areas of Port Moresby and Lae, it remains an issue for a large proportion of the population throughout the rest of PNG.

The Commission considers therefore that there is justification on competitive market and equity grounds to continue some form of price regulation for flour at the mill door, wholesale and retail sales levels. The Commission believes that this regulation will need to encompass both parts of the domestic market for flour, that is, the larger commercial consumer end and the household consumer end. However, to minimise the cost of regulation, particularly in instances where the evidence points to strong, active competition and contestable activity between suppliers and the existence of countervailing power, the Commission considers that less intrusive options need to be considered to the extent possible.

**Final Determination 1**

**The Commission will continue price regulation of flour and associated products with this regulation to apply at the mill door stage, as well as on the wholesale and retail margins.**

This chapter discusses the options available to the Commission in terms of the form of regulation that could be used for flour pricing and the relative merits of either price control or price monitoring

Having concluded that price regulation of flour should continue, the Commission must decide on the most appropriate way of applying that regulation. If price monitoring is adopted whereby suppliers, wholesalers and retailers set their own prices, the Commission would simply compare these prices with an appropriate benchmark with the threat of full price control should prices be set above levels indicated by the benchmark. This is a less intrusive form of regulation, although it requires access to some form of benchmark that can be readily obtained and used for price monitoring purposes. Also, with a large number of small retail outlets and limited competition between these retail outlets in most instances, there may be little incentive for an individual retailer to keep the retail margin within the bounds set by the benchmark. This could also create monitoring and compliance checking problems for the Commission.

If a price control mechanism were to be used, the Commission would need to determine the appropriate level of prices and the mark-up margins, and the approved process whereby changes in the margins could be made. The process of reviewing the prices and the margins in response to an industry request would necessitate a lengthy and detailed process whereby the Commission would effectively need to model the efficient costs of supply. This could be a costly and intrusive approach especially for small individual retailers.

The Commission could adopt a 'price path' approach whereby the Commission would calculate and specify an appropriate formula linked to some appropriate indicator of cost changes (and incorporating some form of efficiency adjustment). This formula could then be applied over a number of years without the need for a full price review.

This form of regulation would give incentive and stability for future planning purposes while at the same time ensuring that consumers are not required to pay any more than efficient costs. It also has the advantage that while the initial price path process is data intensive, the price adjustment mechanism over the price path period is relatively simple, cost effective and non intrusive.

#### **4.1 Existing Form of Regulation**

Under the existing price control regulatory arrangements, there is essentially a five-step process:

- Review of the cost of imported grain with adjustments to take account of the change in the FOB price for grain, shipping and handling costs, and exchange rate variations.

- This review process is undertaken on a bi-monthly basis with changes in the price of flour only being passed through to consumers when the overall change in the landed cost of grain exceeds 5% from the last adjustment.
- The ‘pass through’ of milling, packaging and shipping costs for the local flour mill operations with the adjustment to the components of these costs being made on an annual basis using the previous year’s cost components to set the current year’s production and packaging costs, and the most recent freight costs from Lae and Port Moresby to the Main Ports of Rabaul, Madang and Wewak being used to set the current year’s freight charges for main port delivery.
- Conversion of the overall net adjustment in milled flour costs (including main port delivery costs) into prices for individual types and package sizes for flour.
- The inclusion of an 8% increase to base prices for sales of less than 10 tonnes.
- Addition of an 11% wholesale margin and 10% retail margin to the into-store price to determine the final retail price.

The review of imported grain prices into PNG is supported by information provided by the Australian Wheat Board (the AWB Card Price), and shipping and associated handling cost quotes for the transport of grain from Brisbane to Port Moresby. These charges are converted from US dollars and Australian dollars to Kina based on the monthly average exchange rate for the period concerned. The Commission receives this information on a monthly basis as provided by AML, the largest supplier into the PNG market. An average price of milled flour in PNG (including main port coastal freight charges) is calculated using the annually adjusted mill overhead and labour charges plus a profit mark-up. If this average cost per tonne increases or decreases by 5% or more over the cost at which the last price adjustment was made, a new price will be set. This process avoids frequent fluctuations in price that can be influenced by seasonal conditions in the supply and availability of grain and in exchange rate movements.

The annual review of the various milling costs, including the waste costs (and waste recovery), overhead costs, and labour and energy costs are based on information supplied to the Commission by AML of its actual costs in the previous year. This information is supported by a ‘procedures’ audit undertaken by Deloitte Touche Tohmatsu. The information provided by AML incorporates manufacturing costs, including fixed and variable costs, and depreciation, but excludes raw material costs including grain and packaging costs. These milling and overhead costs are applied to the total volume of throughput of flour to determine a cost per tonne of flour milled. The various milling and overhead costs (that is, costs excluding grain, additives and packaging costs) account for approximately one-third of the total per tonne costs that are incorporated into the price setting mechanism. The Commission has assessed these costs on an annual

basis, although no attempt has been made to benchmark the costs in some way. The packaging and additional additive costs (or savings for wholemeal, or self raising flour by comparison to standard flour) are not provided in separate detail to the Commission.

The wholesale margin of 11% and the retail margin of 10% have not been subject to any form of periodic review and essentially have been adopted as a 'rule of thumb' without any form of detailed cost investigation.

## **4.2 Issues with the Current Price Control Mechanism**

There are a number of issues that are raised by the current price control mechanism, particularly in the context of the requirements of Section 21(2A) of the Prices Regulation Act.

Under the provisions of this section of the Act, the Commission is required to have regard *inter alia* to the following:

- The need to protect consumers of declared goods from the misuse of market power;
- The cost of producing declared goods;
- The desirability of encouraging greater efficiency in the production and supply of declared goods;
- The need to ensure an appropriate rate of return on any investment in the production or supply of the declared goods;
- Quality standards;
- The impact on inflation of a price control order; and
- The economic and social impact of a price control order.

The need to achieve a balance between the interest of the suppliers/manufacturers and consumers is embodied in these legislative requirements. The Commission must therefore consider what is the best mechanism to achieve these particular objectives.

The Commission has in other recent pricing decisions sought to achieve these objectives by linking the determination of regulated prices with a determination of the efficient costs of producing or supplying the regulated goods or services. This has allowed the Commission to differentiate between the actual costs that a manufacturer/supplier may incur, and the 'efficient/best practice' costs that apply to the provision of the regulated goods or services. The prices that consumers are required to pay therefore should not include inefficiencies or inappropriate cost pass-throughs that might otherwise occur in a market where there is no regulation and the supplier has a degree of monopoly market power.

The Commission has noted in submissions from the milling industry, that the industry has acknowledged that it has had to improve its efficiency in recent years as the tariff rate has fallen from 40% to 20% and as commercial users, particularly bakeries have taken advantage of the opportunity to import flour mixes free of duty. The industry has effectively acknowledged that increasing competition has forced efficiency

improvements that the existing price setting mechanism has failed to deliver.

Notwithstanding these efficiency improvements, the Commission has still received submissions to the effect that flour prices in PNG are still too high by international standards. As noted in one submission:

*'There is significant evidence that flour prices are a little too high compared to international prevailing competitive prices. This has major implications on biscuits and noodles which must compete with products on an international basis. Both industries are feeling severe competition and are handicapped by higher input cost on flour compared to overseas competition.'*<sup>2</sup>

The cost impost that this submission in part refers to is a reflection of the continuation of the existing tariff on imported flour. This is a Government decision and the Commission is not able to alter this decision. However, it also raises questions for the Commission in terms of its legislative obligations to encourage greater efficiency in the production and supply of declared goods. To the extent that the industry has been able to achieve efficiencies in response to greater competitive pressure, so the Commission has to consider to what extent further efficiencies can be achieved and passed through to consumers of all types and sizes.

The Commission makes the following observations in relation to the existing price control mechanism:

- by far the largest component of flour costs is the cost of imported grain, and the present mechanism allows for a pass-through of the costs based on a verifiable arms-length international price for grain;
- the milling cost recoveries while supported by a 'procedures' audit, are not subject to any assessment of best practice efficiency, and there is evidence in the submissions received from the industry that some costs have been misallocated in previous years;
- the allocation of fixed costs for milling have been made on a 'per tonne milled' basis, but as volumes have declined (particularly with the introduction of a second miller and increased competition from overseas) these fixed costs have been allocated over a smaller volume of output and accordingly have been increased on a per tonne basis notwithstanding the increase in domestic competition;
- the 'profit mark-up' is calculated on a percentage of operating costs (that is, grain costs, plus transport plus milling costs) basis and thus increases in absolute kina value terms with

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<sup>2</sup> Lae Biscuit Company Ltd, Submission to Inquiry, 18 June 2004

increases in costs, thereby providing no incentive for the millers to improve their efficiency or seek to reduce costs;

- the percentage profit mark-up is not fully substantiated;
- the packaging cost are neither benchmarked nor verified from independent sources;
- the 8% additional charge on base prices for sales of less than 10 tonnes appears to have no justification as the costing process used to arrive at the base price effectively covers all the costs incurred by the milling companies as derived from their financial accounts.

