SUGAR PRODUCTS

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

SUGAR – OVERVIEW

Background

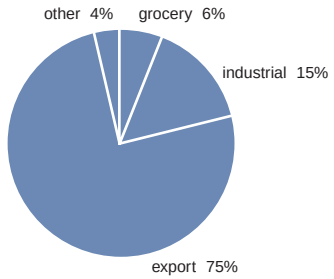
Sugar commodity returns from the world market are based on global demand and supply. The supply onto the world market is influenced significantly by government policies in major developed economies of the United States and the European Union. They support domestic production through production and export subsidies. Returns are also affected by the significantly increasing output of large-scale, low-cost producers such as Brazil.

In Australia the early stage of the value chain of this industry has been highly regulated in the past and the industry retains a single export marketing desk. Whilst the industry has in the past enjoyed a position as one of the world's low-cost producers, this position has been eroded by the surging production from Brazil. As a result, Australia's share of global trade in sugar has fallen.

While sugar and other sweeteners compete in highly overlapping food manufacturing markets, new technologies and product developments enable sweetener manufacturers to provide branded products to specific food use segments through retail and food service outlets.

The inability to make swift changes in cost structures, particularly in the cane production and milling sectors, has undermined the position.

Figure 101. **MARKETS FOR AUSTRALIAN SUGAR**



Source: Queensland Sugar

Drivers of price

- Markets for refined sugar in developed consumer markets on a global and national basis are mature, with demand very steady and slowly declining on a per capita basis. Growth in the world market is available from developing Asian economies in line with the general increase in consumer prosperity, trends towards the consumption of manufactured food products and the lack of competition from substitutes. The global sugar market has been in a condition of oversupply for several years.
- Industry returns are driven by the level of international prices available to Australian exports. These are affected by prevailing levels of subsidies and import protection provided to producers in the United States and the European Union and the level of output onto the world market from Brazil which has supported its sugar production through cross-subsidies from its ethanol production sector. World market conditions have been volatile in recent years due to the economic turbulence that has affected many developing economies, the maintenance of high levels of protection in the European Union and the United States, and the policies of other major producer countries.
- Domestic sugar market returns have minimal effect on total industry returns but nonetheless are affected by the demand from industrial users manufacturing food and drink and the cost-competitiveness of substitute products such as artificial sweeteners and starch. The domestic

grocery market consumes a relatively small percentage of sugar in retail and food service products.

- Sugar competes with a range of other natural and artificial sweeteners at retail level. Competition is based on price and will continue to remain a strong force while consumers express a preference to reduce their per capita sugar intake.
- Total consumer demand has been static over the past 10 years due to increasing consumer consciousness of health and dietary concerns. While sweeteners fail to replicate the wide range of functional properties of sugar (colour, aroma, texture, shelf life), some offer a range of economic and functional (dietary and taste) advantages over sugar.
- The cost of sugar to local users (refiners and manufacturers) is effectively set at import parity prices. Almost all domestic sugar consumption is sourced from local production.

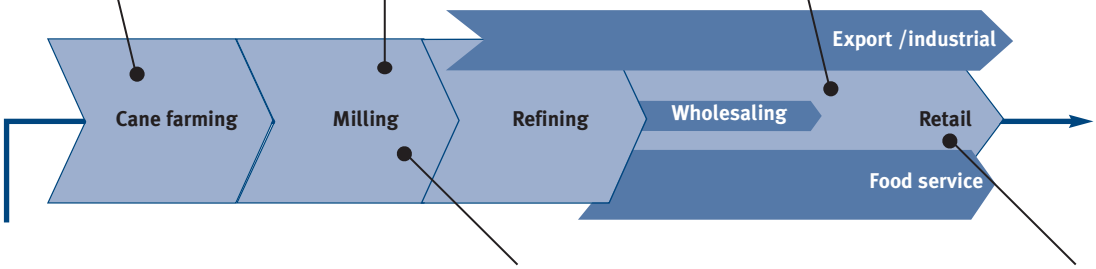
Figure 102. **Packaged refined sugar: Major drivers of prices and costs**

Refined sugar is a commodity consumer product in a category where sales growth has been limited over the past 10 years. Industry returns are strongly affected by international market conditions.

1. Farm production factors
- Production output may be volatile due to seasonal conditions such as pests, disease and rainfall.
- Production is seasonal and cane must be cut at appropriate times to avoid loss of content. Cane is cut and crushed according to mill schedules to ensure a smooth milling season.
- Production sector retains elements of traditional culture in many regions with small farm size and a resultant higher cost of production.

2. Value-chain integration
- Most integration is from the mill back to the farm.
- Millers are buying strategic cane farms to guarantee a minimum throughput for their factories.
- There is increased interest in millers controlling the harvesting systems to maximise cane quality delivered to the mill.
- Greater concentration and rationalisation of mill ownership has occurred over recent years.
- The early stage of the supply chain retains high logistics costs from farm to processing due to historic transport systems.

