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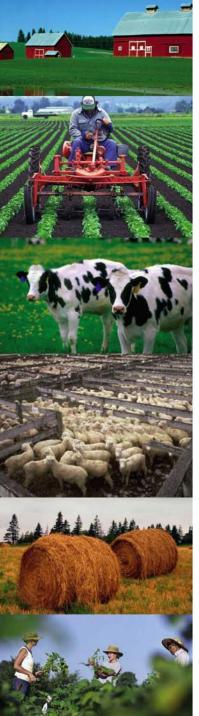
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## **Structural Changes** in Food Retailing:

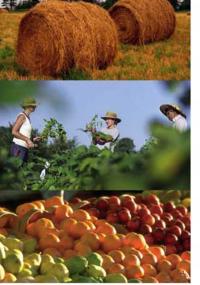
Six Country Case Studies

edited by

Kyle W. Stiegert

and

**Dong Hwan Kim** 







#### FSRG Publication

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#### Chapter 2: The Case of Australia

#### Garry Griffith and Vic Wright

#### 1. Introduction

Australia has experienced a half-century of retail development, which has seen supermarkets move to predominance in food retailing. Prior to the 1950s self-service food retailing was unknown in Australia. Stores were then characterized by considerable specialization with customers needing to visit a grocery store, a fruit and vegetable store and a butcher's shop to satisfy household food needs. Most stores were independently owned.

Rapid urbanization in Australia in the 1950s and 1960s created economic conditions, which favored the establishment of supermarkets as the dominant food store format. However the nature of the market environment means that the variety of food retail stores is relatively narrow in Australia. Traditional markets have never played a significant role, hypermarkets are rare, and deep-discount retailers are a relatively recent phenomenon. This reflects the high degree of urbanization and suburbanization, small aggregate population and geographical isolation from other Western culture food markets.

Further, these same characteristics of the market have provided strong incentives for takeover and merger activity such that the two dominant supermarket groups (Coles and Woolworths) now control something in the order of 80% of grocery sales, depending on definitions. Conversely, supermarket dominance has not provided sufficient incentives for foreign investment until very recently, with the entry of Aldi from Germany, Pick'n Pay from South Africa, and Costco from the United States.

A recent government enquiry into the retailing sector (Parliament of Australia 1999) concluded that the major winners from this expansion of market share by the major chains were consumers, in terms of deregulated trading hours; a greater product choice; lower prices; and the convenience of one-stop shopping. On the other hand, although there is little formal evidence, it is widely believed that the large retailers have the capacity to exercise market power against input suppliers, including farmers, and that they use this market power to reduce input prices.

The following section looks at the changing nature of the food retailing sector in Australia, while section 3 identifies and summarizes the impacts that supermarkets have on their supply chain partners, including consumers. Available empirical evidence is reviewed in section 4.

#### 2. STRUCTURE OF FOOD RETAILING IN AUSTRALIA

#### 2.1 Industry Definition of Food Retailing

Food retailing in Australia is defined, under the Australian and New Zealand Standard Industrial Classification (Australian Bureau of Statistics, 2006b), to include supermarkets and grocery stores (including convenience stores) and specialized food retailers. Specialized food retailers include retailers that sell fresh meat, fish and poultry, fruits and

vegetables, confectionary, liquor, non-alcoholic drinks, small goods, baked goods (provided they are not manufactured on the same premises), and any other specialized food items. Excluded are food vending machines and retailers selling food for immediate consumption or takeaway consumption (such as restaurants, cafes, bars, etc.).

The defining characteristic of supermarkets and grocery stores as a class is that they sell groceries or non-specialized food lines. Under this definition selling may be self-serve or not.

#### 2.2 Basic Structure of Retail Food Stores

In 2003-04 there were some of 235,000 retail businesses in Australia (Australian Bureau of Statistics, 2006a), employing 1.4 million people, or 15% of the workforce, more people than any other industry (Australian Bureau of Statistics, 2006c). Of these businesses, 57,000 (24.2%) were food retailers. In that year 30% of the businesses reported a loss and 69% a profit; figures which closely approximate retail figures overall (29% and 70% respectively) (Australian Bureau of Statistics, 2006a). In 2003-04 food and liquor retailing comprised 45.9%, by value, of all retailing sales (Spencer, 2004).

Australia has experienced a half-century of retail development, which has seen supermarkets move to predominance in food retailing. Prior to the 1950s self-service food retailing was unknown in Australia apart from moves from 1949 in some department stores to make their food sections self-service. The first full self-service grocery store opened in Sydney in 1950 (Parliament of Australia, 1999).

