

GRAIN AND OILSEED PRODUCTS

Analysis of the determinants of prices and costs in product value chains

GRAINS AND FLOUR – OVERVIEW

Background

The wheat industry is predominantly (85 per cent) export focused, while the flour industry is the reverse, with only 10 per cent of production exported.

The wheat industry has undergone significant change from a highly regulated industry to one that is now deregulated on the domestic market but still has export regulation via a single desk. Management of this single desk is undertaken under the supervision of a statutory authority.

While the domestic market and the storage, handling and transport arrangements are now fully deregulated, the history of regulation still has some influence on the market and pricing.

The flour industry has undergone considerable rationalisation. Today there are 10 milling companies, although only four of these are involved in the retail packet flour market. The industry is highly competitive, low margin and suffers from considerable under-utilisation (estimated to be 30 per cent at present).

The industry's product mix and use

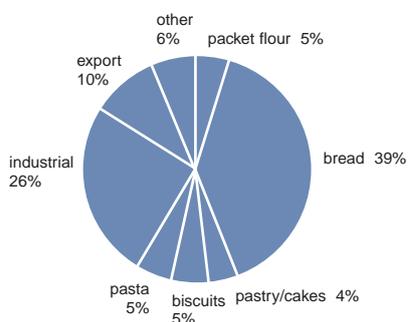
The market mix of the industry in 2002 saw only 5 per cent of flour production used in the retail flour market. The graph gives a picture of the flour market.

Packet flour is really only used in retail. Flour going to all non-retail areas is in 25kg bags or some other bulk form. The bread sector is dominant with 45 per cent of the usage. It should be noted that until the Goodman Fielder sale of mills only 18 per cent of this was unaligned – Westons own their own flour mills and bakeries as did Goodman Fielder. Effectively there has been little change as Goodman contracts their flour requirements and controls the plant bakery.

The packet flour market is in decline. Pasta use has shown significant growth (note that this uses durum wheat and different milling technology and thus does not have a direct influence on the companies involved in packet flour).

Export has also shown strong growth off a low base over the last couple of years but trade does tend to be opportunistic.

Figure 77. **MARKET MIX OF THE INDUSTRY'S USE OF FLOUR, 2002**



Source: Industry Sources

Major drivers of pricing

The main factor that affects prices through the chain is the international price of wheat. The wheat input represents the major cost component and directly influences flour price. International prices are driven by supply and demand, climate and exchange rates. International wheat prices reflected in the Australian Wheat Board pool price effectively set the price at which millers purchase wheat.

The other major influence on price at the retail level is product type and retailer positioning. Private label product trades at a 30–40 per cent discount to branded product and thus the margin shares of private label and branded product are significantly different. Private label prices are set via an annual tender process by the retailers.

Thus the variables that effectively influence shares are the wheat price and the ability of the marketer to retain margins.

Figure 78. **FLOUR PRODUCTS: MAJOR DRIVERS OF PRICES AND COSTS**

Flour products are a major consumer product group derived from grain products, where there is reasonably recognisable identity of product between farmgate and retail.

1. Farm production factors

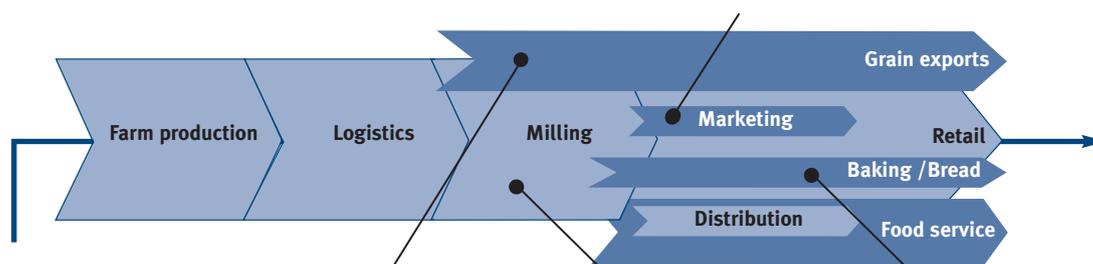
- Can be significant volatility in world grain production which alters price and quality.
- As domestic milling requirements are only 10% of total production, this does not threaten supply.
- Varieties a key determinant of price based on quality and functionality.
- General level of quality across the crop, that is, protein levels.

2. Value-chain integration

- Increasing integration with move out of a regulatory structure, particularly from farmgate to mill door and pre-farm regarding variety breeding and marketing.
- Focus has been on inwards logistics – logistics into the mill – and how to reduce costs.
- Further rationalisation of mills required but for some players may be in form of new greenfield investment.
- Considerable downstream integration – millers to bakers, hot bread chains or industrial applications.
- Significant under-utilisation (30%) of capacity in the industry which has a depressing effect on price.

3. The marketing approach

- Flour is a commodity – little differentiation in specifications in retail products compared to other end uses.
- New varieties will be developed with superior health or milling properties, in particular, growth in wheats which work with specific bread improvers.
- Small but steady growth in new and specialty segments.
- Traditionally dominated by major brands, but consumer perception is changing as smaller companies increase share in specialist categories.
- The gradual change in tastes and demand for convenience has increased flour use in pasta and pizza.



