Australian
Competition &
Consumer
Commission

Monitoring of the Australian petroleum industry

Report of the ACCC into the prices, costs and profits of unleaded petrol in Australia

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Australian Competition and Consumer Commission
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Contents

Shortened terms

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
$A	Australian dollars
AIP	Australian Institute of Petroleum
Allens	Allen Consulting Group
ASX	Australian Securities Exchange
avg.	average
$b	billion Australian dollars
bl	barrel
BP	BP Australia Pty Ltd
CBA	Commonwealth Bank of Australia
CIA	Central Intelligence Agency
Caltex	Caltex Australia Ltd
Coles Express	Coles Express Pty Ltd
Coogee Chemicals	Coogee Chemicals Pty Ltd
cpl	Australian cents per litre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
diesel	automotive distillate
E10	see EBP
EBIT	earnings before interest and tax
EBP	ethanol blended petroleum, of which E10 (unleaded petrol with 10 per cent ethanol) is a popular blend
EPP	export parity price/pricing
excl.	excluding
FOB	free on board
GST	goods and services tax
Gull	Gull Petroleum Group
IEA	International Energy Agency
Informed Sources	Informed Sources (Australia) Pty Ltd
IPP	import parity price/pricing
JTA	joint terminal arrangement
JV	joint venture
KBD	thousand barrels per day

LHS	left-hand side
Liberty	Liberty Oil Pty Ltd
LPG	automotive liquefied petroleum gas
$m	million Australian dollars
mbpd	million barrels per day
mbpy	million barrels per year
MMA	McLennan Magasanik Associates Pty Ltd
Marstel	Marstel Terminals Pty Ltd
ML	megalitre
Mobil	Mobil Oil Australia Pty Ltd
Mogas	motor gasoline
MOPS	mean of Platts Singapore
Neumann	Neumann Petroleum Terminals Pty Ltd
na	not applicable
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
OGJ	*Oil and Gas Journal*
pa	per annum
PSA	Prices Surveillance Authority
PULP	premium unleaded petrol
RBA	Reserve Bank of Australia
RET	Department of Resources, Energy and Tourism
RHS	right-hand side
Rio Tinto	Rio Tinto Ltd
RON	research octane number
RULP	regular unleaded petrol
Saudi CP	Saudi contract price
SEP	Strasburger Enterprises (Properties) Pty Ltd
Shell	Shell Company of Australia Ltd
SMP	Sydney Metropolitan Pipeline Pty Ltd
TGP	terminal gate price
the Act	*Trade Practices Act 1974*
Trafigura	Trafigura Services Australia Pty Ltd
United	United Petroleum Pty Ltd

$US	United States dollars
$US/bl	United States dollars per barrel
US EIA	United States Energy Information Administration
Vopak	Vopak Terminals Australia Pty Ltd
Woolworths	Woolworths Ltd
WSFR	Worldscale Flat Rate
WTI	West Texas Intermediate
7-Eleven	7-Eleven Stores Pty Ltd

Glossary

automotive fuel	includes petrol, diesel and automotive LPG.
barrel	a traditional measure used by the oil industry: one barrel is equivalent to 158.987 litres.
benchmark pricing	the practice of pricing to an identified crude or product price; for instance, Tapis pricing benchmark.
biodiesel	a diesel fuel based on vegetable oil or animal fat, typically made in combination with alcohol. Biodiesel is meant to be used in standard diesel engines and can be used alone or blended with diesel.
Brent crude	a type of oil sourced from the North Sea and usually refined in north-west Europe. The Brent crude oil marker, also known as Brent blend, London Brent and Brent petroleum, remains the major benchmark for other crude oils in Europe and Africa. Brent blend is ideal for making petrol and middle distillates (such as heating oil, diesel and kerosene). Brent crude oil is not as light or as sweet as its counterpart, West Texas Intermediate oil. As with West Texas Intermediate, total production of Brent crude is falling.
buy–sell arrangements	bilateral arrangements between domestic refinery owners for the purchase and sale of petroleum products.
city–country differential	the difference between the average country retail price of petrol and the average city retail price of petrol.
commission agent	an arrangement whereby an agent receives a commission for selling a product owned by another; in the downstream petroleum sector a commission agent often operates a retail site owned by a petrol refiner or wholesaler.
crude oil	a naturally occurring flammable liquid found in rock and other geological formations, consisting of hydrocarbons and other organic compounds. The proportion of hydrocarbons in crude oil is highly variable, ranging from over 95 per cent by weight in the lighter oils to as little as 50 per cent in heavier oils and bitumens. Common crude oil benchmarks include Tapis (Malaysia), which Australia uses as its benchmark; West Texas Intermediate (US) and Brent (North Sea).
diesel (automotive distillate)	fuel designed to run in diesel engines, widely used in the mining and transport sectors, as well as some passenger motor vehicles. From 1 January 2009, the diesel fuel standard reduced sulphur in diesel to no more than 10 parts per million (from 50 parts per million).