To satisfy household food needs, customers needed to visit a grocery store, a fruit and vegetable store and a butcher's shop. Most stores were independently owned.

Rapid urbanization in Australia in the 1950s and 1960s created economic conditions that favored the establishment of supermarkets as the dominant food store format.

By the end of the 1960s Coles and Woolworths, the two largest food store chains in Australia, had moved from variety store bases to supermarket operations through acquisition of small chains and organic growth. They had also acquired in-store butchers who had previously operated as franchisees (Parliament of Australia, 1999).

Nominally discount supermarket chains (Bi Lo, Shoeys, Franklins, for example) sought to compete with a somewhat lower-priced, lower-service offers but did not succeed. Occasionally, new discount stores opened and were declared to be "half-case discount stores" (i.e., offering deep quantity discounts) but were nothing of the sort. Some, such as Franklins for a time, kept costs down by not stocking fresh fruit and vegetables or fresh meat.

Now, in addition to all fresh and packaged foods and grocery items, the major supermarket stores offer newspapers and magazines, health and beauty products (with pressure to move directly into pharmacy operations to compete with legislatively-protected specialist pharmacy [chemist] stores), discounted petrol for store customers (through alliances with major petrol refiners/retailers and some petrol store ownership under those brands: Shell for Coles and Caltex for Woolworths), alcoholic beverages and some

<sup>&</sup>lt;sup>1</sup> Employment in Australia is defined as paid employment of one hour or more per week.

banking services via electronic funds transfer at point of sale (EFTPOS) systems which have been commonplace in store since the 1990s. In-store bakeries are also common.

The evolution of supermarkets has led to substantial declines in the market shares of the specialized food retail stores that preceded them. In 1998-99 the market shares, by value, of supermarkets and grocery stores, and relevant specialized retailers, respectively, were for fresh meat 61.7% and 37.8%, for fresh poultry 73.7% and 24.2%, for fresh seafood 27.9% and 70.1% and, for fresh fruit and vegetables, 68.2% and 31.3% (Australian Bureau of Statistics, 2006d). Between 1992 and 1999 the number of independent fruit and vegetable retail stores fell by 56% from 3,670 to 1,611 (Wade, 2002). Food retail sales by value in 1998-99 and 2004-05 were distributed across outlets as shown in Table 1.

Table 1. Retail Sales by Store Type

Store type	1998-99 (%)	2004-05 (%)
Supermarket and Grocery	80.5	79.5
Specialized	19.5	20.5
Fresh Fish, Meat and Poultry	4.5	n.a.
Fruit and Vegetable	3.6	n.a.
Liquor <sup>1</sup>	5.5	7.6
Bread and Cake	2.4	n.a.
Specialized n.e.c.	3.5	n.a.
Total Value (AU\$m.)	47,604.8	71,487

Table 1. It should be noted that Coles and Woolworths have moved heavily into liquor retailing over the last five years or so. Total liquor sales are estimated to be about AU\$11.5 million p.a. with the two largest supermarkets having a combined market share of about 45% (Jones, 2005).

Source: derived from Australian Bureau of Statistics (2006d) and Australian Government Department of Agriculture, Fisheries and Forestry (2005).

Types of food retail stores are relatively narrow in Australia. Traditional markets have never played a significant role, hypermarkets are rare, and deep discounters a relatively recent phenomenon. The limited types of food retailers reflect the high degree of urbanization and suburbanization, small aggregate population and geographical isolation from other Western culture food markets.

The population of Australia is slightly more than 20 million (Australian Bureau of Statistics, 2006c). At 92% in 2003 (World Bank 2005, p.166), Australia had a high level of urbanization. With 61% living in urban agglomerations with populations of more than one million, and 23% living in the largest city (Sydney), Australia is also highly suburbanized (World Bank 2005, p. 166). Comparable figures for the United Kingdom are 23% and 14%, and for the United States, 42% and 8% (World Bank 2005, p. 168).

Jointly, these demographic characteristics have fostered intense competition and created little real incentive for foreign investment in the sector. Most consumers frequent supermarkets within a few kilometers of their home (Cotterill 2006, p.19).

Some segmentation occurs in department stores such as David Jones, which offer limited ranges of up-market foods, including fresh foods. However, these types of food retail markets are limited and seemingly fragile, with store commitment to the food department variable.