4. Regulation and compliance

- Domestic deregulation has reduced the power of the Australian Wheat Board as a supplier of wheat and opened new supply channels.
- Further rationalisation via mergers and takeovers is likely to be constrained by Australian Competition and Consumer Commission.
- New environmental controls have seen more capital-intensive technologies introduced.

5. Trade impacts

- At raw material level, 85% exported.
- Wheat industry driven by global not domestic factors.
- At flour level, 10% exported based on opportunistic trade and mostly low-value, marginal business.
- Limited flour imports.

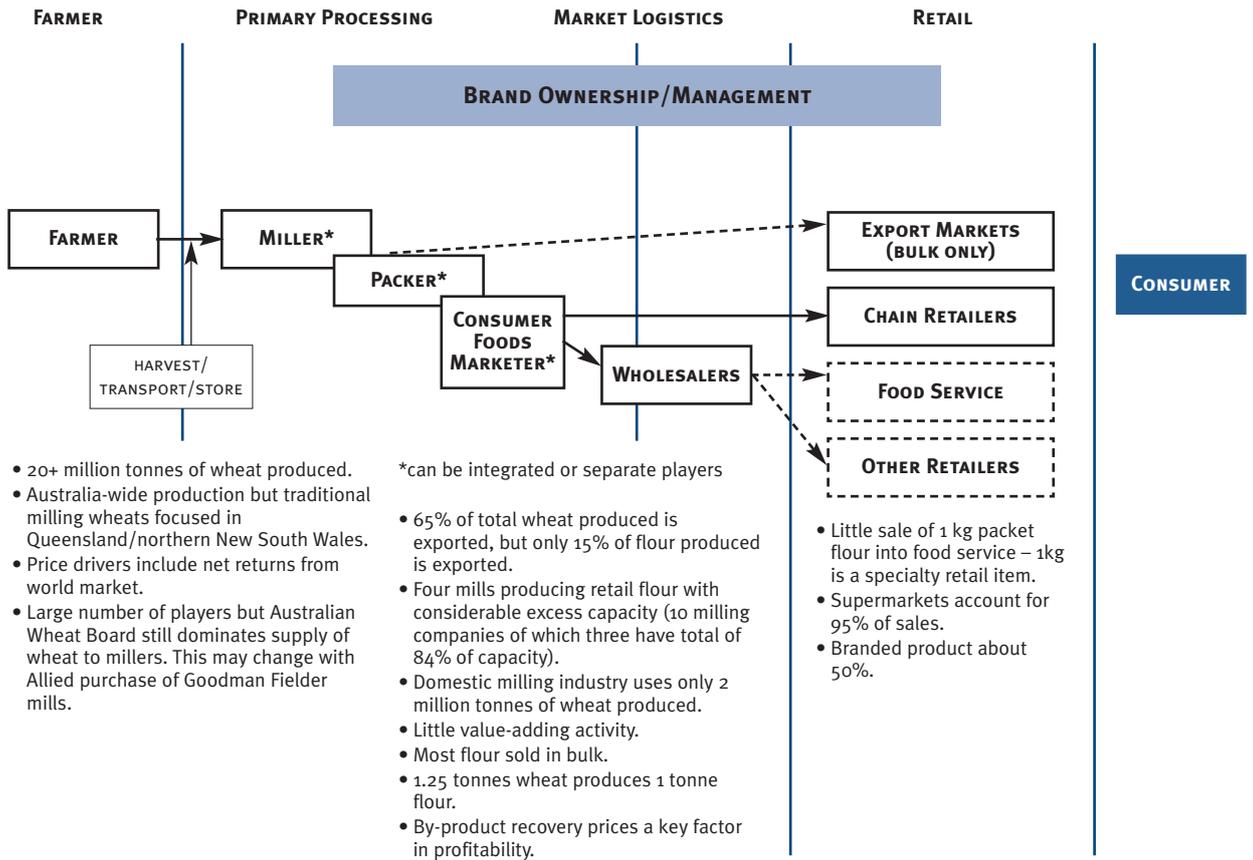
6. Technology and innovation

- High capital-intensive industry and rising.
- Little transparency in pricing beyond wheat input prices. Bread manufacturers, end users and retailers would have a reasonable idea.
- Basic technology is old but improvements in efficiency of equipment and development of smaller, modular plants provide flexibility.
- Investment in value-adding in form of specialty flours and premix products – but only small part of market.

7. Retail market dynamics

- Fragmenting marketplace.
- Traditional bread market impacted by hot bread shops and wider range of products, for example, wraps, rolls, flat breads, muffins.
- Greater demand for convenience and lifestyle solutions in meals and snacks.
- Straight flour sales falling as people cook less in the home or less from scratch.
- Growth of the private label in commodity flour products.

Figure 79. FLOUR, 1KG, SUPPLY CHAIN MAP



FLOUR – ANALYSIS OF PRICING

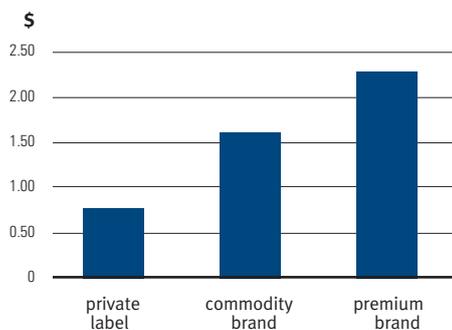
The Australian retail market

Flour is the key product line for the Australian wheat industry in terms of domestic processing. However, the packet flour market is only a small component of overall flour usage.