distributor	a transport company which picks up petroleum products from refineries, terminals and depots for delivery to retailers and end users.
downstream	the refining, distribution and marketing of petroleum products.
earnings before interest and tax (EBIT)	a measure of a company's profits that excludes interest and tax expenses.
EBIT margin	EBIT divided by sales revenue.
exclusive dealing	a type of conduct prohibited in certain circumstances by section 47 of the *Trade Practices Act 1974* broadly involving one trader imposing restrictions on another's freedom to choose with whom, or in what or where it deals.
EBP (ethanol blended petrol)	unleaded petrol which includes a proportion of ethanol (for instance, E10 is an unleaded petrol which includes 10 per cent ethanol).
five largest cities	Sydney, Melbourne, Brisbane, Adelaide and Perth.
fixed costs	costs that do not vary with output.
free on board (FOB)	arrangement whereby the seller pays for transportation of goods to the port of shipment, plus loading costs, with the buyer responsible for the cost of marine freight transport, insurance, unloading and transportation from the arrival port to the final destination.
fuel	automotive, aviation, marine and other transport fuels, and non-transport fuels such as butane and heating oil.
fuel quality premium	premium added to a price benchmark to reflect the higher quality of Australian-grade fuel relative to the Singapore benchmark price.
gantry	a frame structure used to transfer fuel products from a refinery or terminal to trucks or rail tankers.
gas	liquid petroleum gas or LPG, including automotive LPG.
gasoline crack	the difference between the price of refined petrol and the price of a barrel of crude oil, adjusted for volume differences.
gross profit	the difference between the revenue received from the sale of products and the cost to produce or purchase them.
import parity pricing (IPP)	the setting of domestically refined petrol in the wholesale market at a price comparable to the cost of importing fuel into a given location in Australia.
import terminal	a major terminal with a direct pipeline connection to a port—in most cases, receives all its fuel via ship.
independent retailers	retailers (owning single or multiple sites) other than supermarket retailers. Independent retailers can sell petrol under the brand name of one of the refiner–marketers or under their own brand name.
Informed Sources	company that collects and provides pricing information on various fuels to subscribers.

large independent chains	companies—other than refiner–marketers or supermarket chains—that import, wholesale and/or retail fuel in Australia; these include Gull, United, Neumann, Liberty and 7-Eleven.
light, sweet crude	crude oil with low viscosity (light) and relatively low levels of sulphur (sweet). These oils are preferred by refiners because of their ease of handling and relatively high yields of high-value products such as petrol, diesel and jet fuel.
major terminal	a fuel storage terminal connected to a port or a refinery by one or more pipelines. There are two broad types of major terminals—import terminals and refinery–pipeline terminals.
marginal cost	an additional cost from producing one extra unit of output.
Mean of Platts Singapore (MOPS)	the average of prices reported by Platts for Singapore traded commodities, for instance Tapis MOPS.
Mogas	motor gasoline (the commonly used international term for petrol). It is used in oil markets as the benchmark for unleaded petrol in the Asia-Pacific region, including Australia.
nameplate capacity	the potential output of a refinery running at optimum utilisation.
notification	a process under the *Trade Practices Act 1974* by which a person who engages in exclusive dealing conduct may obtain legal protection from the application of the Act for that conduct.
Oilcode	a prescribed mandatory industry code of conduct under section 51AD of the *Trade Practices Act 1974*. It regulates the conduct of suppliers, distributors and retailers in the downstream petroleum industry.
other fuels	includes kerosene, biodiesel, LPG, lead replacement and aviation fuels.
other oil-based products	includes LPG, aviation fuels, industrial and marine fuels, heating oil, fuel oil, lubricant oils, greases, basestocks and bitumen.
petrol	unleaded petrol—includes RULP (RON 91), PULP (RON 95 and above) and E10. The terms ‘unleaded petrol’ and ‘petrol’ are used interchangeably in this report.
petroleum products	any oil based products derived from crude oil, as it is processed in oil refineries.
2007 ACCC petrol inquiry report	the report of the ACCC’s 2007 public inquiry into the price of unleaded petrol: *Petrol prices and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol*, December 2007.
2008 ACCC petrol monitoring report	the ACCC’s 2008 petrol monitoring report: *Monitoring of the Australian petroleum industry: report of the ACCC into the prices, costs and profits of unleaded petrol in Australia*, December 2008.
Platts	a provider of energy market information including price benchmarks for the oil, petrol and other energy markets.