Farmers' markets are increasing in number. In 2005 there were about 80 across Australia. Almost half of them, 46%, were in rural towns, 26% in regional centers, 17% in suburban areas and 11% in metropolitan central business districts (CBD). Farmers' markets are estimated to have aggregate sales of about AU\$40 million, a tiny proportion of total food sales Two-thirds of these markets were formed in 2003 or later. Over half (59%) operate on a monthly or bi-monthly basis with the highest frequency (weekly or twice-weekly) operations comprising 16% of markets (Coster and Kennon, 2005).

#### 2.3 Food Store Formats

Conventional supermarkets dominate Australian food retailing. The majority of non-supermarket grocery stores are scaled-down imitations of supermarkets with the greatest differences in offerings of fresh meats, fruits and vegetables. Few offer any fresh meat. Margins, and prices, tend to be higher with few instances of deep discounting on particular product lines, such as cola drinks, as seen in supermarkets. Competition is entirely on the basis of location and trading hours.

The steady relaxation of government controls on trading hours of supermarkets (while smaller stores were unregulated) has eroded bases of convenience for competing grocery stores. Supermarkets now typically operate seven days per week, open as long as 24 hours per day, if demand warrants it. Location advantage, and related speed of shopping encounter, is the main remaining competitive advantage of independent grocery stores. This has moved grocery stores to compete more closely with convenience stores (corner stores), which have very restricted product ranges, in that store attractiveness is offset by the magnitude of the intended goods to be purchased. As the quantity of products to be purchased in a visit increases, high prices and limited range become increasingly problematic.

Exacerbating this effect has been the move of Coles and Woolworths into "express" or "metro" stores. These are partly scaled-down supermarkets located in high-traffic metropolitan areas offering a better-balanced portfolio of products with high convenience and prices approaching convenience-store levels. Stores within petrol retailers owned by, or in alliance with, these chains are also within this store category. The appeal is strong for small, higher income households that are "time poor." The competing store type is more likely to be grocery stores or convenience stores en route from workplace to home, than full-sized supermarkets.

While convenience has increasing appeal to customers, the response of major supermarket chains with extended hours of operation and their metro or express formats, coupled with the high location appeal of corner stores, has accelerated the collapse of the niche previously occupied by non-supermarket grocery stores.

Private labels continue to expand in supermarket product portfolios. Aldi leads, with about 80% of sales (Ritson, 2006). Coles aspires to 30% of sales being private label (house brand) and Metcash has declared its intent to match Coles (McMahon, 2006) sales. Both Coles and Woolworths offer a number of house brands at different price/quality points. It is estimated Woolworths has around 800 products under its upmarket *Select* brand and a further 800 products under the *Homebrand* (Carson, 2008). Woolworths expects sales of its private labels to double over the next three years. Coles has around 2,600 products under its *Select* and *You'll Love Coles* brands, and plans to expand this further under new owner Wesfarmers.

The evidence to date suggests that the private label strategy of the major chains is working. Retail data suggests that the share of the AU\$1.6 billion bread market held by private labels grew from 11% to 19% last year while the share held by major manufacturer Goodman Fielder fell from 42% to 34.5% over the same period (Carson, 2008). This further indicates the shift in market power in the Australian food-value chain from manufacturers to retailers (Messinger and Narasimhan, 1995).

#### 2.4 Market Share and Foreign Direct Investment

In 2007 there were three major supermarket chains in Australia, as measured by share of the supermarket and grocery store retail sales. Constraints on Australia's market share data include no concentration ratios published on a consistent basis, little official manufacturing or retailing data because of confidentiality provisions preventing publication, and little firm level data in those industries of interest. With greater legislative requirements on government agencies to consider the competitive behavior of food markets, the public data collection and distribution system has become more relaxed, and confidentiality restrictions prevent the publication of data which are likely to be most useful for the type of research required. In other countries such information is more widely available. So when the literature mentions "shares" of sales in particular sectors, the information is based on in-house collections by the major firms or on surveys undertaken by private data firms such as ACNielsen, Ibis World and Retail World.

These data restrictions also significantly limit academic research of the Australian retail food chain. Work on food procurement and distribution channels, demand studies of disaggregated product groups and second generation NEIO explanations of market power have all suffered (Cotterill, 2006, Piggott et al., 2000).

The three major supermarket chains are Coles (now part of Wesfarmers Limited; WES on the Australian Stock Exchange), with about 35% of the market, Woolworths Limited<sup>2</sup> (WOW on ASX), with 41%, and Metcash (MTS on ASX), with 18.5% (Round, 2006) (Metcash Limited, 2006). Numbers of stores in different categories are shown in Table 2.