Packet flour accounts for only 5 per cent of flour manufacturing. As such, the packet flour market has a relatively small influence on overall miller profitability and trends through the chain. About 95 per cent of packet flour sales are through the supermarket channel. Private label represents about 30 per cent by value but almost 50 per cent by volume.

The graph below shows the difference in pricing between private label and the range of branded product.

Figure 80. RETAIL PRICE OF FLOUR BY LABEL, 1KG PACK, \$/KG



Source: Industry sources

The packet flour segment declined by almost 1 per cent by value and 2 per cent by volume in 2002. This is a long-term trend and applies to other cooking inputs such as cake mixes and bread mixes. This reflects the fact that consumers are not baking in the home but tend to purchase finished products from hot bread and cake shops. Given this outlook for the sector, there is little investment or activity in value-adding.

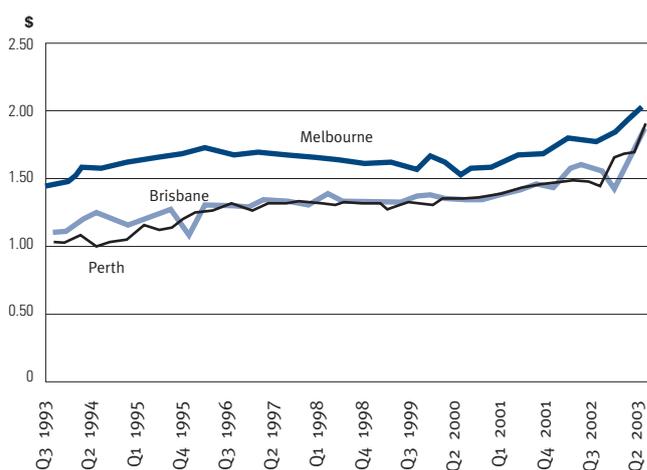
This is different at the food service level where bread and cake mix sales to hot bread shops, pastry and cake manufacturers and other food manufacturers are strong. In these segments there is considerable activity in new product development using specialty flours such as soy and rye. However, despite the level of activity, these products represent a small part of the overall market – specialty grains are estimated to be 5 per cent of the volume of wheat used.

Retail prices

The average value of the grocery retail market in the last 10 years has risen from \$1.20/kg to \$1.70/kg. However, this is an annual average increase of around 3.5 per cent, suggesting that prices in real terms have declined. This reflects the declining position of the product range and the increasing dominance of private label product. Increasingly the pricing and product sourcing policies of the major retail chains have restricted the increases in retail prices of private label flour products.

The chart below shows average retail prices for 1kg packet flour product.

Figure 81. **RETAIL PRICE OF FLOUR, 1KG PACK, \$/KG, 1993–2003**



Source: Industry sources

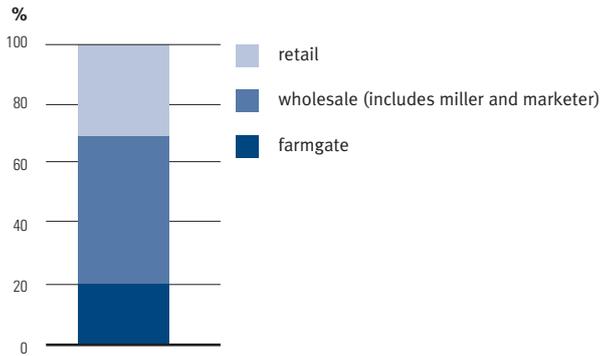
Background

Wheat for milling is a major part of the grains industry and traditionally has been seen as the high quality end of the market, that is, seeking prime hard or specialist categories of wheat such as soft wheat. However, as technology advances are made in areas such as bread improvers, the quality of the wheat input is becoming less of an issue. Bread manufacturers are seeking ways to reduce raw material prices and utilising lower quality wheat is one means of achieving this.

Retail pricing

Our analysis of the margins captured by each major sector engaged in the flour value chain is represented in the chart (note this applies to retail packaged flour only). This has been compiled by reference to the average retail value of retail flour product in the Australian market (per ABS data), the average net selling price achieved by the domestic miller/marketer and the farmgate return based on average prime white grade wheat delivered port prices adjusted to farmgate.

Figure 82. **SHARE OF RETAIL PRICE OF PACKAGED FLOUR**



Source: Industry sources and analysis by Bowman Richards

The past several years have seen a gradual increase in the share of the food sales dollar which has been captured by the retail sector, largely due to the competitive nature of the business and the costs of doing business with major grocery chains.

The major retailers tender annually for the private label products. Contracts tend to be purely price-based. (Retailers are also prepared to accept product that is out of specification. This puts pressure on players who produce to specification and thus incur higher costs.)