Platts assessed price for MOPS	the mean of the high and low components of a Platts assessment for oil cargoes loading from Singapore; a free on board price for completed deals in a particular commodity, quoted in US dollars.
PULP	premium unleaded petrol, such as RON 95 and above.
price floor	a level below which prices are not allowed to fall.
price support	rebate provided to a petrol retailer to compensate for periods of price discounting.
refiner margin	the petroleum product revenues received by a company, less all raw materials (crude oil, catalysts etc.) costs, product input costs and processing costs per barrel of product sold.
refiner–marketer	a company that refines, imports, wholesales and markets fuel; in Australia these are BP, Caltex, Mobil and Shell.
refinery exchange	arrangements between refiner–marketers before July 2002 for the swap of a volume of product in one location for an equivalent volume in another location where they did not operate a refinery.
regional centres and country towns	the 150 regional centres and country towns for which the ACCC receives daily average retail unleaded petrol price data from Informed Sources Pty Ltd.
retail margin	the difference between the cost to acquire a product from a wholesaler and the retail selling price of that product. Effectively the retailer's gross margin.
refinery–pipeline terminal	a major terminal with a direct or indirect pipeline connection to a refinery which supplies most of its fuel.
refinery products	fuel and other oil based products such as lubricants and bitumen.
refining	the production of petroleum products using crude oil that is either sourced in Australia or imported.
retail	the sale of petroleum products to the public through retail sites.
return on assets	figure calculated by dividing net profit by total assets, expressed as a percentage, which shows how effectively a company's assets are being used to generate profit.
return on sales	figure calculated by dividing net profit by total sales, expressed as a percentage, which shows how much profit is being produced per dollar of sales.
RULP	regular unleaded petrol—RON 91; includes low-aromatic unleaded petrol.
RON	research octane number, a measure of the efficiency of petrol at resisting engine knocking. In Australia, grades of petrol include RON 91 (regular) and RON 95 and higher (premium grades).
shopper docket	a discount offer on fuel for consumers that have spent a certain amount in one purchase from a nominated supermarket or retailer.

smaller capital cities	Darwin, Hobart and Canberra.
supermarket retailer	supermarkets which sell fuel under their own name/brand.
supply sector	the industry sector that imports and exports petroleum products and purchases petroleum products from Australian refineries. This sector also imports crude oil for use by refineries.
Tapis crude	a light, sweet crude oil from Malaysia; it is used in oil markets as the benchmark for crude oil in the Asia-Pacific region, which includes Australia.
terminal	a storage facility from which fuel is received via ship and/or refinery and distributed to retailers, distributors and end users.
terminal gate price (TGP)	price for a spot purchase of petrol from a terminal; used as a benchmark price; the TGP is the price a purchaser expects to pay, usually in cash, when they arrive at a wholesaler's terminal wanting to purchase a tanker load of 30 000 litres of petrol.
terminal throughput	the annual volume received and distributed by a refinery or terminal via truck or rail gantry.
terminal turnover	the number of times a terminal is effectively filled and emptied during a year (that is, annual throughput divided by physical capacity).
third line forcing	a form of exclusive dealing conduct prohibited by section 47 of the *Trade Practices Act 1974*. It involves the supply of goods or services on the condition that the purchaser acquires goods or services from a particular third party, or a refusal to supply because the purchaser will not agree to that condition.
unleaded petrol	see 'petrol'—the terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.
vertical integration	the undertaking by a single company of successive stages in the process of production and/or supply.
wholesale	the sale and movement of petroleum products from a wholesaler to other wholesalers, to retailers or to end users such as transport, agricultural and mining companies.
West Texas Intermediate (WTI) crude	a type of crude oil of very high quality, excellent for refining a high proportion of petrol; also known as Texas Light Sweet. Most WTI crude oil is refined in Midland, West Texas, and some in the Gulf Coast region. WTI crude is traded on the New York Mercantile Exchange (NYMEX) through futures contracts.
Worldscale	a provider of shipping freight price and other freight market information. Freight rates are quoted by ship and port combination. The freight rate for a given ship and port combination reflects market demand and the availability of shipping.