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<sup>&</sup>lt;sup>2</sup> Woolworths Limited is not related to other Woolworths around the world, being initially named, whimsically, after the US Woolworths chain as a dare/in-house joke (Parliament of Australia 1999).

Table 2. Store numbers operated by the major supermarket chains

Chain	Supermarkets	Liquor stores	Hotels (pubs)	Convenience & petrol
Coles	737	735	69	c.600
Metcash <sup>1</sup>	1209	1647	372	
Woolworths	738	1015	250	491

Table 2. Metcash uses a franchise model for its retail activities; these stores and hotels are outlets, owned by independent retailers, who draw on the full marketing, branding, logistical and distributional support of Metcash. Metcash is the main wholesaler for some 2,700 stores in Australia. It supplies over 13,000 licensed premises with liquor. Metcash, through IGA, also offers petrol discounts but is not tied to any specific oil major.

Source: Annual Reports, 2006 of Coles Myer Limited, Metcash Limited and Woolworths Limited.

The other distinctive chain, and the only foreign participant operating nationally, is Aldi (not traded on ASX) with 120 stores and the same discount supermarket format as elsewhere around the world: limited product assortment (about 700 product items) and service, many private label products, and low prices. It has about 4% market share (Ritson, 2006).

At a national level the concentration of Coles and Woolworths appears high but is "not relative to countries, like the Netherlands, or regions, like California or Florida in the United States, with similar populations" (Spencer 2004, p.113).

Major retailers have protested that the market share figures commonly reported for them are inflated by the focus on their specific sector, to the exclusion of other food retailing stores in Australia. They assert that, between them, Coles and Woolworths hold less than 50% of the whole food-liquor-grocery market (Spencer, 2004). Woolworths claims that independent grocers and specialty food stores hold just under 50%' share of the food-liquor-grocery market and that its own share is less than 30% (Woolworths Limited 2006, p.22).

In 1975, Coles and Woolworths, jointly, commanded a 40% share, around half of the current level. Their expansion over the past two decades has been through consolidation by acquisition, and to a degree, organic growth.

Coles and Woolworths trade under their own brand names. Coles has run dual brands, Bi-Lo (its acquired discount supermarket chain) at the budget end, and Coles at the full-service end. Significantly, in 2006 Coles decided to abandon the Bi-Lo brand, re-branding as Coles supermarket. This re-branding exercise was abandoned in mid-stream while takeover discussions proceeded, indicating a high degree of strategic uncertainty. This action could be seen as a response to the steady growth in Aldi's share of the discount segment.

Metcash trades principally under IGA (Independent Grocers of Australia, fashioned on, and linked to, the international Independent Grocers Alliance). Metcash was a South African company (Metro Cash and Carry) that acquired a major Australian grocery wholesaler, Davids Holdings, in April 1998. Davids Holdings had a near monopoly over packaged grocery products distribution to independent Australian grocery retailers. It also,

like Metcash in South Africa, held the national franchise for Independent Grocers Alliance. Metcash bought out the South African company's holding and is now Australian-owned.

Most Metcash stores are independently owned and operated, with Metcash providing joint promotional activity and wholesale supply. The market share of Metcash is a recent achievement (up five percentage points in one year through acquisition), and is raising competitive pressure in the retail sector (Metcash Limited, 2006).

Metcash's increased market share allayed immediate concerns about Coles and Woolworths market concentration and calmed the need to provoke Australia's Competition and Consumer Commission (the federal government corporate conduct watchdog) and the Australian Consumers Association (Round, 2006).

Aldi is one of three foreign corporations that have directly invested in grocery retailing in Australia. It entered the Australian market in January 2001.

Pick'n Pay, from South Africa, entered the Australian market, only in New South Wales (NSW), in 2001 by acquiring some of the 200 Franklins stores being sold by the Hong Kong firm Dairy Farm International. This firm entered the Australian market by full acquisition of Franklins in 1979, but decided to exit from this market in 2001 after a string of losses. Pick'n Pay operated 77 stores in NSW by end-2006. (Woolworths also acquired 80 Franklins stores from Dairy Farm International.) In mid 2009, the United States retailer Costco Wholesale Corporation (a wholesale membership warehouse club) opened its first Australian store in Melbourne and announced plans for further expansion (Mitchell, 2009).