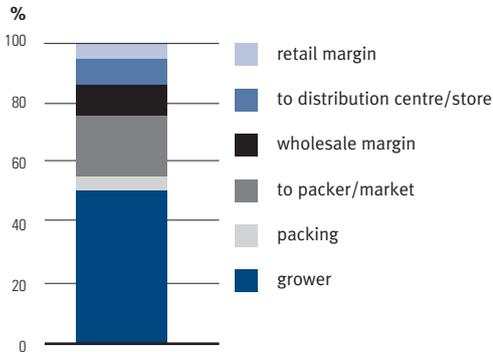
The margin on private label product for millers has effectively been competed away. Margins on branded product vary significantly. This is a major issue for the industry. In some cases it is claimed that business is being done at below cost. In branded product there is little relativity between retail prices and the wheat or flour price.

Drivers of cost

The variation in costs in the flour value chain is largely determined by the annual size of the local and international wheat crop. The Australian Wheat Board (the operator of the single desk for export wheat) has a major influence on wheat prices. In effect, the board sets the price with pool announcements and the flour miller has to pay more to attract wheat away from the pool. Millers buy most of their wheat at harvest so price movements after this have little influence.

The price of flour tends to be set annually – early in the new year – based on wheat cost. Over the year the margin gradually erodes away. Thus, if a flour miller does not read the market for wheat prices, then this will impact on their competitiveness for the year. The major cost in the production of flour is the raw material – wheat and other ingredients account for around 60 per cent of total costs ex mill (excluding warehousing and distribution). The graph below shows the major cost components, excluding marketing, promotion and margins.

Figure 83. **COST COMPONENTS OF FLOUR**



Source: Industry sources and analysis by Bowman Richards

The main factors influencing miller costs are:

- international prices as previously noted;
- miller efficiency driven by yield, age of mill and technical capability; and
- offal (waste) recovery prices – can be costly if locked in and markets move.

The mills that are integrated with plant bakeries tend to have a technical advantage. For example, due to technical knowhow they can have the flexibility to use lower quality wheat through the application of bread improvers. Given that the typical price spread between Australian Wheat Board wheat grades ASW and APW (standard and premium white grades) or AH (hard grade) can be \$40 or higher, then this is a significant saving. All mills try to maximise use of APW grade wheat.

The Australian flour milling industry has undergone significant rationalisation of milling capacity and upgrade of technology. This has led to a reduction in like-for-like conversion costs and there may have been some shift downwards in the overall cost base.

Industry risk

The major issue for the retail sector of the flour milling industry is that it is a declining market with little prospect for this to turn around. Thus the business is likely to become increasingly cost-competitive, particularly if private label product continues to increase market share.

The industry has attempted to manage this risk over previous years through improving the efficiency of milling operations, maximising the use of lower value wheats and focusing on other market segments, such as hot bread shops. This latter issue has seen increasing integration between millers/consumer food companies and hot bread businesses.

Broader actions that the flour milling and baking industry have taken to maintain margins include:

- reducing costs through substitution of cheaper ingredients, for example, APW wheat; and
- shifting away from single ingredients to premixes which can include complete flour mixes, semi-finished products, frozen dough or pre-baked bread. By utilising such ingredients, the baker obtains benefits of time and cost-efficiency and reduced production errors.

Value-adding

There is little, if any, value-adding occurring in the retail flour market. The private label market just wants lower costs and there is little action in the branded segment given the declining market due to less cooking in the home. Cake mixes and bread mixes for use in the home are also declining or may even be approaching a state of redundancy and thus, no-one is investing money in this market segment.

The major activity is in the bread mix market for the hot bread shops. However, even there the use of specialty flours is small in total. It may be 5 per cent of total flour usage.

More broadly across the flour and bakery sector, strategic responses have included:

- consolidation, in particular to gain access to new and growing market segments such as the sacking market – where flour is sold in larger packs (sacks) to industrial users or bakeries;
- new product innovations mostly aimed at health including:
 - grab and go products – breakfast bars;
 - functional and fortified products;
 - reduced sugar products;
 - organic products;
 - ethnic and exotic products – for example, the flat bread market is the fastest growing segment in the Australian bread market and has prompted strategic responses from the large players such as Westons' 'breads of the world' range; and
 - bake-off products such as pre-frozen pies, breads, pastries and desserts.

OILSEEDS – OVERVIEW

Background

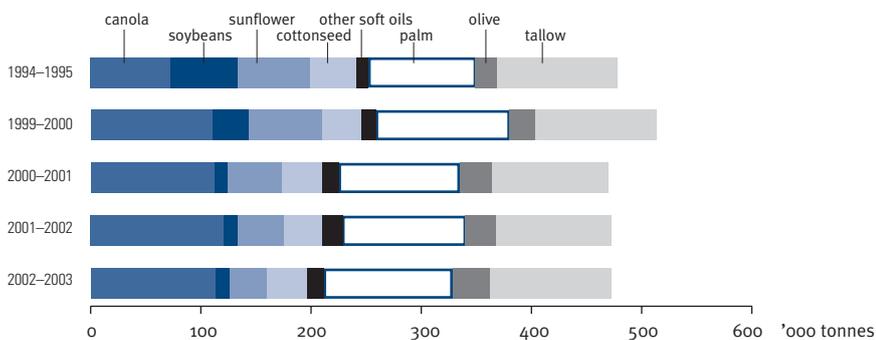
The oilseed industry is predominantly export-focused, although this varies between crops. The main commodity used in retail cooking oil and margarine is canola, with smaller quantities of sunflower and soybeans. This report focuses on canola because it represents over 50 per cent of the oils and fats used in the domestic retail market.