The approach that has been adopted to price control under the current arrangements has effectively been an acceptance of the costs as reported by the milling companies (and in terms of the surcharge for sales of less than 10 tonnes, an additional allowance which is above and beyond the cost of the businesses). These are costs that have been incurred by the companies with little or no incentive from the regulatory process to address or achieve overall costs efficiencies. On the basis of the submissions from the industry itself, the one factor that has driven the industry to seek to achieve efficiencies in recent years has been the emergence of another domestic miller, and the growth in import competition. The price control mechanism does not appear to have had any effect in this area.

In terms of the requirements of Section 21(2A) of the Act, the Commission does not believe that the present mechanism meets the legislative requirements on the Commission. The Commission believes that it is appropriate therefore that in any regulatory arrangements that are adopted as a consequence of this current review, it should seek to have more details provided by the milling companies on their costs, and further supportive argument as to the justification of these costs from an overall operating efficiency perspective (while recognising the operating circumstances in the PNG context). As noted above, the largest part of the cost base reflects prices set by an internationally operating market, and thus provides a benchmark of the type that the Commission favours. However, the Commission is concerned that the same degree of benchmarking rigor has not been applied to the other costs that are ultimately included in the price charged for flour and flour products of the type subject to price regulation.

#### **4.2.1 Submissions Received**

In response to the Commission's request in its Draft Report for more financial information to justify various components of the previous pricing formula, Associated Mills Limited has undertaken a thorough review of these components as outlined below:

- Recalculated packaging and product differential costs;
- Review of monthly average for AWB card prices and exchange rates;

- Explanation and elaboration of manufacturing overhead costs;
- Separation of coastal freight costs from total factory costs;
- Presentation of detailed asset valuation.

Tablebirds also provided additional financial information on its operating costs and asset valuations. This additional information from each of the two millers was treated as confidential to the Commission, but allowed the Commission to undertake comparative analysis between the two companies after taking into account peculiarities of the operations of the two companies. These peculiarities included the greater proportion of the output of AML that is packaged into smaller package sizes by comparison to the output of Tablebirds. Tablebirds has a higher proportion of its output packaged into larger package sizes for commercial customers or sold in bulk form. AML has more recently commenced sale of product in bulk form and this innovation is likely to be extended over time.

Other submissions received on the Draft Report emphasised the desirability for the domestic flour industry to achieve overall efficiencies and remain competitive in a world competitive market environment. In its submission on the Draft Report, Treasury argued that a more competitive price outcome through some type of price control offers the prospect of improved allocative and productive efficiency throughout the economy, and thus should be encouraged from a national welfare perspective. Submissions from domestic industry sources have argued in favour of greater competition to allow domestic industrial users to remain competitive and to ensure that efficiency gains in the overseas flour industry are matched by the local industry.

#### **4.2.2 Commission's Consideration**

Continued focus upon efficiency improvements through the price regeneration mechanism will need to be a feature of any price setting arrangement that the Commission may adopt. The additional time and cost in allocating costs within the businesses operations of the two millers where there are a range of joint and common costs with other activities that these businesses undertake, raises concern about the availability of a price control mechanism which relies upon a regular updating of a limited range of cost information of the type used under the current price control arrangements. Should the Commission continue to regulate flour prices in some way, it will need to ensure that the legislative requirements under Section 21(2A) are met and in particular that the price regulation mechanism encourages efficiency improvements.

### **4.3 Regulatory Options**

Under the provisions of Section 25C (3), the Commission, having decided to continue with some form of regulation, must decide whether to continue with the present form or vary the form of regulation. As discussed above, the Commission has a number of concerns with the present form of regulation, and thus needs to consider its options in terms of how this form of regulation should be varied. The Commission essentially has two options that it must consider. These are:

- some form of monitoring of prices, (Section 32A), or
- some form of direct price control (Section 21).

These options will be discussed in more detail below.

#### **4.4 Price Monitoring**

Price monitoring is a less intrusive form of price regulation. Essentially, it relies upon the ability of the Commission to assess movements in the price of the declared good or service against the movement in some independent price (or cost) indicator. If the Commission determines over a period of time that the prices of the declared good or service are increasing at a faster rate than the indicator used (or declining at a slower rate than the indicator if prices are declining), then the Commission can request an explanation from the regulated entity or industry, and if not satisfied with the explanation given, can recommend to the relevant Minister that prices be declared for the more information intensive and intrusive direct price control form of regulation.

The Commission has previously used price monitoring for its regulation of ice cream prices and petroleum products prices ex the Napa Napa refinery, and the transportation charge for petroleum products ex the main port and outport fuel terminals. To date this has proved to be a satisfactory form of regulation for these industries.

In response to the Issues Paper, the flour milling industry has proposed that some form of price monitoring arrangement be used to regulate the industry.

*'AML believes that the best method of ensuring ongoing growth of competition in the flour market, ongoing improvements in quality and efficiency while ensuring that PNG consumers are protected from unjustified price movements is to adopt a 'price monitoring' regulatory model.'*<sup>3</sup>

In its submission, AML outlines how it proposed a price monitoring arrangement would work.

*'It is ..... proposed that a formula be adopted that reflects movements in commodity prices and exchange rates and that this formula would be checked and updated by the manufacturer monthly. This component of the formula would follow a 'building block' approach based on published Australia Wheat prices. Furthermore, to reflect increases or decreases in other costs, it is proposed a cost plus approach be adopted. This formula would form the basis of calculating*

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<sup>3</sup> Submission from Associated Mills Limited, June 2004

*ex-factory prices, and would be available for audit by the ICCC upon request.*<sup>4</sup>

The proposal by AML is along similar lines to the current regulatory mechanism, including a provision that prices would only be adjusted if the mechanism resulted in a price change of greater than 5%, and the cost plus components relating to the domestic milling activity would only be revised annually.

The 'price monitoring' proposal by AML goes beyond a monitoring process that is linked to a comparison of price movements against other cost indicators. It requires the Commission to agree to the cost pass-through of domestic milling activities. As noted above, it is precisely at this point where the Commission has some difficulty with the existing price regulation arrangements. These domestic costs represent about one-third of the ex-factory/main port price and are the area of cost more likely to be reflective of domestic production efficiencies or inefficiencies.

However, the proposal does incorporate a price/cost monitoring process for the imported component of domestic flour prices, that is, landed grain costs. This represents two-thirds of the main port ex-factory price of flour and the proposal to use a price monitoring mechanism for this component is similar to the approach adopted by the Commission for petroleum products pricing.

Tablebirds has supported the adoption of a price monitoring approach. Similarly to AML, Tablebirds has proposed that the Australian Wheat Board data (adjusted for exchange rate changes) be used to monitor the movement in imported grain costs. For the domestic cost component (that is, domestic production labour, packaging and other local costs), Tablebirds has proposed a CPI based adjustment to reflect movement in underlying costs.

While there is merit in the use of Australian Wheat Board prices as an independent indication of movement in the grain prices, the Commission has more difficulty with the monitoring arrangement for the domestic cost component. The proposed industry approach embodies all the problems of the existing price control arrangements, namely:

- inability to benchmark the domestic cost component against any independent cost indicator;
- inability to determine whether the current domestic cost component in value terms is the appropriate starting point for monitoring future price changes;
- reliance upon a 'cost pass-through' arrangement for the domestic component which allows for price increases when demand falls and fixed costs are spread over a smaller volume of output;

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<sup>4</sup> AML Ibid

- failure to provide any incentive for investment in cost cutting efficiency improvements in the domestic activities as these cost savings will be immediately passed on to consumers as part of the annual 'cost base' resetting arrangement for the domestic cost component.

The implied use of CPI to adjust the domestic cost component as suggested in the Tablebirds submission provides a possible solution assuming that there is no other adjustment to the domestic cost component other than a prior agreed cost indicator (be it CPI or possibly some form of  $CPI \pm X$  formula to take into account *inter alia* efficiency savings over time). This is the approach that the Commission has used for the petroleum industry, where the domestic distribution and retail margins will be adjusted annually using a  $CPI - X$  formula. In both cases the Commission has set the initial kina value of the margin and this will be adjusted using the  $CPI - X$  formula developed using a five year financial model of the relevant sector.

An alternative price monitoring arrangement would be to link the movement in the price of flour products with the movement of similar products in some other indicator country. As most of PNG's grain imports come from Australia, movements in prices of indicator flour products in Australia could be used to monitor movements in the price of flour products in PNG. An adjustment mechanism would be required to account for changes in the exchange rate between the two countries to reflect the impact of exchange rate movements on the cost of grain imported into PNG.