Key findings

Monitoring and analysis of retail petrol[1] prices over the 2008–09 financial year confirms two key findings:

- After reaching a peak above 160 cents per litre (cpl) in July 2008, retail prices fell rapidly between October and December 2008 with the onset of the global financial crisis. Prices then increased in January and February 2009 by about 20 cpl and since then have remained relatively stable.
- The most important influences on retail petrol prices have been
  - the international price of refined petroleum (Mogas 95)
  - the exchange rate of the Australian dollar against the US dollar
  - the well-established weekly retail price cycles which operate in the large capital cities and affect the day-to-day prices of petrol.

Price movements over 2008–09

- There was a large fall in retail prices of around 62 cpl from the peak in July 2008. This was commensurate with a decrease in Mogas 95 of about 62 cpl over the same period.
- Retail prices increased by about 27 cpl from their low in December 2008 to their peak in August 2009. Over the same period, Mogas 95 increased by around 29 cpl.
- Since March 2009, prices have remained relatively stable.
- Average retail prices have generally followed movements in Mogas 95 closely. However, from time to time there have been small divergences between movements in local and international prices. These differences have been due to local competitive factors and variations in the time it takes for international price changes to flow through the supply chain.
- A well-established and regular weekly price cycle is clearly evident in the capital cities (though not in the regional centres and country towns). These cycles have become more stable and greater in magnitude in recent years.
- The size of the petrol price cycle has increased over the past five years and there has been a change in the days of the week when prices most commonly peak and trough. As the ACCC indicated earlier in 2009, the cheapest day in Sydney, Melbourne, Brisbane and Adelaide moved from Tuesday to Wednesday. Wednesday remains the cheapest day to buy petrol in those cities.

Profits

Based on analysis of the data obtained through the monitoring program, the ACCC has determined that:

- over the past seven years the net profit on petrol for the combined refining, wholesale and retail sectors has typically been in the range of 2 cpl to 6 cpl
- net profit on petrol is estimated to have averaged 3.1 cpl over the past seven years
- in 2008–09, petrol companies made a net loss of 2.3 cpl on petrol sales
- the petrol companies in aggregate made a net loss of approximately $480 million on the sale of petrol in 2008–09.