Australia produces on average 1.6–1.8 million tonnes of canola annually, of which around 400,000 tonnes is used in the domestic crushing sector almost exclusively for products for the domestic industry. As such, international price movements of both canola and the competing oils and fats crops are the major factor influencing raw material prices. As in other agricultural businesses, because the raw material is the major cost component, the influence of international prices is felt right through the value chain.

The industry’s product mix and use

The industry uses a range of oils and fats in its product range (see graph below). However, many of the more important in terms of total volume are not used in retail products, namely tallow, palm and cottonseed.

Figure 84. **INDUSTRY’S USE OF OILS AND FATS**



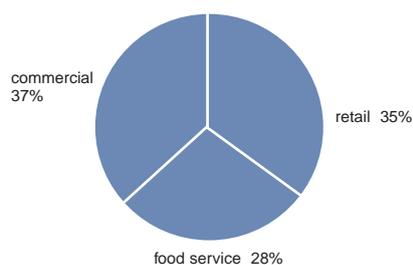
Source: Australian Oilseeds Federation

All palm and most olive oil is imported, with both these commodities growing their share of the market. For palm oil this growth is price-based and for olive oil it is lifestyle and image-based.

The graph above illustrates that canola has steadily increased share as production has increased (except for the impact of the 2002–03 drought). Canola has now replaced all other soft oil usage that does not have an intrinsic demand.

The retail market is an important segment for the oils and fats industry in terms of value but is less important in terms of volume – see graph below. The retail market is not growing other than for the olive oil and value-added segments, such as plant sterol-enhanced margarines. The food service and food manufacturing sectors are growing by around 2 per cent per annum.

Figure 85. **MARKET MIX OF THE INDUSTRY’S USE OF OILS, 2002**



Source: Australian Oilseeds Federation

In addition to imports of crude or refined oils which are further processed in Australia, there are imports of finished products which have a significant impact on the retail market and prices.