The advantages of this method would be:

- its relative simplicity – there is no need to analyse the underlying cost of milling activities in PNG;
- its ability to reflect efficiency savings in Australia in terms of price movements in PNG; and
- the independence of the indicator that would be used.

Whatever monitoring approach used, the Commission would need to determine an initial starting point for prices for flour products in PNG. If the monitoring arrangements are limited to the imported price of grain, then it is possible to calculate an average grain price based on the Australian Wheat Board price. However, the Commission would need to determine a kina value for the domestic production activity.

If a monitoring approach is used for the total price for flour, the Commission would need to determine a total price for flour products which would then be monitored against an agreed cost indicator.

#### **4.4.1 Submissions Received**

There was a common view on the Draft Report that some form of price regulation should continue. There was also strong support for the

Commission's preferred option of price monitoring as outlined in the Draft Report.

#### 4.5 Price Control

A price control mechanism will necessitate the Commission setting the price for individual flour products. Essentially this is the process that is currently operating. However, as noted in Section 4.2 above, there are a number of drawbacks with the current price control arrangements.

A price control mechanism is not favoured by the milling industry itself. However, in submissions from consumers, there appears to be support for a continuation of direct price control.

*'Maximum prices on flour remain an important tool against abuse of market power.'*<sup>5</sup>

The adoption of direct price control would involve a three step process, namely:

- Determination of the cost pass-through for imported grain.
  - a mechanism already exists for determining this component of total cost, and this mechanism could be retained with monthly updating of cost movements based on Australian Wheat Board data.
- Determination of an initial cost and then mechanism for annual adjustment of local milling and packaging costs.
  - the Commission does not favour a simple 'cost pass-through' approach based upon actual costs (although the allowable costs would need to include not only efficient costs but also costs peculiar to PNG)
  - packaging costs are included in this step as these also need to be linked to some form of verifiable efficient cost
- Allocation of costs across product and packaging types.
  - a verifiable cost allocation process needs to be determined
  - at both this stage and the previous stage, the determination of demand volumes is an important input

The Commission is satisfied that a cost determining mechanism of the type currently in place can be used to determine movements in the grain input costs. Consideration could be given to the '5%' rule in terms of when changes in price could occur. These are essentially matters that can be

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<sup>5</sup> Submission from Lae Biscuit Company

assessed once the remainder of the mechanism is understood and seen to be functional.

In terms of the second and third steps as outlined above, the data requirements become more extensive. Desirably to achieve an 'incentive' form of regulation which rewards the industry for improvements in its efficiency but penalises it for being inefficient (in much the same way as the competitive market operates), a price control mechanism that operates over several years would be desirable. The Commission has adopted five year price paths for some industries (eg. petroleum, post, water) and ten year price paths for other industries (eg. electricity, telecommunications). Whatever period is adopted, the Commission has to form a view as to what might be the level of efficient production costs over the length of the regulatory period.

Any form of incentive regulation also has to make allowances for projected new investment during the regulatory period and changes in demand. Projections of these items would also be required for incorporation in the financial modelling of the price paths. In submissions made to the Commission, the milling industry has not foreshadowed any significant new investment over the next five years. However, in evidence submitted by AML, it is evident that there has been a reduction of production throughput by that miller as a result of the commencement of the operations of the Tablebirds mill and the gradual decline in the tariff and emergence of other import competition. Changes in the volume of production by individual mills complicates the allocation of fixed costs on an individual factory basis creating anomalies in terms of the calculation of average costs of the type discussed previously.

It has been suggested in submissions to the Commission that the price path covered be set on the basis of an annual adjustment for CPI changes. The Commission supports the concept of underlying legitimate cost increases being built into the price path. However, it should not be assumed that the full effect of inflation should be allowed to pass through in this way. Although the milling industry has not foreshadowed any new efficiency improvement initiatives over the next five years, it should be expected that there will be at least some efficiencies achieved. This would therefore suggest that any CPI based adjustment should include a factor for efficiency gains: – a CPI-X adjustment rather than the full CPI adjustment.

The setting of the initial absolute prices for flour products as part of any price control mechanism creates its own set of problems. The Commission has noted above its concern about some components of costs that have been reported in the past as part of the current price control mechanism. In particular, the Commission has yet to be convinced that the current indirect costs and packaging costs in the present pricing mechanism are appropriate.

In submissions received, it has been suggested that the operating costs of the most recently established mill, namely that operated by Tablebirds, should be used as the benchmark as this mill is current state of technology and milling practice. The Commission notes however, that the

Tablebirds mill is part of a larger food production business and the Commission would therefore need to be convinced that joint and common costs such as overheads and certain fixed costs, had been properly allocated before accepting the Tablebirds mill costs as the legitimate starting point for setting the initial prices.

There is one important advantage of a price control mechanism over a price monitoring approach. Under the price control arrangements, the milling industry will have absolute certainty of its future price path as under any determined price adjustment mechanism the Commission would establish a clear set of rules and processes for future price adjustments. This is one of the strengths of a price control mechanism of the 'incentive regulation' type that the Commission has adopted elsewhere.

Under a price monitoring mechanism, depending on what part of the flour price was subject to monitoring (that is, the final price, the imported grain costs, or the domestic milling costs), the milling industry would not have the same degree of price setting security. Under price monitoring, if the Commission observed movement in domestic prices outside that occurring in the comparator used, the industry would need to satisfy the Commission that the price charges were legitimate. The Commission would retain the right to recommend that the industry be placed under direct price control if it was not happy with the reasons given. There is thus a degree of lack of regulatory certainty that can be created for the industry.

## **4.6 Commission's Final Decisions**

### **4.6.1 Price Regulation of Ex-Mill Prices**

In the Draft Report the Commission indicated that it favoured a price monitoring approach, preferably based on a monitoring of movement in the final ex factory price of flour products from the two millers. A single price movement indicator should be used and prices compared on a quarterly basis using information provided on individual product prices by the industry.

The Commission favoured this approach for the following reasons:

- Ease of application.
  - under the arrangements proposed (and discussed below), the regulatory burden on the industry would be kept to a minimum while still achieving the desired effect of regulating flour prices
- A monitoring arrangement on individual product prices will effectively regulate the maximum price while encouraging the industry to compete with the emerging competition for particular parts of the market (e.g. supply of the bakeries and other food processor markets)

- by setting the initial prices, the Commission will ensure that the industry will not be able to cross subsidise prices of those products facing increasing competition with prices charged for products which face less competition
  - this method will force the industry to maximize its operating efficiencies while still benefiting from the (albeit declining) tariff protection afforded the industry
- A monitoring approach recognizes the increasing level of competition emerging in this industry and avoids many of the financial modelling complexities of cost allocation and accounting for businesses with declining market shares that are still seeking to recover past investments
    - the additional cost involved in the financial modelling required to determine an incentive based price path would potentially outweigh benefits of a price control approach
  - The largest component of domestic flour costs is the price of grain and provided this is reflected in the monitoring arrangement, the domestic prices should be capable of remaining within any external price movement indicator used as part of a monitoring arrangement.

#### **4.6.1.1 Submissions Received**

In response to the Draft Report, submissions received generally favoured the adoption of a monitoring approach. The submission from the PNG Chamber of Commerce and Industry supported the view that price regulation of flour and associated products should continue to apply to the ex-mill price and to the wholesale and retail margin. The Department of Treasury also favoured continuation of some form of regulation and favoured a monitoring approach as a more flexible form of regulation which minimised regulatory administrative costs while still maintaining some form of regulatory oversight of flour prices. The flour milling industry was also supportive of the monitoring approach proposed.

#### **4.6.1.2 Commission's Consideration**

The Commission has proposed in its Draft Report that a form of price monitoring be applied to the ex factory price of flour products. Submissions received on the Draft Report were generally supportive of this proposal and no submissions objected to this approach.

Accordingly, the Commission will adopt a monitoring approach to the pricing of flour products at the factory gate. This is a similar approach to that applied by the Commission in relation to ice cream products and to the ex Napa Napa price of certain fuel products subject to price regulation.

In the following chapter the Commission discusses in more detail the setting of the initial prices and the monitoring process that will apply for the period of this determination.

## **4.6.2 Price Regulation of Freight Charges**

The Commission has had to consider the merits of including domestic freight costs in the price monitoring arrangement. Under the present price control arrangements, prices are determined on the basis of delivering product into the main ports (namely Port Moresby, Lae, Madang, Rabaul and Wewak). The domestic mill operators have little control over the freight charges, although they have demonstrated a capacity in the past to seek out economies in shipping arrangements presumably to counter some of the effects of the emerging import competition as tariffs decline or are circumvented.

The Commission is concerned to ensure that consumers are not disadvantaged by any market power held by the transport companies. To the extent that the flour milling companies can exercise countervailing power as consumers of this transport facility, this is to be encouraged. Thus, the Commission will adopt a monitoring approach to freight charges from the mills to the main ports. The approach to be adopted will be similar to that adopted for the petroleum industry. The Commission will monitor movements in the reported freight costs provided by the milling industry against its own internally created Freight Cost Index (FCI).