During 2006 and 2007, there was talk in the media of Wal-Mart contemplating a takeover of Coles or Woolworths, particularly since the company left Germany (Evans and Askew, 2006). The only takeover move in 2006 was on Coles and was from a "private equity" (i.e., leveraged buyout) consortium led by the US firm Kohlberg Kravis Roberts. There was also media talk that the major UK retailer Tesco was a potential partner in this consortium, but this was not confirmed. In any case, the offer was rejected without shareholder consideration (Askew, 2006).

However, potential suitors still set sights on the Coles Group following several years of distinctly inferior competitive performance against Woolworths, most notably in supermarket trading. Coles enjoyed only slightly more than half the price/earnings multiple on the ASX that Woolworths did during late 2006 and 2007. In September 2007, Wesfarmers Limited, a diversified Australian company, offered a takeover deal for Coles involving cash and shares. Wesfarmers is very effective in discount hardware and garden care retail through its subsidiary Bunnings (Westfarmers, 2007). Coles recommended the offer to shareholders and in November 2007 they voted to accept. Australian supermarkets continue to be substantially Australian-owned.

On the other hand, Woolworths has moved significantly into grocery retailing in New Zealand. Woolworths held 43% of the New Zealand supermarket sector in 2007 with the balance held by a single New Zealand firm, Foodstuffs (Speedy, 2007).

Cultural similarity appears to be important to successful market entry in this sector. Its absence has been suggested as a problem leading to Wal-Mart's exit from Germany and could underlay the unsuccessful venture into Australia by Dairy Farm International

(Askew, 2006). South Africa, New Zealand and Australia are widely perceived to be culturally similar (and personal experience confirms the close similarity of supermarket offerings in each of these countries).

Characteristics of the Australian retail food market and the increasing dominance of the two major supermarket chains has not provided sufficient incentives for foreign investment until very recently, with the entry of Aldi, Pick'n Pay, and Costco. Another factor has been the tight regulatory framework for such investments imposed through the Foreign Investment Review Board and the Australian Competition and Consumer Commission (ACCC), although this framework appears to be more relaxed in recent years. The Australian Government, for example, has announced its intention to extend, from 12 months to five years, the period allowed for foreign supermarkets to develop acquired commercial land.

### 3. EFFECTS OF INCREASED FOOD RETAIL CONCENTRATION ON CONSUMERS, PROCESSORS AND SUPPLIERS

Ongoing concern about whether or not the Australian food marketing chain is competitive has heightened in recent years for a number of reasons. First, data show that nominal food product marketing margins continue to increase over time, particularly in the last decade (Griffith, 2000). Nominal retail prices have increased more rapidly than farm prices, and the farmer's share has declined. Second, regulated agricultural products marketing systems in most states have been progressively dismantled with the elimination of guaranteed farm prices, production quotas, vesting and single-desk selling arrangements. Domestic markets have been opened to greater import competition via more liberal trade agreements. Third, associated with this reform process in domestic and international agricultural markets, there has been an increase in takeover and merger activity as firms position themselves to take advantage of the new marketing environment. Examples include takeovers of smaller independent food retailers by the major chains, and their move into fuel retailing. The Joint Select Committee on the Retailing Sector was established by the Australian government to investigate and report on allegations of the growth and use of market power by major supermarket chains.

The committee concluded that the major winners from this expansion of market share by the major chains were consumers, in terms of deregulated trading hours; a greater product choice; lower prices; and the convenience of one-stop shopping (Australian Parliament, 1999). The report stated, "At the consumer level, competition in the retailing sector appears to be healthy, with retailers vigorously competing with one another on price and choice. This is evidenced by declining real prices of many grocery items over the last decade, and a massive expansion in product range to the point where major supermarkets now offer over 40,000 different items in their larger stores."

The report also recognized that the growth of supermarket chains has led to significant economies of size and scope and that these savings have been, at least in part, passed onto consumers in the form of lower prices. This implies that market power on the selling side is not a big issue.

Conversely, the large retailers have the capacity to exercise market power against input suppliers, including farmers. Financially powerful firms will invest in directions that will enhance their position. Shareholders of listed public companies not only expect these firms to be profitable, but more profitable than their competitors. If there is no room to move on raising output prices, savings have to be found on lowering input prices.

For example, large retailers have taken a lead role in tendering for the supply of eggs, milk and other food products from a much larger and diverse group of farmers and/or processors, which provides a mechanism to achieve a degree of oligopsonic behavior towards farmers. These actions are strongly linked to private label strategies discussed above. In submissions to the committee, farmer organizations were concerned that the market power of the major chains enabled them to drive very hard bargains in the purchase of produce, often in an aggressive manner. Members of some farm organizations report instances of what they believe to be abuses of market power, including significant added costs being imposed on suppliers via enhanced labeling and packaging requirements; the use of various tactics to limit the establishment of brand names by suppliers; breaches of contract; the flexible use of quality standards as grounds for product rejection; the use of exclusive supply agency arrangements in certain markets; and unfair negotiating practices (National Farmers Federation, 1999; Queensland Fruit and Vegetable Growers, 1999).