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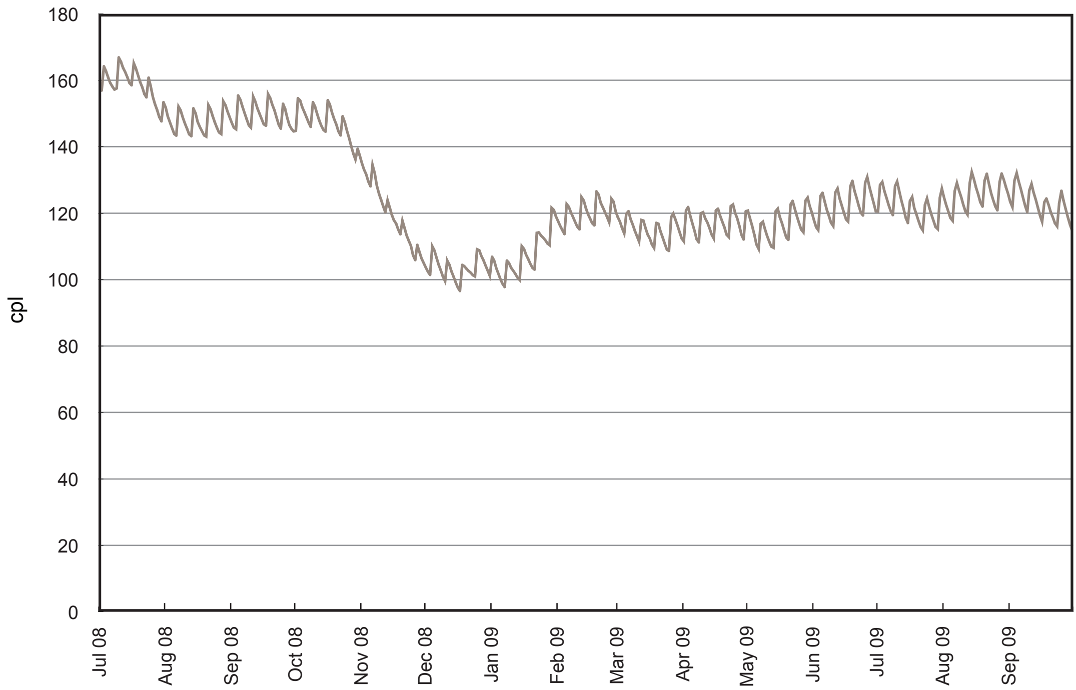
1 In this report, the term 'petrol' is used as a shorthand reference to unleaded petrol. Where a specific type of petrol is addressed it will be identified by its specific title: regular unleaded petrol (RULP), premium unleaded petrol (PULP) or ethanol blended petrol (EBP or E10).

Summary

Retail prices and international benchmark prices

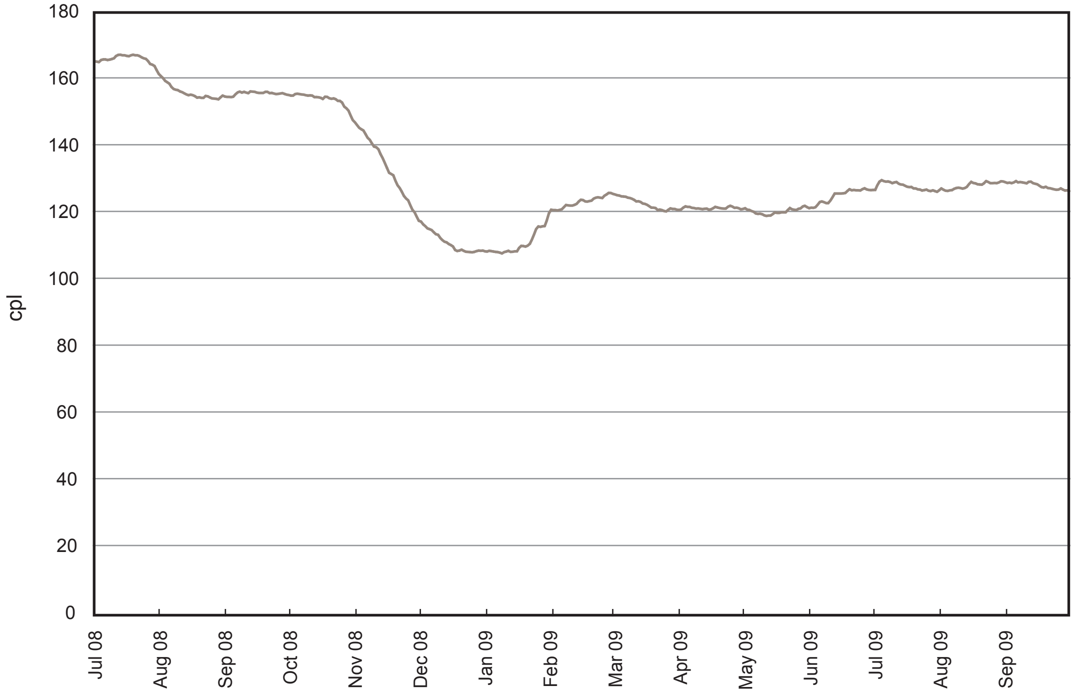
Movements in retail prices over 2008–09 are shown below. Chart 1 shows average petrol prices across the five largest cities on a daily basis between 1 July 2008 and 30 September 2009. Chart 2 shows average prices across the 150 regional centres and country towns monitored by the ACCC on a daily basis for the same period.