### **4.6.2.1 Submissions Received**

Both of the domestic flour millers supported the concept of monitoring of freight costs. Tablebirds expressed some concern regarding overseas shipping costs that affect the price of grain delivered into PNG. However, the Commission is proposing a monitoring approach to these costs in as much as they are incorporated in the ex factory price of flour. Under the monitoring approach on ex factory prices, the Commission will consider factors such as movements in overseas shipping costs should it become apparent that movements in the ex factory price of flour are outside the movements in the series used to monitor these prices.

### **4.6.2.2 Commission's Consideration**

The Commission notes the comments received on the Draft Report and proposes to adopt its draft recommendation, which is to monitor the freight costs for flour ex the factory gate. The two millers will be required to provide information on their freight costs to the main ports of Port Moresby, Lae, Rabaul, Wewak and Madang from their respective factories in Port Moresby and Lae. The Commission will use its Freight Cost Index as the monitor of the movements in these freight costs over time.

## **4.6.3 Price Regulation of the Wholesale and Retail Margin**

The current regulation of the wholesale and retail margin is based on a 'rule of thumb' approach adopted by the Price Controller around the time of the establishment of the Price Controller's Office. The Commission is not aware of any underlying merits in the 11% and 10% mark-ups applied to wholesaling and retailing respectively. The Commission has also not received any submissions seeking to substantiate the continuation of this

level of mark-up. Following the release of the Issues Paper, the only submission received on this issue suggested that sufficient competition existed to avoid the need for a continuation of a regulated mark-up.

As previously discussed, the Commission is not convinced that sufficient competition exists across the wholesale and retail sectors at a national level. Further investigation is required into the level of competition within the wholesale and retail sectors overall (and not just for flour and other price controlled products). Thus, the Commission proposes recommending to the Minister for Finance and Treasury that an enquiry be commenced later in 2005 into the level of competition and extent of contestability within the PNG wholesale and retail sectors as a whole.

In terms of this present inquiry, the Commission's draft determination is that the wholesale and retail margins for flour products be subject to price control for the period of this determination.

The Commission has received submissions to the effect that the wholesale and retail margins that are actually charged are less than the percentage mark-ups that are currently allowed under the price control rules. The Commission therefore proposes to set an absolute kina value for the wholesale and retail margin. This kina value (for different products and sizes) will be based on the declared value of flour in its various forms and packet sizes as at 1<sup>st</sup> January 2005. This absolute kina valued margin will remain unchanged for the period of the price determination or until the completion of the proposed review of the wholesale and retail sectors, whichever occurs first.

#### **4.6.3.1 Submissions Received**

In response to the Draft Report, the Department of Treasury supported the continuation of some form of regulation of the wholesale and retail margins. Treasury noted the legislative requirements of Section 21(2A) of the Prices Regulation Act, and suggested that the Commission should have regard to this requirement when setting the wholesale margin.

No other submissions were received on the issue of the size of the retail and wholesale margins.

#### **4.6.3.2 Commission's Consideration**

The Commission is conscious of the need for further examination of the question of effective competition at the retail and wholesale market levels in PNG. At various public forums the Commission has been questioned on the issue of competition in these sectors. While there is evidence of contestable behaviour in the larger urban centres, the Commission believes that there are sufficient grounds for concern regarding competition across the whole nation to warrant a separate investigation into retail and wholesale activity. Such a review would go beyond simply looking at the margins applied to flour where there is anecdotal evidence that the previously approved percentage margins may well be in excess of the margins that are applied in some locations as a means of attracting customers to a particular store.

In terms of the current inquiry, the Commission will monitor the ex factory price of flour having first established a price that meets the requirements of Section 21 (2A) of the Prices Regulation Act. The fixed kina values that the Commission proposes to apply to the wholesale and retail mark-ups on flour are based on the percentage mark-ups that applied as at 1<sup>st</sup> January 2005, and at that time there is evidence to suggest that even these rates were not being fully applied. This in turn suggests that the retailers and wholesalers concerned found that the margins were sufficient to meet the requirements of Section 21 (2A).

#### **4.6.4 Duration of the Determination**

The Commission has considered the options for the duration of the determination. Under the revisions to the Act, the Commission is required to undertake an extensive public review each time there is a request for a price change. This is to ensure that there is the opportunity for full public debate and transparency in decisions that are taken by the Commission.

The Commission has the opportunity to make a determination that extends over a period of time. This is consistent with 'incentive regulation' that is based upon a price path being determined using projections of efficient costs and creating the opportunity over time for the regulated business to achieve efficiencies above and beyond those projected.

Thus, the opportunity exists to set a price path extending beyond a single price setting event.

The Commission has used price paths extending up to 10 years for certain regulated utilities. The more usual regulatory period is 5 years. This period allows time for the regulated entity to seek to improve its efficiency beyond that set under the price path, and usually represents a period of time for which financial and business projections can be confidently made.

Over the next five years, a number of further developments can be expected in the flour milling industry. Tariffs will be reduced from 20% to 15% in 2006, further development of the bakery and food processing sector can be expected within PNG, and opportunities for new competitors to enter the market (possibly by way of imported product) will exist throughout this period. The Commission considers that a five-year price determination provides a good balance between the interests of consumers and those of the supplying businesses.

In setting a five-year price path, the Commission's determination will set the price adjustment rules that will apply over the next five years from 1st July 2005. A further review of the flour industry will be undertaken by the Commission prior to the end of the five year period, that is, prior to 30<sup>th</sup> June 2010.

#### **4.6.4.1 Submissions Received**

There was no submission received on the suggested 5 year price path or regulatory period for the flour industry as against a much longer period such as a 10 year price determination.

#### **4.6.4.2 Commission's Consideration**

The Commission will adopt a 5 year price determination period commencing 1<sup>st</sup> July 2005.

#### **Final Determination 2**

**The Commission will adopt the following forms of price regulation for flour products over the next five years:**

- **a price monitoring approach for the ex-factory price of flour products**
- **a price monitoring approach for the freight charges ex-factory to main port in PNG**
- **a price control approach for the wholesale and retail margin, with the absolute kina value of the wholesale and retail margin being held constant for the five year price determination period or until the Commission completes a more detailed review of the wholesale and retail sectors, whichever comes first.**

**The Commission's determination will apply for a five (5) year period beginning 1<sup>st</sup> July 2005 and ending 30<sup>th</sup> June 2010.**

In accordance with the Final Determination as outlined in Chapter 4, the Commission has developed the following procedures and mechanisms that will apply to the price regulatory arrangements for flour over the next five years. These procedures are as outlined in the Draft Report. No amendments to these procedures are proposed, although the Commission has taken the opportunity to clarify the arrangements in a couple of instances. In addition, the Commission has had to consider what should be the starting price for flour as at 1<sup>st</sup> July 2005.

**5.1 Price Monitoring of Ex Factory Price**

The price monitoring arrangements for milled flour products will apply to the ex factory price. Freight charges will be monitored separately.

The independent indicator to be used for purposes of monitoring movements in the prices of flour products ex factory will be the Average Retail Price of 2kg Self Raising Flour (average all capital cities) as reported by the Australian Bureau of Statistics in ABS 6403.0.55.001, Average Retail Prices of Selected Items, Eight Capital Cities. The average eight capital price will be converted to a kina value using the average Australian dollar/kina exchange rate as reported by the Bank of Papua New Guinea for the last day of the quarter for which the ABS retail price applies. Table 5.1 provides details of the kina equivalent of the average retail price for the period December 1997 to March 2005.

**Table 5.1 Average Retail Price (kina per packet)  
2kg Self Raising Flour (eight capitals)**

<b>Period (Quarter)</b>	<b>Kina per packet</b>	<b>Period (Quarter)</b>	<b>Kina per packet</b>
Mar 2005	8.37	Jun 2001	5.24
Dec 2004	8.61	Mar 2001	4.98
Sep 2004	8.07	Dec 2000	5.10
Jun 2004	7.91	Sep 2000	4.48
Mar 2004	8.18	Jun 2000	4.36
Dec 2003	8.63	Mar 2000	4.75
Sep 2003	8.30	Dec 1999	5.29
Jun 2003	8.81	Sep 1999	5.62
Mar 2003	7.55	Jun 1999	4.95
Dec 2002	7.25	Mar 1999	4.32
Sep 2002	6.90	Dec 1998	3.74
Jun 2002	7.25	Sep 1998	3.92
Mar 2002	6.28	Jun 1998	3.76
Dec 2001	6.05	Mar 1998	3.82
Sep 2001	5.50	Dec 1997	3.33

Source: Australian Bureau of Statistics Pub No. 6403.0.55.001

The price monitoring arrangements will not apply to the actual kina equivalent of the Australian price. Rather, the monitoring arrangements will be based on the movement in the kina equivalent of the Australian

price over time. Movement in the kina equivalent of the Australian price will be compared to movement in the PNG price of the relevant flour products.