The Australian government introduced a voluntary code of conduct for major supermarket chains in 2000, but it has been largely ineffective in addressing the issues raised by the committee.

Hence, the debate has continued since the release of the committee's report. In 2001 the Australian Senate directed the ACCC to inquire into whether supplier pricing discriminated against independent retailers in favor of large supermarket chains. The ACCC indicated that major retailers such as Woolworths and Coles had buyer power but they did not find any evidence that suppliers in the Australian grocery industry favored any particular buyer. If price discrimination was found to be occurring, the ACCC concluded that it would be unlikely to breach the Trade Practices Act (ACCC 2002, 48-49).

To protect small businesses dealing with larger firms, the 2003 Independent Review of the Trade Practices Act recommended enhancements to the act. One recommendation of particular interest was a move to facilitate collective bargaining by small firms when dealing with large suppliers or customers. At the time of publication, no new legislation had been introduced by the new Federal Labour government, although it was deemed a priority.

The Australian Agricultural and Resource Economics Society hosted a session on market power in food industries at its annual conference in February 2005. Three papers from that session have since been published in the *Australian Journal of Agricultural and Resource Economics* (Cotterill, 2006, Smith, 2006, and Round, 2006). These reviews of current economic policy debates relating to the Australian retail food market provide information about and offer potential research avenues to facilitate these debates.

#### 4. IS THERE ANY EMPIRICAL EVIDENCE OF UNCOMPETITIVE CONDUCT?

In the case of Australian food industries, only a few empirical studies of the relationship between profitability and industry structure have been undertaken. These have been reviewed by Griffith (2000) and Piggott et al. (2000).

Most have been in the area of meat marketing. Griffith and Gill (1984) investigated whether the major changes in the structure of pig meat marketing in the early 1980s had any impact on pig meat price spreads. Concentration variables relating to the retail or processing sectors were not found to have any consistent or significant separate impact on price spreads in pig meat marketing. In a similar vein, Corbett (1998) examined whether the rising proportion of beef sold by supermarkets relative to butcher shops in New South Wales, as a measure of increasing concentration in meat retailing, was able to explain any of the increase in the beef farm-retail price spread over the 1980s and 1990s. The concentration variable generally was found to be statistically insignificant. Hyde and Perloff (1998) found that the domestic retail meat market was competitive for beef, lamb and pork and that market power had not increased over time. Chang and Griffith (1998) found that the farm, wholesale and retail prices for beef moved together over time, all responding to exogenous shifts in demand and supply curves which is evidence in support of competitive price determination. Griffith (2000) found that the null hypothesis of a competitive market in both output and input markets could not be rejected for any of the meat products, fresh fruits, or fresh vegetables.

A particular area of concern in Australia in recent years has been retail fluid milk markets, and the extent to which retail prices might change because of concentration in food retailing following deregulation in various states. For the product of primary interest, carton milk, O'Donnell (1999) found significant evidence of the existence of market power but he was unable to quantify its precise magnitude or cause.

In the processed grains and oilseeds sector of the food market, Griffith (2000) and later O'Donnell et al. (2004, 2007) found some evidence of a noncompetitive buying market for the relevant farm commodities. Given the assumptions made, and the fact that the estimated coefficients reflect average behavior over a 20-year period, these results suggest that noncompetitive activity has been a persistent feature of this market sector, however it would seem to be confined to the processing sector rather than the retailing sector.

Data show that for a wide range of food products, real marketing margins have remained stable or risen slowly but real retail prices have fallen, implying real farm-gate prices have fallen at a greater rate than retail prices (Griffith 2000). However, although very few empirical studies have been done in the Australian food marketing chain, there is little evidence of any market power exerted by the increasingly concentrated food retailing firms.

#### 5. SUMMARY AND IMPLICATIONS

Rapid urbanization in Australia in the 1950s and 1960s created economic conditions that favored the establishment of supermarkets as the dominant food store format. However the market environment is a result of a high degree of urbanization and suburbanization, small aggregate population and geographical isolation from other Western

culture food markets. This means that the variety of food retail stores is relatively narrow in Australia. There have been strong incentives for takeover and merger activity and now two dominant supermarket groups (Coles and Woolworths) control something in the order of 80% of grocery sales, depending on definitions. Until lately there has been little incentive for foreign investment, though recently Aldi from Germany, Pick'n Pay from South Africa, and Costco from the United States ventured into the Australian food retail market.