Chart 1 Average daily petrol prices in the five largest cities: 1 July 2008 to 30 September 2009



Source: ACCC and Informed Sources.

Chart 2 Average daily petrol prices in the 150 regional centres and country towns monitored by the ACCC: 1 July 2008 to 30 September 2009



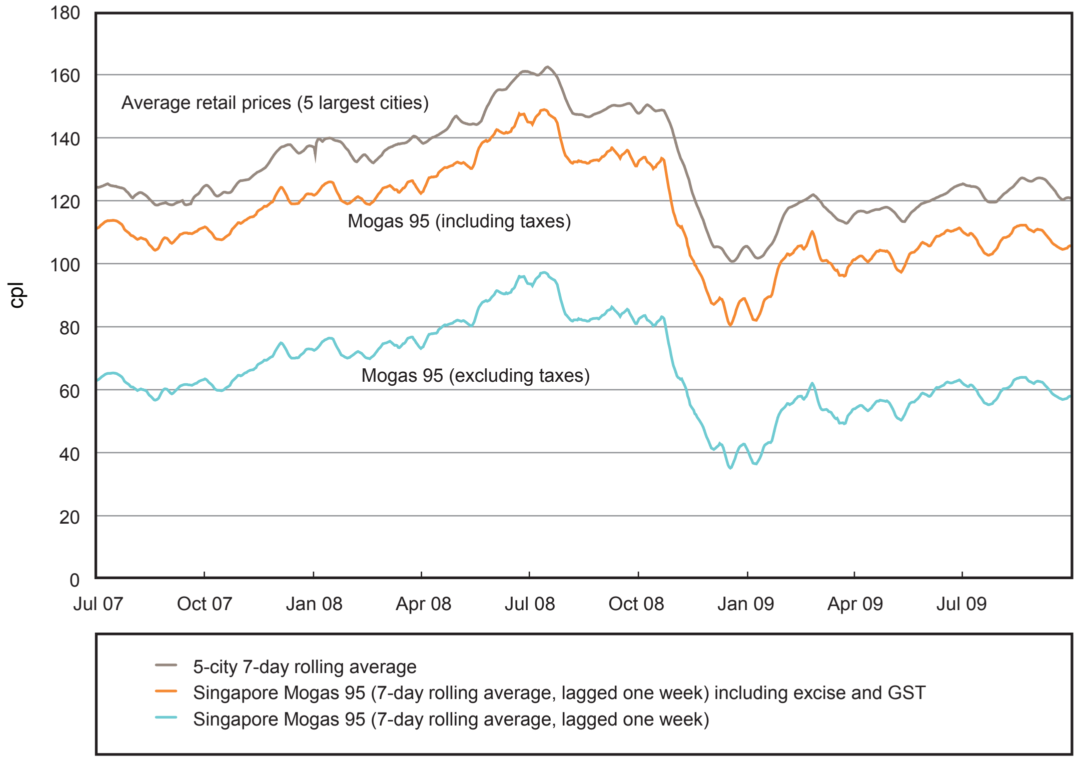
Source: ACCC and Informed Sources.

Note: Before 1 July 2009 the ACCC monitored prices in 110 regional centres and country towns. After 1 July 2009 the ACCC expanded its monitoring to 150 regional centres and country towns.

Movements (both up and down) in the international price of refined petrol over the past two years have generally been passed on to Australian motorists. The international benchmark is the price of Singapore Mogas 95 unleaded (Mogas 95). Singapore is the regional hub for the sale of a variety of petroleum-based products into Australia, so petrol companies use Mogas 95 as a basis for calculating the price of petrol in Australia.

Chart 3 shows that most movements in Mogas 95 have flowed through to the average price of petrol (after adjusting for exchange rate movements). For example, between the peak in July and the trough in December 2008, Mogas 95 decreased by 62.2 cpl and average retail prices in the five largest cities decreased by 61.8 cpl. Between December 2008 and August 2009, Mogas 95 increased by 28.8 cpl while average retail prices increased by 26.6 cpl.