To test the correlation between movement in the Australian price for flour and the price in PNG, the Commission examined the movement in PNG prices to movement in the Australian prices for a seven-year period from 1999. The Commission obtained information on average flour prices in PNG from the National Statistical Office, and compared the movements in the Australian price for 2 kg self-raising flour adjusted for the Kina/AUD as presented in Table 5.1.

In recognition of the monitoring nature of the price control system that the Commission proposes to use, the Commission compared the movement of prices on a quarter by quarter basis, and then using a moving 12-month average to take into account of the slight variations in price movements from one period to another. Table 5.2 provides a summary of the movement in the PNG prices and the Australian prices for the period from 1999 using the base of December 1999=100.

**Table 5.2 Index of Movement in PNG and Australian Flour Prices  
December 1999=100**

Year	Quarter	PNG Flour Prices		Australian Flour Prices	
		Month on Month Index	Moving 12 Month Index	Month on Month Index	Moving 12 Month Index
1999	Dec	100.00	100.00	100.00	100.00
2000	Mar	97.48	92.39	89.78	97.59
	Jun	94.85	96.24	82.45	94.79
	Sep	91.80	96.03	84.76	89.42
2001	Dec	91.33	93.86	96.39	88.51
	Mar	95.91	93.47	94.16	89.61
	Jun	108.83	96.97	99.10	93.78
	Sep	114.12	102.55	103.89	98.57
2002	Dec	112.44	107.83	114.37	103.08
	Mar	122.04	114.36	121.58	109.95
	Jun	130.12	119.68	137.04	119.45
	Sep	138.31	125.73	130.52	126.12
2003	Dec	139.09	132.39	137.01	131.79
	Mar	176.60	146.03	142.75	137.10
	Jun	163.70	154.42	166.49	144.47
	Sep	162.45	160.46	156.85	151.07
2004	Dec	159.70	165.61	163.12	157.61
	Mar	159.24	161.27	154.57	160.57
	Jun	158.97	160.09	149.54	156.32
	Sep	158.46	159.09	152.56	155.25
2005	Dec	157.12	158.45	162.74	155.15
	Mar	155.72	157.57	158.15	156.05

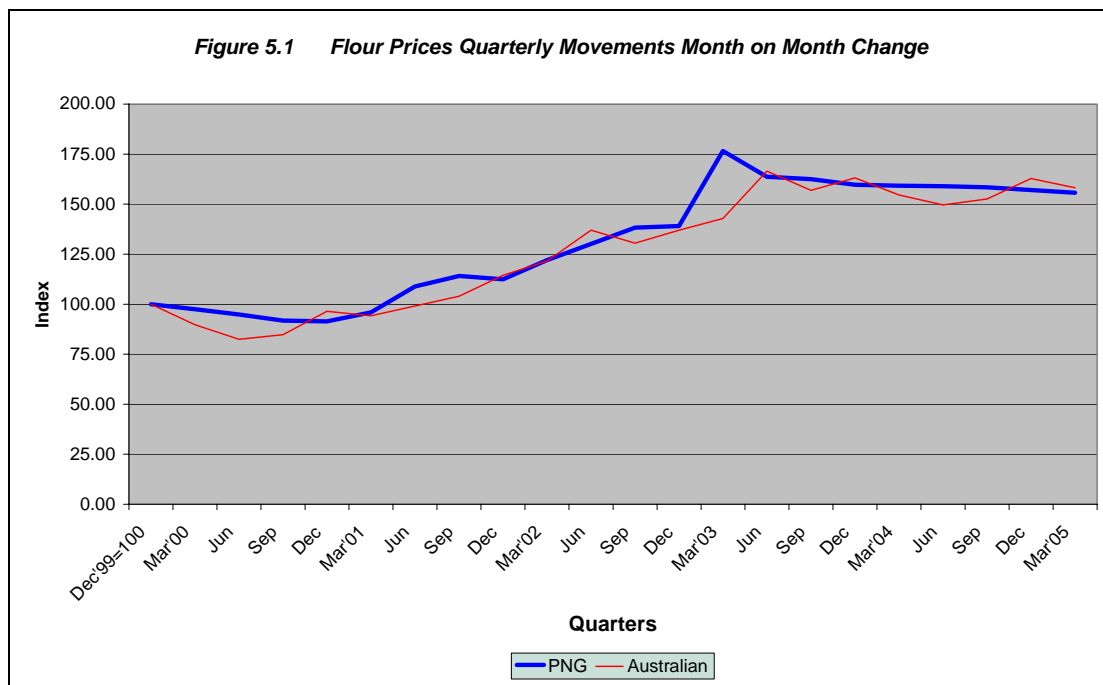
Source: ABS Retail Prices Self Raising Flour, NSO Average Retail Prices Flour

Figures 5.1 and 5.2 demonstrate diagrammatically the movement in the two price series using the month-on-month and 12-month moving average approaches. It can be seen from these diagrams that although there can

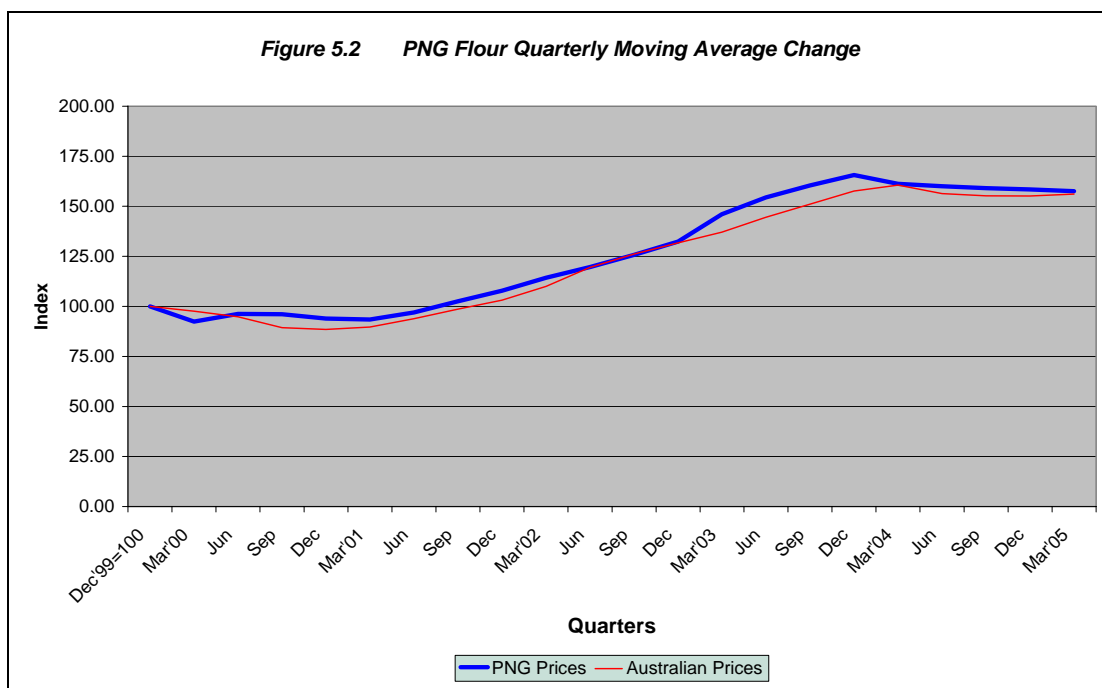
be some differences in the movement in the Australian and PNG series at different times over the period examined, broadly the two series follow a similar path<sup>5</sup>.

The broad concurrence in movement in the price indices is not surprising given the high cost component represented by Australian wheat in both the prices in Australia and in PNG. In applying this indicator, the Commission will need to have regard to changes in Australian retail taxes (although these are not anticipated to change) and PNG import taxes that may affect the cost of grain imported into PNG. As noted in submissions to the Draft Report, the Commission will also have to consider relative changes in overseas shipping costs in as much as these might influence the final ex factory prices in PNG. However, these issues would be considered should the Commission issue a 'please explain' request in response to the movement in prices in PNG being above that identified by the indicator index.

The Commission has decided to use the 12-month moving average as the monitoring series as this will tend to smooth out some of the quarter-by-quarter differences caused by timing effects. As a monitoring device, it provides a clear guide to the flour milling industry of the benchmark that the Commission will use and will require the industry to keep price movements within the bounds set by the more competitive Australian market from where the grain imports used in domestic flour milling are sourced.



<sup>5</sup> The Commission has repeated this analysis using the gazetted main port into store prices for flour as set by the current price control mechanism. Again, the movement in the prices as gazetted in PNG follows closely the movement in the prices from the ABS flour series adjusted for the Kina/AUD exchange effect.