The high market shares of two dominant supermarket chains, and allegations of uncompetitive conduct in dealing with suppliers, has resulted in a number of government enquiries into the retailing sector (Parliament of Australia, 1999, ACCC, 2002, the Independent Review of the Trade Practices Act, 2003). The Select Committee concluded that the major winners from this expansion of market share by major chains were consumers, in terms of deregulated trading hours; a greater product choice; lower prices; and the convenience of one-stop shopping. On the other hand, although there is little formal evidence, it is widely believed that large retailers have the capacity to exercise market power against input suppliers, including farmers, and that they use this market power to reduce input prices.

#### REFERENCES

Askew, K. 2006. "Coles dismisses \$17b offer." *Sydney Morning Herald*, 7 September, viewed 18 December 2006. Available at:

www.smh.com.au/articles/2006/09/06/1157222199408.html

Australian Bureau of Statistics. 2006a. *Australian Industry, 2003-04,* Cat. No. 8155.0, viewed 16 October 2006. Available at:

www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8155.0Main+Features12003-04?OpenDocument

Australian Bureau of Statistics. 2006b. *Australian and New Zealand Standard Industrial Classification*, Cat. No. 1292.0, viewed 17 October 2006. Available at: www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/1292.0Contents12006?opendoc ument&tabname=Summary&prodno=1292.0&issue=2006&num=&view=

Australian Bureau of Statistics. 2006c. *Year Book Australia*, 2006, Cat. No. 1301.0, viewed 20 September 2006. Available at:

www.abs.gov.au/AUSSTATS/abs@.nsf/Latest products/2627B7E2D0483351CA2570DE0015DF6A? open document

Australian Bureau of Statistics. 2006d. *Retail Industry, Australia: Commodity Sales, 1998-99*, Cat. No. 8624.0, viewed 16 November 2006. Available at: www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8624.0Main+Features11998-99? OpenDocument

Australian Competition and Consumer Commission. 2002. Report to the Senate on Prices Paid to Suppliers in the Australian Grocery Industry, ACCC, Canberra.

Australian Government Department of Agriculture, Fisheries and Forestry. 2005. Australian Food Statistics 2005, Aus Info, Canberra.

- Carson, V. 2008. "Coles, Woolies grab more shelf space." *Sydney Morning Herald*, 9 January, viewed 9 January 2008. Available at: www.smh.com.au/coles-woolies-grab-more-shelf-space/20080108-1kvh.html
- Chang, H-S. and G.R. Griffith. 1998. "Examining long-run relationships between Australian beef prices." *Australian Journal of Agricultural and Resource Economics* 42(4): 369-388.
- Coles Myer Limited. 2006. *Annual Report 2006*, viewed on 18 December 2006. Available at: http://www.colesgroup.com.au/AboutUs/
- Corbett, P. 1998. *Recent Changes in Price Relationships in the Beef Market*. University of New England, Armidale. B.Ag.Ec. dissertation.
- Coster, M. and N. Kennon. 2005. "'New Generation' Farmers Markets in Rural Communities." Australian Government Rural Industries Research and Development Corporation, Canberra.
- Cotterill, R. W. 2006. "Antitrust analysis of supermarkets: global concerns playing out in local markets." *Australian Journal of Agricultural and Resource Economics* 50(1): 17-32.
- Evans, M. and K. Askew. 2006. "Wal-Mart rumors centre on Woolies and Coles." *The Age*, 7 August, viewed 18 December 2006. Available at: www.theage.com.au/articles/2006/08/06/1154802756936.html
- Griffith, G.R. 2000. "Competition in the food marketing chain." *Australian Journal of Agricultural and Resource Economics* 44(3): 333-367.
- Griffith, G.R. 2004. "The impact of supermarkets on farm suppliers." *Australian Economic Review* 37(3): 329-336.
- Griffith, G.R. and R.A. Gill. 1984. "The Effects of Concentration and Vertical Integration on Profits and Margins: A Review." Department of Agriculture New South Wales, Division of Marketing and Economic Services, Miscellaneous Bulletin No. 45, Sydney.
- Hyde, C.E. and J.M. Perloff. 1998. "Multimarket market power estimation: the Australian retail meat sector." *Applied Economics* 30: 1169-1176.
- Jones, E. 2005. "Liquor retailing and the Woolworths/Coles juggernaut." *Journal of Australian Political Economy* 55: 23-47.
- McMahon, S. 2006. "Metcash chief has growth in the bag." *The Age*, 29 April, viewed on 14 August 2006. Available at: www.theage.com.au/news/business/metcash-chief-has-growth-in-the-bag/2006/04/28/1146198347723.html?page=fullpage
- Messinger, P.R. and C. Narasimhan. 1995. "Has power shifted in the grocery channel?" *Marketing Science* 14(2): 189-223.
- Metcash Limited. 2006. *Annual Report 2006*, viewed on 18 December 2006. Available at: www.metcash.com/index.cfm?page\_id=2121
- Mitchell, Geraldine. 2009. "Discounts at Docklands in Melbourne as Costco opens." The Daily Telegraph, 8 August, viewed on 8 August 2009, <a href="http://www.dailytelegraph.com.au/business/discounts-at">http://www.dailytelegraph.com.au/business/discounts-at</a> docklands-in-melbourne-as-costco-opens.html.