Figure 86. **OILSEEDS: MAJOR DRIVERS OF PRICES AND COSTS**

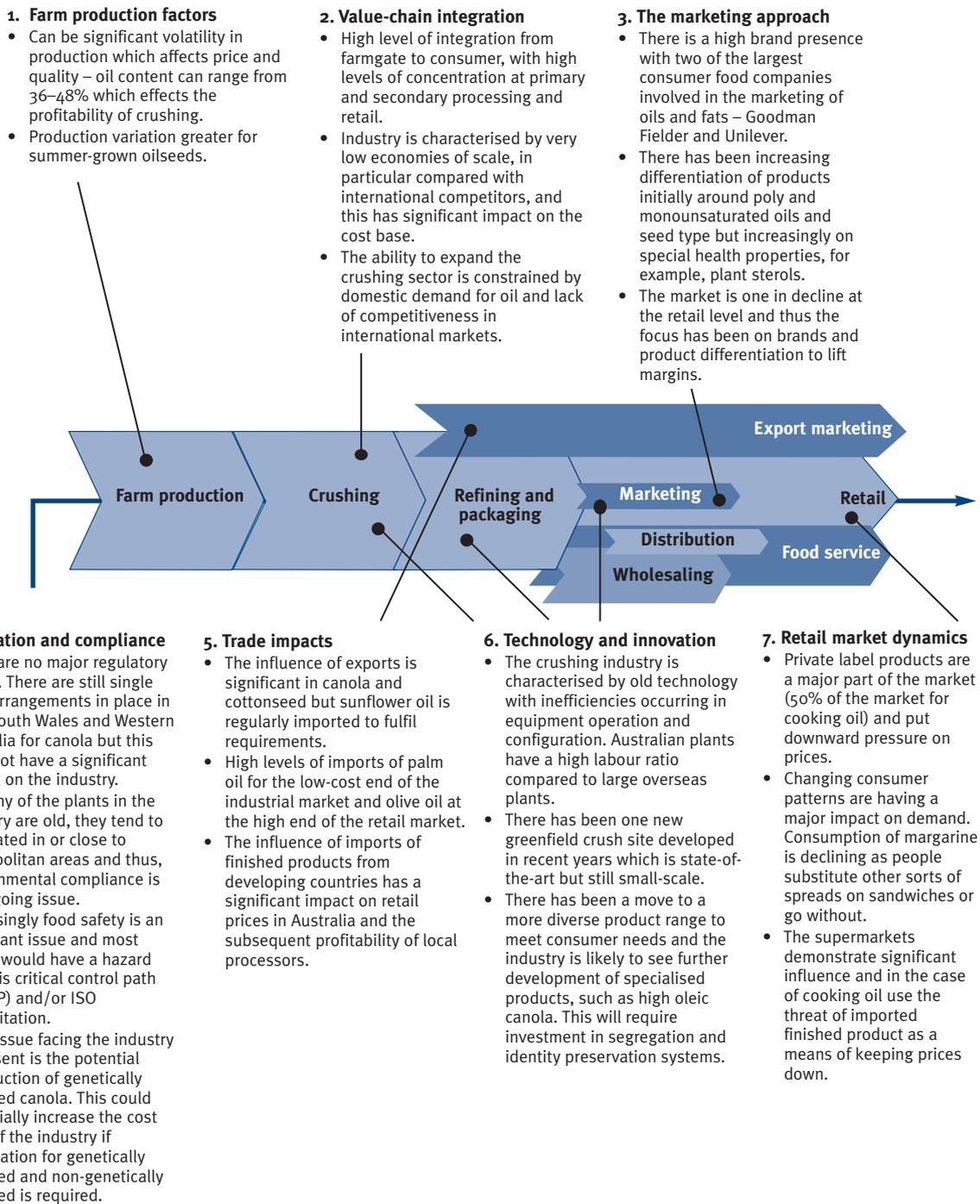
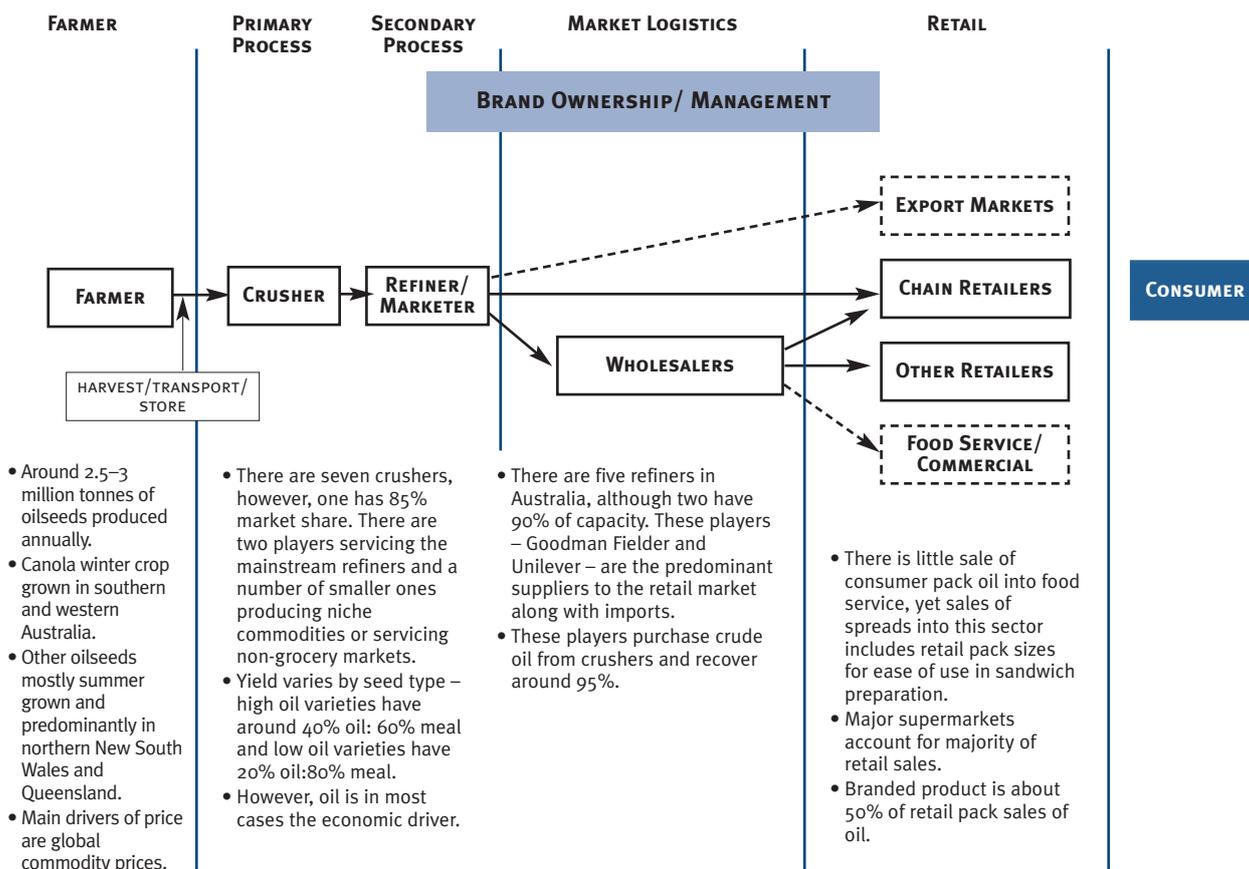


Figure 87. OILS AND FATS, SUPPLY CHAIN MAP



OILS AND FATS RETAIL MARKET

The Australian retail market

The margarine segment has been undergoing a period of decline while the cooking oil segment has been growing, although this is primarily in the olive oil segment.

Value and volume of grocery sales of spreads and oils

	Margarine 2000	Blends 2002	Butter 2002	Cooking Oil 2002
Value \$m	266	63	61	218
Volume	83,193t	14,221t	14,402t	527 M litres

Note: the above figures only represent the grocery trade of major supermarket groups and do not capture sales through independents, convenience stores and food service.
For example, total margarine production is around 150,000 tonnes.

Source: Australian Oilseeds Federation

The retail yellow spreads market is declining at around 3 per cent per annum. Within the yellow spreads segment, butter is seeing a rise in popularity. While margarine use is declining, it still accounts for 66 per cent of the total spreads market. Generics have won a greater share of the market as consumers recognise that the quality is comparable. Polyunsaturated margarines continue to dominate the segment with 63.4 per cent of margarine sales. Monounsaturated margarines account for 29.2 per cent of margarine sales.