For purposes of monitoring, the Commission will update the Australian series quarterly using information from the Australian Bureau of Statistics with adjustments for exchange rate changes. Movement in the 12-month moving average series will be used to monitor movements in the 12-month moving average ex factory prices of flour products in PNG. Where over time, the Commission identifies movements in domestic ex factory prices greater than movements in the indicator index (or less than the indicator index if this is falling), the Commission will seek an explanation from the relevant mill operator. If the Commission is not satisfied with the explanation provided, the Commission will reserve the right to have the ex factory price declared for price control purposes.

The products that the Commission will monitor under this arrangement will be the same products as are currently Gazetted for purposes of the existing price control arrangements. These are:

<b>Product</b>	<b>Pack Size (kg)</b>	<b>Pack</b>
Bakers flour	50	Polypropylene
Biscuit flour	50	Polypropylene
Soft flour	50	Polypropylene
Plain flour	25	Polypropylene
Plain flour	10	Polypropylene
Plain flour	5	Polypropylene
Plain flour	2.5	Polypropylene
Plain flour	2	Paper
Plain flour	1	Paper
Wholemeal flour	50	Polypropylene
Wholemeal flour	25	Polypropylene
Wholemeal flour	10	Polypropylene
Wholemeal flour	5	Polypropylene
Wholemeal flour	2.5	Polypropylene
Wholemeal flour	1	Paper
Self raising flour	50	Polypropylene

<u>Product</u>	<u>Pack Size (kg)</u>	<u>Pack</u>
Self raising flour	5	Polypropylene
Self raising flour	2	Paper
Self raising flour	1	Paper

### **5.1.1 Initial Ex Factory Price**

The monitoring mechanism also requires the determination of an initial ex factory price for each of the products to be monitored. The Commission has the choice of adopting the current ex factory prices as currently reported to the Commission or request additional data from the industry to allow revised ex factory prices to be set.

The Commission has had some concerns with the previous costing estimates for domestic milling as provided by the industry. To address these problems and in recognition of the requirements under Section 21 (2A) of the Prices Regulation Act, the Commission has undertaken a detailed financial analysis of the industry based upon information provided by the two millers and other information externally sourced by the Commission.

In examining the relative costs of production and milling provided by the two millers, the Commission has had to take into account the different mix of activities of the two companies and the extent to which they are focussed upon different markets. For example, AML produces a wide range of flour products and different flour package sizes, seeking to meet the needs of the domestic household market as well as the requirements of larger commercial users of flour products. Tablebirds by comparison is more focussed upon the larger commercial market and thus incurs less cost from a total operations perspective, on packaging material and packaging labour. When comparing the businesses at a 'total cost' level, allowances must be made for this different mix of product types and packaging arrangements.

Also, the businesses have been established around different but related business activities and have joint and common costs between different activities often undertaken on the same site. Thus AML has a close link between its flour milling operation and its bread and bakery activities. Tablebirds on the other hand is closely linked in its activities with its stock feed business. Much of the waste from the milling process is used in the stock feed business although other markets also have to be found for this by-product.

To undertake its financial assessment, the Commission sought and obtained a wide range of information from the two millers, including:

- audited cost break-up of milling and packaging costs for the latest year;
- volume of production for the latest year;
- supporting justification for the profit margin claimed;

- supporting justification for the cost allocation used (particularly where non-regulated products are produced and where costs are shared across different products); and
- supporting material for the actual costs claimed.

In submissions to the inquiry, it had been suggested that, as the more recently constructed mill, the Tablebirds facility in Lae might represent a more realistic benchmark of best practice when comparing the relative operating costs of the two milling businesses. The Commission examined this hypothesis, and found that after making allowances for the differences in types of operation and the common and joint costs, that any difference between the average per tonne operating costs between the two milling businesses could be explained and justified. The analysis also highlighted the fact that there had been some cost increases since the last price adjustment in 2003 as well as some cost misallocations in the previous costing arrangements. These cost misallocations did not always result in a reduction in the costs that were incurred as part of the flour milling operation, but did highlight the fact that as the Commission had surmised, there were cost allocation problems in the previous arrangements. These had not been uncovered because it had been over 10 years since the last full review of the flour cost control arrangements had been undertaken.

The Commission was also required to give consideration to an appropriate rate of return on the investment in the industry. This raised two fundamental problems, namely the rate of return itself, and the basis on which the rate of return might be applied. Neither business could initially provide an assessment of the 'investment' that had been made in the business upon which a rate of return could be applied. Also neither business could justify the previous rule of thumb percentage return on costs that had been used to set prices under the price control mechanism.

Rather, submissions received by the Commission sought to compare the prices for flour products in PNG with the prices for the same or similar products in other countries, including Fiji, New Zealand and Australia. These comparisons presented by the millers were favourable towards the prices charged in PNG, particularly for retailed flour in package sizes suitable for general household use.

The Commission sought to replicate these price comparisons and found that at the retail level the prices being charged in retail establishments in the main centres in PNG compared favourably with the prices being quoted and independently verified in other nearby countries. This gave the Commission some confidence regarding the acceptability of the current level of prices for retail sized packed flour at least.

The Commission received submissions that highlighted the differences between the prices quoted for commercial quantities of flour and the prices for which flour could be obtained from overseas. As noted above, the existence of the tariff limits the ability of importers to supply into PNG, and this can have the effect of making domestic foodstuff manufacturers

less competitive when they rely upon domestically produced flour as an input in their production processes.

However, when exploring the possibility of prices being higher in PNG than in comparable countries, the Commission noted that the lower prices were only available for large quantities of imported flour, and the security of continued supply from these overseas sources was not high. Thus, to the extent that higher prices were being charged in PNG they represented in part a premium to ensure continued on-time delivery of flour and the opportunity to limit stocks held on site by the flour users concerned. Evidence also exists of discounts being offered by the domestic millers on the list price of flour sold in commercial quantities in PNG, reflecting competition between the two millers for these types of clients and economies and efficiencies available through better handling and distribution arrangements (for example, the greater use of bulk flour supply rather than pre-packaged flour).

Notwithstanding these arguments and supporting material regarding the relative cost of flour in PNG by comparison with other countries, the Commission still needed to form a view as to the appropriate recovery of efficient costs by the milling companies. To complete this analysis, the Commission had to form a view as to the rate of return that should be applied and the 'financial value' of the investment in the businesses upon which a return of investment could be expected to apply.

### **5.1.2 Rate of Return**

In determining a rate of return to apply in this industry, the Commission used a measure known as the Weighted Cost of Capital (WACC). Essentially the WACC seeks to measure the return on investment by combining a return that might be expected on equity invested in the business and the interest rate that would apply to debt held by the business. The actual calculation of the WACC is then premised on a number of assumptions regarding the various components that go towards the make up of the return on equity and the interest costs on debt.

The simplest formula for the WACC calculation is presented in equation (1) below:

$$WACC = R_e \times \frac{E}{V} + R_d \times \frac{D}{V} \quad (1)$$

where,  $R_e$  is the nominal post-tax cost of equity,  $R_d$  is the nominal post-tax cost of debt,  $E$  is the total equity,  $D$  is the total debt and  $V$  is debt plus equity.

The WACC is therefore the sum of the returns to debt and equity, weighted by the share of debt and equity in the total value of the business.

The WACC calculation is affected by taxation, which requires equation (1) to be modified as follows:

$$Post-taxWACC = \frac{R_e \times (1-t)}{1-t} \times \frac{E}{V} + R_d \times (1-t) \times \frac{D}{V} \quad (2)$$

where  $t$  is the tax rate.

The return to debt ( $R_d$ ) is normally calculated by adding a debt margin to the risk free market rate. Usually the debt margin is based on industry norms and the risk free rate is generally based on the average over a period of time in a long-term government bond rate (usually a 10-year rate).

The return to equity ( $R_e$ ) is normally calculated by application of the capital asset pricing model (CAPM). This approach is widely used by commercial businesses and regulators in Australia, New Zealand, and the United Kingdom, and is also used in PNG for calculating the rate of return for regulated entities such as PNG Power Limited and Telikom PNG Limited.

The CAPM formula is presented in equation (3) below:

$$R_e = R_f + \beta_e \times (R_m - R_f) \quad (3)$$

where  $R_f$  is the risk free rate,  $\beta_e$  is a measure of the correlation between an asset's risk and that of the overall market, and  $R_m$  is the market rate of return.

In effect, the CAPM formula says that the return on equity for a particular business is the difference between the market return and the risk free rate. The margin (and hence the equity beta ( $\beta_e$ )) reflects how risky the business is compared with the rest of the market.

While the risk free rate is generally observable in the market, the difference between the market return and the risk free rate (also known as the market risk premium) generally reflects the long-term returns on equity in the market. The equity beta ( $\beta_e$  or the relative degree of risk of the business compared to the market as a whole) can itself be calculated in various ways. The Commission prefers to use the Monkhouse formula, which is presented in equation (4) below:

$$\beta_e = \beta_a + (\beta_a - \beta_d) \times \left( 1 - \frac{R_d}{(1 + R_d) \times t} \right) \times \frac{D}{E} \quad (4)$$

where  $\beta_a$  is the correlation between return to assets of the business and the market (known as the asset beta), and  $\beta_d$  is the correlation between return to debt and debt generally in the market (known as the debt beta).