3. The marketing approach
- Limited differentiation of packaged sugar products.
- Growth in café society has increased demands for serve packed sugars in food service and home use.
- Marketing dominated by major retail, a commodity-based, price-driven market.



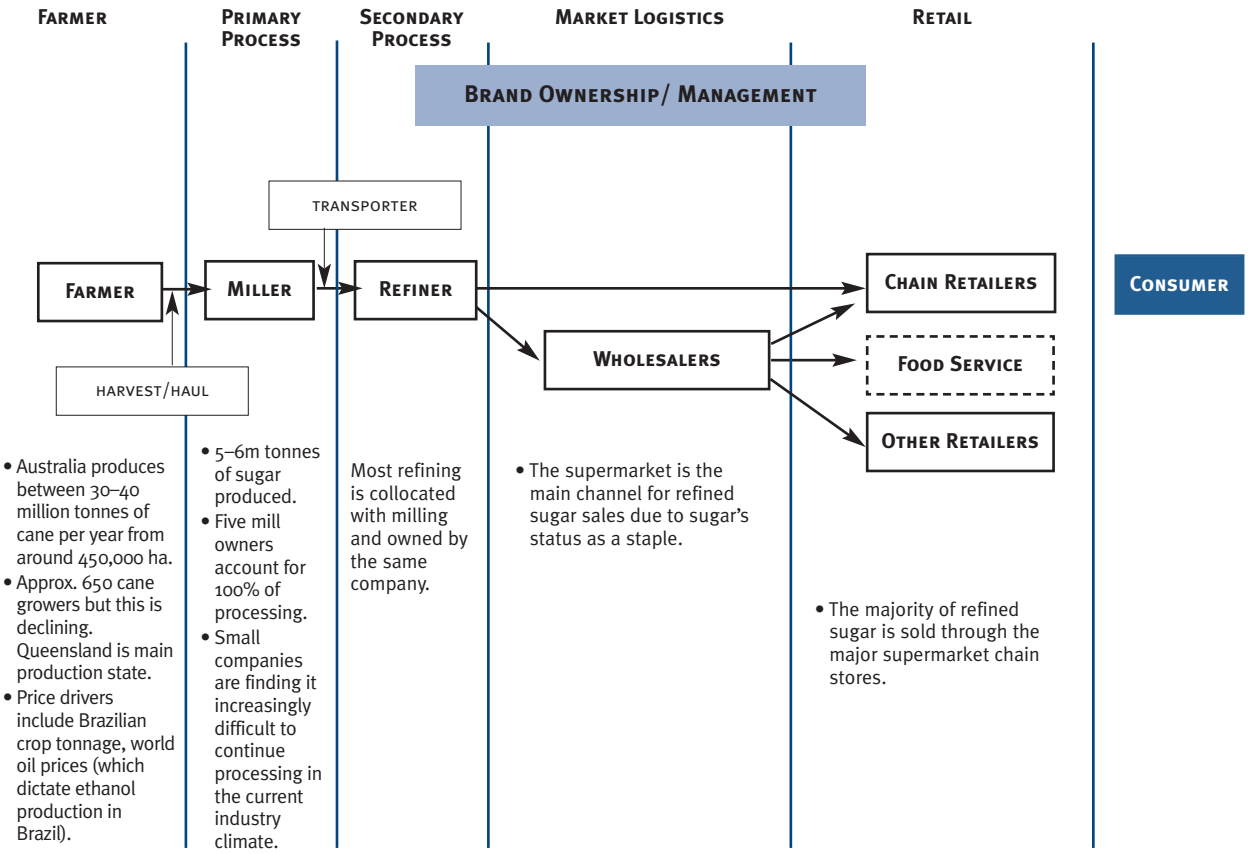
4. Regulation and compliance
- Environmental compliance in the use of nutrients on cane farms is becoming more costly and more necessary.
- High barriers to further value-chain profitability exist in the limited scope for further rationalisation of milling and refining capacity, and cultural barriers to horizontal aggregation of farming businesses.

5. Trade impacts
- Australia exports around 75% of raw sugar output.
- Price is largely determined by world commodity prices.
- Domestic prices for consumer and industrial uses are effectively import parity prices.

6. Technology and innovation
- Highly capital-intensive industry in cane production, harvesting, logistics and milling.
- Much capital equipment is aging and not being replaced, so there is limited new technology or improved efficiency entering the industry, especially at prevailing market prices for sugar.
- There has been much interest (but limited tangible progress) in developing other products from the sugar-growing process to enhance industry stability, for example, ethanol, plastics and electricity co-generation.

7. Retail market dynamics
- Strong competition in sweeteners market from artificial sweeteners.
- Consumer concerns about sugar content in foods and drinks has capped sugar consumption.
- Consumers are spending decreasing amounts of time cooking at home and are demanding premix solutions to baking.
- Growth in snack market has reduced home baking sector.
- Retail concentration (limiting retail price rises and putting pressure on margins of sugar miller/marketer).