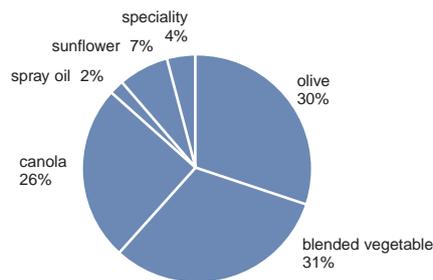
While the number of households consuming margarine remains constant, the oil content of vegetable oil spreads has dropped with the move to low-fat products and the use of other ingredients (including dairy fat in blends). Spreads offering unique positioning – for example, cholesterol lowering – and olive oil have been introduced in an attempt to reinvigorate the market.

Bottled oils are also seeing growth. Olive oil accounts for most of this, growing by around 10 per cent per annum and representing 37 per cent of the total market. Non-olive oil use is declining by 4.5 per cent per annum. Private label product accounts for around 50 per cent of total sales.

The premium-priced segment is mostly canola (but would also include sunflower and specialty oils) and trades at a significant premium to the blended vegetable oil category. Monola (low-linolenic canola) has done well but is heavily supported with marketing. Olive oil continues to increase, primarily driven by a strong marketing image. Canola oil dominates this category accounting for 26 per cent of the total segment by volume and is a major ingredient in the blended vegetable oils category, which accounts for 29.6 per cent by volume.

The shares of all categories are shown below. However, as a single oil category, olive oil has grown significantly to now hold 30 per cent of the segment by volume and almost half by value.

Figure 88. **MARKET MIX OF COOKING OILS, 2002**



Source: Australian Oilseeds Federation

In terms of trends in individual oil types, there has been:

- a significant increase in canola oil consumption (up from 14 per cent in 1987 to almost 60 per cent today);
- growth in specialty oils such as peanut and sesame oil;
- substantial growth in olive oil consumption with extra virgin and extra light olive oils driving growth; and
- a decline in soybean oil consumption linked with trans fatty acid and genetic modification issues.

COOKING OIL AND MARGARINE – ANALYSIS OF PRICING

Retail pricing

Represented below is our analysis of the share of the current returns for each major sector engaged in the oils and fats value chain as it relates to bottled cooking oil (note that the farmgate to wholesale component includes both primary and secondary processing).

Figure 89. **SHARE OF RETAIL PRICE OF COOKING OIL, 750ML BOTTLE**



Source: Industry sources

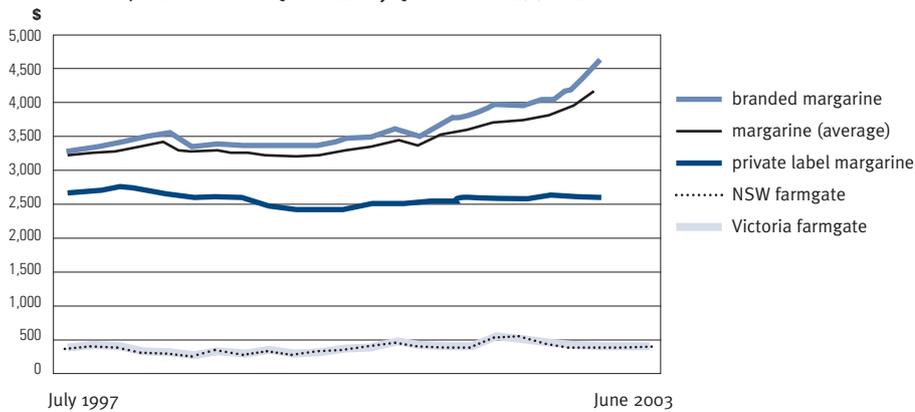
The amount represented by the retail sector reflects margin and any costs they have in centralised warehousing and administration. Margins for the retail sector are estimated to be 20 per cent of the wholesale price. In the wholesale sector, there are margins for both the crusher and refiner. The refiner appears currently to be struggling to recover full overheads and any margin. This is due to the competitive pressure from imports and the behaviour of retailers to maintain their margins.

A major driver of prices in the retail sector is the price of bottled oil from nearby Asian countries such as Singapore. Products from these markets are competitively priced in the Australian market and the retailers use this as a major influence on their buying price, rather than the cost of production within the Australia market. The domestic refining industry has in the past successfully brought anti-dumping action against the imported product and currently has another anti-dumping application before the government.

This has been accompanied by a steady increase in share held by private labels to the point where they now hold around 50 per cent of the market.

Retail versus farmgate prices over time

Figure 90. **RETAIL AND FARMGATE RETURNS FOR MARGARINE, \$ PER TONNE EQUIVALENT, QUARTERLY 1997-2003**



Source: Industry sources

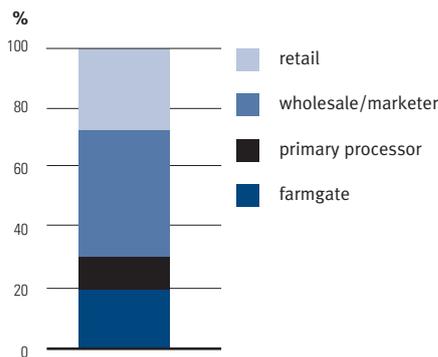
The farmgate numbers above are based on the delivered port price adjusted to a farmgate value. The graph shows that the movement in retail prices for branded product is influenced by a range of factors other than raw material prices. However, the farmgate price has more direct relativity to the crusher prices and margins which are influenced by both meal and oil. The meal price is set by the import parity price for soybean meal (canola meal trades at a discount to soybean meal due to its lower protein value). In the case of oil, the value is between the import parity price for oil and the export parity price for seed. The relative contribution of oil and meal to the crusher margin varies between years and within a year depending on the world oils and fats complex and the crop cycles in other parts of the world. Generally the crusher margin will be higher earlier in the crop season and decline over the year.