Decisions about the underlying parameters within the Monkhouse formula will result in the calculation of an equity beta range for the investigation. The calculated equity beta range will form the basis of the calculation for the WACC range.

Given these equations for the calculation of the WACC, the Commission has to make choices about a range of parameters used in the calculation. These include:

- Taxation;
- Debt margins;
- Market risk premium;
- Equity beta; and
- Gearing ratio.

The other variables in the equations are either calculated, such as the risk free rate, or known with some certainty from the business. In previous regulatory decisions for electricity and telecommunications the Commission has referred to work conducted regarding the assessment of the relative risks above the normal risk free rates associated with investment within PNG (country risk premium). This is an issue that requires consideration to reflect the market reality for the PNG economy.

**Table 5.3 WACC Parameters and Value**

<b>Parameter</b>	<b>Value</b>
Nominal Risk Free Rate	10.2%
Real Risk Free Rate	4.0%
Inflation Rate	6.0%
Cost of Debt Margin over rf	2.0%
Nominal pre-tax cost of debt	12.2%
Real pre-tax cost of debt	5.9%
Market Risk Premium	6.0%
Corporate Tax Rate	30.0%
Effective Tax Rate for Equity	30.0%
Gearing	50.0%
Debt Beta	0.06
Asset Beta	0.45
Equity Beta	0.827
Post-tax nom return on equity	15.2%
Post-tax real return on equity	8.7%
Nominal Vanilla WACC	13.7%
Real Vanilla WACC	7.3%
Post-Tax Nominal WACC	11.9%
Post-Tax Real WACC	5.6%
Pre-Tax Nominal WACC	17.0%
<b>Pre-Tax Real WACC</b>	<b>10.4%</b>

Table 5.3 provides a summary of the assumptions and data that has been used in the WACC calculation for the flour industry in PNG. Each of these input assumptions are discussed briefly in turn below.

In PNG there is not a long-term risk free bond rate upon which the Commission can base the risk free rate for use in the WACC calculation. As a consequence, the Commission has adopted a similar approach to that used in its other regulatory price decisions. This approach draws on international finance theory which uses the risk free rate in a country in which debt is internationally traded, adjusts this rate for inflation in the country concerned and also in PNG, and then makes a further adjustment for the country risk premium for PNG<sup>6</sup>. The 10.2% nominal risk free rate used in this study reflects the current and projected average inflation rate in PNG and uses a country risk premium based on international market estimates of 2%.

The average inflation rate over the last decade has been around 10% per annum. In more recent years, inflation has been constrained and was around 2% in the most recent year. An average of 6% is an approximation that is indicative of the most recent year's inflation rates. The Commission has subjected this rate to sensitivity testing around the inflation rate and the country risk premium and the final differences in the pre-tax real rate of return is around 50 basis points.

Traditionally the Commission has adopted a statutory tax rate in the calculation of the WACC. In the past the Commission considered that this provided the business with the appropriate incentive to minimise taxes. Furthermore, given the relative cost and the level of intrusion associated with the calculation of an effective tax rate the Commission has been reluctant to alter its position from using the statutory tax rate.

The Commission notes that in the PNG context there is not a wide range of tax deductions that can be applied to create a difference between the statutory tax rate and the effective tax rate. Thus, the Commission has continued to use the statutory rate.

The debt margin represents the percentage margin above the risk free interest rate associated with debt. It reflects the risks in the business's ability to pay back debt. The debt margin is related to current market interest rates on corporate bonds, the maturity of the debt on issue, the assumed capital structure and the credit rating. All other things being equal, higher credit ratings should result in a business having a lower required debt margin.

A 2% debt margin represents a realistic level for a business that is not guaranteed a continuing market, but at the same time provides a product that can broadly be defined as being a staple and therefore is unlikely to be completely replaced by other substitute products.

The Market Risk Premium is an estimate of the additional return needed by investors to invest in a diversified equity portfolio relative to the risk-free rate. A 6% Market Risk Premium is a standard level that is currently used by regulators and has been adopted for this inquiry.

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<sup>6</sup> The US economy is the point of reference for the calculation of this rate. Details can be found in the Commission's reports on PNG Post (2004) and Eda Ranu and PNG Waterboard (2004)

Estimating the equity, asset and debt betas for a particular firm is usually based on information derived from the stock market for the company concerned. In the case of AML and Tablebirds, while their parent companies have stock market listings, they are part of highly diversified businesses, and the flour milling activities are but one small part of the total businesses.

The CAPM uses the portfolio theory of finance that classifies risks into two types of risk:

- *Systematic risk*: non-diversifiable risk applicable to the market and the economy as a whole such as inflation, levels of economic growth, taxation rate increases and rises in interest rates. Systematic risk is often caused by socio-economic and political events and in CAPM is measured by the equity beta.
- *Specific risk*: the residual risk unique to the entity or to a small group of companies that forms a subset of the market. Specific risks are not considered in estimating WACC as they can be minimised by holding a diversified portfolio.

Under the CAPM, the only component of risk that is priced by investors into returns (via the equity beta) is systematic risk. This is because the CAPM assumes that investors will hold diversified portfolios of assets rather than single asset because diversification reduces risk and it assumes that there are no transactions costs. Systematic risk is the only risk that matters since it cannot be eliminated through diversification. The equity beta is a measure of an asset's systematic risk relative to a market portfolio of assets such as the All Ordinaries Index. In this context, risk is defined by the extent to which returns of a particular listed stock co-vary with the returns of the market overall.

While the equity beta is the market's expectation of risks, as expectations cannot be observed, conventional practice is to estimate the future from historical equity beta values. The equity beta is generally measured by statistical regression of the observed historical returns of a company against returns on a market index. The market portfolio has an equity beta of 1.0. An equity beta greater than 1.0 implies that the returns on a stock are, on average, more volatile, and hence the stock is more risky, than the market, whilst an equity beta of less than 1.0 implies the reverse.

Equity betas derived from stock market observations reflect the degree of financial gearing of the company. The gearing level is a key determinant of financial risk and a higher level of gearing produces a higher equity beta. Consequently, it is not possible to compare the equity betas of different companies without having regard to the gearing levels of the different companies for which equity betas are being observed. In comparison, asset betas are not affected by the gearing of the entity under review. Accordingly, it is asset betas that should be compared for the purposes of benchmarking risk. However, as only the equity beta is directly observable, the asset beta must be derived from equity betas. Further, the observed equity beta implies an asset beta for a given gearing ratio. As such the equity beta must be de-leveraged to estimate an un-gearred asset beta.

A conventional approach to assigning a value to the business' equity beta is to look at market evidence in order to benchmark the firm's equity beta relative to similar companies. For public monopolies the Commission has usually set the equity beta at around 0.9 or even lower. Recent decisions of the UK regulator has placed the equity beta at levels of around 0.4 which is considerably lower than the rates applied in PNG in decisions on electricity and telecommunications. The Commission has estimated the debt beta at 0.06 and the asset beta at 0.45 as being close to industry averages. After allowing for a debt:equity ratio of 50:50, this equates to an equity beta of 0.83 which reflects an industry that is overall less risky than the market portfolio as a whole. This appears to be consistent with the market evidence for the flour industry in PNG notwithstanding increasing import competition.

The gearing ratio is defined as the ratio of debt to total capital. This ratio provides the necessary weightings used in the construction of the final WACC. It is standard regulatory practice in other jurisdictions to adopt a financial structure deemed to be an efficient structure given the risks faced by the business rather than actual ratio faced by the regulated entity. This ensures that the business is not rewarded for inefficiency in its capital structure. The debt:equity ratio adopted for the flour industry is 50:50 reflecting an industry that is able to match its equity raisings with debt.

Applying the WACC calculation and using these data inputs, the WACC for this industry is estimated to be 10.4% pre tax real (see Table 5.3). This is equivalent to a post tax nominal return on equity of 15.2% which is consistent with market observations and expectations.

### **5.1.3 Value of Asset Base**

The Commission sought information from the two millers on the value of their investment in the flour milling businesses. Estimates were provided based on the historical cost of the investment in machinery and other equipment directly associated with the flour milling activities and also estimates of current replacement costs. The Commission has applied a pre tax real rate of return, and therefore an estimate of the current 'real' value of the investment is the appropriate valuation to use. Difficulties arise when historical values are used as they reflect the values of differing periods over the life of the mill, and thereby make the derivation of a uniform value difficult.