- NFF (National Farmers Federation). 1999. Submission to the Joint Select Committee on the Retailing Sector, Canberra.
- O'Donnell, C.J. 1999. "Marketing margins and market power in the Australian dairy processing and retailing sectors." Paper presented at the 43rd Annual Conference of the Australian Agricultural and Resource Economics Society, Christchurch, January.
- O'Donnell, C.J., G.R. Griffith, J.J Nightingale, and R.R. Piggott. 2004. "Testing for Market Power in Multiple-Input, Multiple-Output Industries: The Australian Grains and Oilseeds Industries." Technical Report for the Rural Industries Research and Development Corporation on Project UNE-79A, Economics Research Report No. 16, NSW Agriculture, Armidale, May. Available at: http://www.dpi.nsw.gov.au/research/areas/health-science/economics-research/reports/err16
- O'Donnell, C.J., G.R. Griffith, JJ. Nightingale, and R.R. Piggott. 2007. "Testing for market power in the Australian grains and oilseeds industries." *Agribusiness: an International Journal* 23(3): 1-28.
- Parliament of Australia, Joint Select Committee on the Retailing Sector 1999, *Fair Market or Market Failure*, viewed 15 August 2006. Available at: www.aph.gov.au/senate/committee/retail\_ctte/report/contents.htm
- Piggott, R., G. Griffith, and J. Nightingale. 2000. "Market Power in the Australian Food Chain: Towards a Research Agenda." Final Report to the Rural Industries Research and Development Corporation on Project UNE-64A, RIRDC Publication No. 00/150, Rural Industries Research and Development Corporation, Canberra, October.
- QFVG (Queensland Fruit and Vegetable Growers). 1999. Submission to the Joint Select Committee on the Retailing Sector, Brisbane.
- Ritson, M. 2006. *Net Promoter Score Australia 2006*, viewed 14 December 2006. Available at: www.mbs.edu/download.cfm?DownloadFile=EA2F2B4D-D60E-CDDB-841F5A33D03687A2.
- Round, D. 2006. "The power of two: squaring off with Australia's large supermarket chains." *Australian Journal of Agricultural and Resource Economics* 50(1): 51-64.
- Smith, R. 2006. "The Australian grocery industry: a competition perspective." *Australian Journal of Agricultural and Resource Economics* 50(1): 33-50.
- Speedy, B. 2007. "Woolies gift as Warehouse shelves groceries." *The Australian*, 15 September, p.35.
- Spencer, S. 2004. "Price Determination in the Australian Food Industry—A Report." Australian Government, Department of Agriculture, Fisheries and Forestry, Canberra.
- The Independent Review of the Trade Practices Act 2003, (Dawson Inquiry). www.tpareview.treasury.gov.au.
- Wade, M. 2002. "Green giants are gobbling up the little growers." *Sydney Morning Herald*, 8 July, viewed 13 September 2006. Available at: www.smh.com.au/articles/2002/07/10/1026185061953.html.
- Wesfarmers Limited. 2007. *Annual Report 2006-07*, viewed 7 January 2008. Available at: www.wesfarmers.com.au/.

Woolworths Limited. 2006. *Annual Report 2006*, viewed 18 December 2006. Available at: www.woolworthslimited.com.au/.

World Bank. 2005. *05 World Development Indicators*, viewed 17 December 2006. Available at: www.devdata.worldbank.org/wdi2005/TOC.html.