MARGARINE – ANALYSIS OF PRICING

Retail pricing

Represented in Figure 91 is our analysis of the current share of the returns for each major sector engaged in the oils and fats value chain as it relates to margarine (note that the farmgate to wholesale component includes both primary and secondary processing).

Figure 91. **SHARE OF RETAIL PRICE OF MARGARINE, 500G TUB, AVERAGE ACROSS CATEGORY**



Source: Industry sources

The amount represented by the retail sector reflects margin and any costs they have in centralised warehousing and administration. Margins for the retail sector are estimated to be 35 per cent of the wholesale price. In the wholesale sector, there are margins for both the crusher and refiner.

The refiner is recovering full overheads and margin in this segment, although margins vary significantly between branded and private label product. Margins on private label product are estimated to be around 10 per cent or less while they could be double this on branded product.

The increasing share being won by private labels is putting pressure on the refiners’ margins as there is little opportunity to differentiate product based on quality and competition is purely based on price.

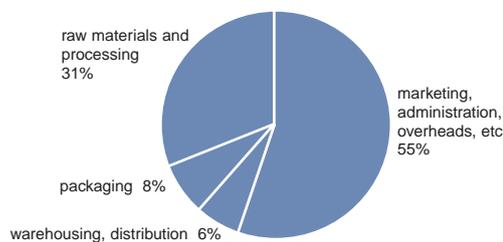
Drivers of cost

The major factor causing variation in the cost base from year to year is the price of canola seed. This is largely determined by the size of the domestic and international crop. The major cost in the production of cooking oil and margarine is the raw material – approximately 60 per cent of the wholesale price and similar at the crusher door. The industry’s cost base has been relatively static for the past four to five years.

Canola is viewed as premium oil on world markets, where soy and palm oil are the low-cost commodity oils. However, in Australia, where there is little production of soybeans and no palm oil production, canola is the core of the industry. As the industry has grown and with 75 per cent of the crop exported the refiners are looking to purchase oil priced from export parity for seed rather than import parity.

The cost breakup for the sector is shown below.

Figure 92. **COST DISSECTION FOR COOKING OIL PRODUCTS**



Source: Industry sources

The raw material cost is the cost into the refinery. The equation is complex because at the crush level the crusher processes seed to produce oil and meal. The relative contribution of oil and meal to the crushing return is driven by the relative prices for oil and meal and this relationship varies between years and within a year.

Industry risks

The key area of risk for the industry is the ability to maintain margins due to:

- competition from imports;
- the high cost base of the processing sector;
- the low level of growth in the category; and
- increasing share being captured by generics.

In relation to imports, a potential area of risk relates to the development of free trade agreements such as that with Singapore. These may pave the way for increased imports of bottled oil. To date, the refiner industry has used its skills in management of inward logistics to provide a competitive advantage particularly in the food service and commercial sectors.

The high cost base of the processing industry – both crushing and refining – is a key issue when compared to the very competitive South American industry. The economies of scale obtained by these plants and increasing shipment sizes allow crude and refined oil to be landed in Australia at very competitive values.

To combat this, the crushers have continued to focus on pushing costs down through:

- controlling core costs of steam, electricity and repairs and maintenance – these account for about 20 per cent of processing costs;
- increasing volume to reduce per unit fixed costs; and
- reducing origination costs, for example, the joint venture by Cargill with Graincorp and Allied to form Australian Grain Accumulation.

Another way for the crusher to improve margins is vertical integration of both oil and meal. This is common practice globally where crushing, refining, packing and even consumer marketing are integrated into the one operation. This has not yet occurred in Australia.

For the crusher, managing price risk on raw materials is a key issue. The crusher can do this by hedging oil against Chicago, meal against Chicago, seed against Winnipeg or a combination. However, all have inherent difficulties.

Another area of risk for the industry is the increased focus on reducing fat in the diet. This tends to have greatest impact in the retail sector as consumers cut out fat that is visible – such as margarine on bread – but continue to eat invisible fat – such as fast food and processed foods. The fat used in the retail products sector tends to be price driven and therefore palm and tallow – both high in saturated fats – are the largest volume players in this market.

Value-adding

The industry has looked to product innovation to drive growth in margins and reinvigorate the market. This has included:

- products targeted to the functional food market in the form of margarines that are enriched with plant sterols to provide health benefits. Since entering the market these products have quickly increased sales and now account for 3 per cent of the market. These products retail at around three times the value of the standard product;
- margarine blends with olive oil to create improved image and health awareness. This segment of the market is growing strongly and retails at a premium to the standard product;
- margarine blends with butter; and
- blends in cooking oil – for example, olive/canola and specialty products such as monosun and monola – as ways of adding value and expanding markets. This has also included product variations such as Asian oils suited to particular uses such as stirfrying.