In seeking to determine the value of the assets used in the milling business, the Commission is seeking to apply a 'financial' valuation to the business. In effect the Commission is seeking to determine what would be the economic value of the business in its current operating form, as it is this value that should determine the quantum of profit that the business should expect to earn. The economic value can be described as the value that the owner of the business would place upon the assets should the business be sold as a going concern. Alternatively, at the lower end of the valuation scale, should the business be sold off as a non-operating entity, the economic value would be the scrap value of the assets.

One method of deriving an economic value is to calculate the current return on the business using a Return on Assets (RAT) test. Effectively this approach seeks to work back from the current profitability of the business to derive an estimate of the asset value assuming a certain rate of return. The WACC calculation provides a rate of return and this was then used to calculate an estimate of the asset value based on the current profitability of the milling operations.

The Commission used the operating cost and revenue data provided by the two milling businesses and applied a RAT test to current profitability to estimate a current real asset value. At the same time the Commission calculated a current estimated value of the asset base using asset data provided by the businesses. The estimates using both methods produced valuations that were broadly similar. This provided the Commission with some confidence in the estimate prepared notwithstanding that the data available was not in a form that allowed a direct calculation of the real asset value. The asset value estimates made by the Commission were then included in the calculation of the cost based estimate of the prices that should currently be applied to the flour products subject to price monitoring.

#### **5.1.4 Commission's Consideration**

The Commission has had to consider what should be the appropriate starting prices for the price monitoring arrangements to take effect from 1<sup>st</sup> July 2005. The Commission has used a 'cost building block' approach to derive an estimate of the efficient cost reflective prices for flour produced by the two mills. At the same time the Commission has examined and compared prices for flour products in PNG against prices for similar products in the Pacific region.

Based on its analysis, the Commission is satisfied that the approved flour prices that exist as at 1<sup>st</sup> January 2005 are an appropriate starting point for the monitoring process. The Commission notes that these prices were last amended earlier in 2003, and the cost based analysis that the Commission undertook indicated that there had been some cost increases in the period between that last adjustment and the middle of 2005. However, the Commission is of the view that these prices represent an 'efficient' cost value for flour while at the same time ensuring that the two milling companies are able to recover their efficient costs and generate an appropriate rate of return on the economic value of the investment in the businesses.

Thus, the Commission will commence its price monitoring arrangements using the prices for the designated flour products at the current (July 2005) approved price levels. The prices used will be the ex factory prices for these flour products. The Commission will monitor the price movements of flour products of the AML and Tablebirds businesses separately and will require each company to report price adjustments to the Commission on a regular periodic basis.

The previous 8% surcharge on flour purchases below 10 tonnes will no longer apply. Should the millers decide that they wish to give discounts for larger customers, this will need to be funded from their own profit margin

or from cost savings achieved through efficiency savings in selling larger volumes to a single customer (for example, by use of the bulk delivery arrangements as an alternative to 50kg bags of flour).

Under the price monitoring arrangements, the two millers will provide to the Commission by the 8<sup>th</sup> day of January, April, July and October each year, the ex factory price as at 1 January, 1 April, 1 July, and 1 October respectively, for each of the products, package sizes and package types as listed in section 5.1 above. The millers will be able to adjust their prices without obtaining prior Commission approval. The Commission will monitor the movement in the ex factory prices using the indicator index as discussed above. This monitoring will be conducted using the 12-month moving average approach in recognition that prices can and will move independently of the indicator rate. However, the continuous monitoring by the Commission will form part of any formal notification to the industry that the Commission requires an explanation of the reason for movements in prices which appear to lie outside movements in the indicator index.

In submissions received on the Draft Report, the issue of the effect on the monitoring process of the tariff reduction from 20% to 15% from 1<sup>st</sup> January 2006 was raised. An expectation was expressed that prices for flour in PNG should reflect the impact of this five-percentage points reduction in the tariff from 2006. The Commission has considered this matter and how it should appropriately be handled within the monitoring arrangements. Rather than adopt a mechanistic approach to what price adjustment might be expected after the tariff reduction occurs (and as a result of any subsequent adjustment in the tariff), the Commission has decided to adopt an approach which will effectively see the Commission monitor the movement in prices in the period following the reduction in tariffs, with the expectation that there will be some impact on prices over time. This impact may reflect a combination of factors, not the least of which will be the relative level of competition for different types of flour products in the post tariff reduction period. The Commission will however, take the opportunity to follow up the domestic industry and seek an explanation if there is not at least some form of price response to the expected improved opportunity for imported flour in at least some form and packet sizes in the post tariff reduction period.

## **5.2 Price Monitoring of Domestic Freight Costs**

The Commission will use its internally calculated Freight Cost Index (FCI) to monitor movement in the freight charge. The freight charge is based on the cost per tonne for the coastal freight of flour from Port Moresby/Lae to the main ports of Rabaul, Madang or Wewak. The freight costs should be forwarded to the Commission at the same time as the quarterly reports on ex factory prices.

The FCI prepared by the Commission is based on a weighted average of costs impacting on the freight sector. The Commission will monitor movements in the freight costs advised by the milling companies and will issue 'please explain' notices to the milling industry should movements in

the freight costs appear to fall outside the indicator rate provided by the FCI. The Commission will examine the movement in freight costs over time recognizing that adjustments may occur at infrequent intervals and thus may need to be considered over more than one quarterly period.

### **5.3 Price Control of Wholesale and Retail Mark-Ups**

The Commission will maintain the present declared status for the wholesale and retail margin for flour products under the provisions of Section 10 of the Prices Regulation Act. Under the provisions of Section 21 of the Act, the Commission has determined that the following wholesale and retail mark-ups be applied as the maximum mark-ups that can be used (see Table 5.4). These absolute mark-ups will remain unchanged for a period of five years or until such time as altered by the Commission as the result of a proposed review of the wholesale and retail sectors.

**Table 5.4 Approved Declared Wholesale and Retail Mark-Ups for Flour Products**

Product	Pack Size (kg)	Mark-up per kg	
		Wholesale (toea/kg)	Retail (toea/kg)
Bakers flour	50	17.30	17.50
Biscuit flour	50	17.30	17.50
Soft flour	50	17.30	17.50
Plain flour	25	18.10	18.20
Plain flour	10	18.30	18.50
Plain flour	5	18.70	18.80
Plain flour	2.5	18.90	19.10
Plain flour	2	18.90	19.10
Plain flour	1	18.90	19.10
Wholemeal flour	50	17.20	17.40
Wholemeal flour	25	17.90	18.10
Wholemeal flour	10	18.20	18.30
Wholemeal flour	5	18.50	18.70
Wholemeal flour	2.5	18.80	18.90
Wholemeal flour	1	18.80	18.90
Self raising flour	50	17.90	18.00
Self raising flour	5	18.60	18.70
Self raising flour	2	19.20	19.40
Self raising flour	1	19.40	19.60

The Commission will conduct periodic inspections of retail and wholesale businesses to confirm that these absolute kina value margins are not exceeded in the prices charged. Freight charges from the main ports (including Port Moresby and Lae) to locations other than the other main ports of Madang, Wewak and Rabaul are not specifically monitored or price controlled.

The Commission will recommend to the Minister for Finance and Treasury that an inquiry into the wholesale and retail industry be undertaken by the Commission, with the expected starting date later in 2005.

The Commission has undertaken a review of the regulatory arrangements applying to flour products under the provisions of Section 25A (6) of the Prices Regulation Act. Flour products are currently declared under the provisions of Section 10 of the Act.

The Commission acknowledges the comments and submissions received on its Flour Draft Report and the draft determinations outlined therein. Having considered these comments and submissions, the Commission has now made its final determinations as to the manner in which the price of flour is to be regulated over the next 5 years.

Under the provisions of Section 25C (3) of the Act, the Commission has made the following Final Determinations:

1. Price regulation of the prices of flour products will continue.
2. With the exception of the wholesale and retail margins, the form of price regulation to be applied is to be varied from the price control currently operating.
3. The Commission will recommend to the Minister for Finance and Treasury that an order be gazetted that specifies the form of price regulation to be adopted.
4. The form of price regulation to be applied will be:
  - price monitoring of the ex factory price of flour products under the provisions of Section 32A of the Act; and
  - price monitoring of the coastal freight charges for main port delivery of flour products under the provisions of Section 32A of the Act.
5. The Commission will amend the General Prices (Amendment No. 17) Order 2003 to set a cap on the wholesale and retail margins of flour products, with the declared price per kilogram margins for various flour products and package sizes to be as specified in Table 5.4 and to remain at this level for a period of five years from 1<sup>st</sup> July 2005 or until such time as reviewed by the Commission.
6. The declaration of prices and price regulatory arrangements will apply for a five year period from 1<sup>st</sup> July 2005 to 30<sup>th</sup> June 2010.
7. The initial ex factory prices to be used in the price monitoring process will be the ex factory price equivalent of the gazetted price for flour products existing as at 1<sup>st</sup> July 2005 (that is excluding all coastal freight charges).

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