Figure 103. **WHITE SUGAR, 2KG, SUPPLY CHAIN MAP**



SUGAR – ANALYSIS OF PRICING

Retail versus farmgate prices over time

The comparison of retail and farmgate (equivalent) returns over time is set out in Figure 104.

The cane-growing sector is paid a cane return which is based on a weighted average pooled return derived from on the average returns achieved by millers from export and domestic markets in each season. This is mostly driven by export returns. Payments to individual producers are based on agreements with millers based on formulas which include sugar content and cane quality.

The net average return to the cane farmer has steadily been driven down to the level of the cost of production.

Retail prices

Though volumes have been static, the average value of the grocery retail market in the last 10 years has steadily increased across all packaged sugar product lines.

Retailers often use 2kg white sugar product as a loss leader. This reflects strong competition for the basic 2kg sugar product from a mix of factors, including a higher share of the market being taken by specialty sugar and sweetener products. It also reflects the sluggish demand in the retail market and the frequent use of discounting to stimulate sales. Recently, sugar has been used as an 'every day low prices' product by major retailers.

Value-adding in sugar products

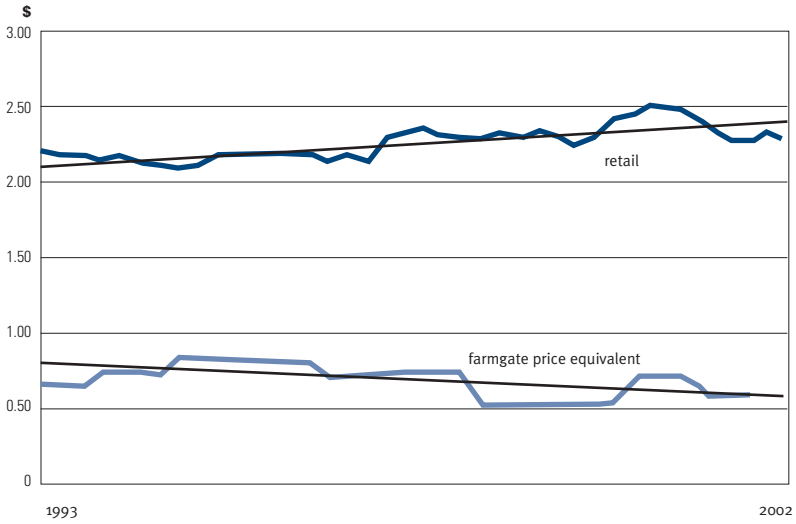
There has been limited value-adding to the refined sugar product, with the exception of the marketing of convenience single-serve portions for home and food service use.

Assumptions

Our analysis of the prices at retail and farmgate are based on the following:

- retail prices compiled by reference to the average retail value of sugar product in the Australian market (per ABS data); and
- farmgate prices in the chart reflect the equivalent value per 2kg of sugar which the cane producer is paid for the cane supplied to a mill. The conversion of cane value to a processed sugar value is based on industry averages in terms of the yield of sugar derived from cane.

Figure 104. **Retail and farmgate sugar price, white, 2kg, 1993–2002**



Source: ABS and Macarthur Agribusiness

Farmgate returns

- In the context of the world market environment, production in the Australian industry has little or no impact on the prevailing world market returns, which are set by the factors set out earlier.
- The overall costs of sugar production are affected by a large number of variables:
  - total volumes of supply are governed by overall planting area, tonnes of cane produced and the prevailing sugar content that is achieved in growing areas;
  - scale efficiency and integration of individual farm units. There is a consistent trend towards lower costs of production through larger average farm sizes and integration of harvesting, transport and milling operations. This improves asset utilisation and minimises overhead costs;
  - production factors such as climate, disease and pest levels while cane is either growing or being harvested play a role in cane production levels and the quality and content of cane produced; and
  - cane is a ratoon crop and therefore farmers are, to a certain extent, locked in for a complete crop cycle regardless of cane prices. Otherwise they face significant crop losses.

Costs

The level and behaviour of total costs of cane production have been analysed in a number of industry studies that have been associated with issues regarding deregulation of industry arrangements and the need for adjustment assistance.

The evidence is mixed as to the relationship between farm size and costs of production (Hildebrand 2003). Economic studies have suggested no evidence of such a correlation and commercial studies of industry practices have suggested that large-scale operations provide a lower unit cost of output.

The most recent estimates of the total average costs per tonne have been compiled through ABARE studies in 1996. These derived an estimated cost of $30.80 per tonne of cane, of which about $23 relates to cash costs.

Projected export returns for the coming seasons – taking account of supply and demand trends in world markets and expected currency exchange rates – will not allow producers to cover the cash costs of production. This is expected to see further declines in production through farm exits.

An analysis presented by the Centre for International Economics to the review of industry arrangements in 2002 suggested that the industry will only be capable of restoring past profitability levels through the chain if it can achieve productivity gains of around 37 per cent (Cleaning Up the Act, CIE 2002). That work suggested that gains can be made in:

- labour productivity;
- land productivity;
- harvesting productivity and practices;
- cane movement logistics post-harvest; and
- milling efficiencies.