Chart 3 Movements in retail petrol prices and Singapore benchmark prices: 1 July 2007 to 30 September 2009



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

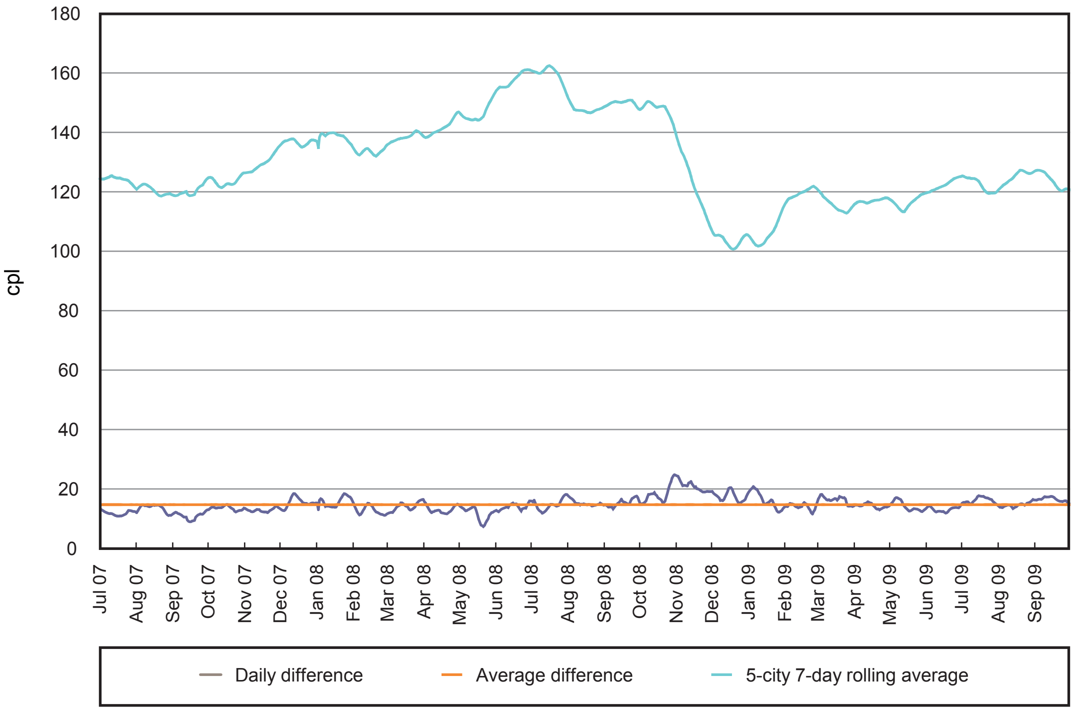
Throughout 2008, petrol prices were extremely volatile. There was a record price increase between February and July (132.0 cpl to 162.5 cpl) and a record price decrease between July and December (162.5 cpl to 100.8 cpl). Over this period, the usual lags between international and local prices were put under stress. As a consequence of the turmoil in international crude oil and refined petrol prices, the local industry made a loss in aggregate over this period.

Despite these extreme price movements, local prices generally continued to track international prices closely. Chart 4 shows the course of local prices since July 2007 (five largest cities, seven-day moving average) as well as the difference between international prices (Mogas 95 lagged seven days) and local prices. As can be seen in the chart, the difference between international and local prices has remained relatively stable, averaging about 15 cpl over the period. This difference between international and local prices is due to wholesale and retail margins and other costs, including the cost of freight to Australia and the cost of operating terminals and service stations.

Nevertheless, from time to time there have been small divergences between the two price series. Examples of these differences can be seen in chart 4. Sometimes the difference was above the average and at other times it was below the average. In view of the dynamics involved, some short-term deviations are not unexpected. Australian retail petrol prices are affected by price cycles and local competition. In addition, the lag between movements in international prices and Australian prices is not predefined. The length of the lag depends on factors such as the speed with which products move through the supply chain, the dates on which purchases are made, the speed of the international price movement and the contractual arrangements.

Consequently, short-term comparisons at a particular point in time can be misleading, especially if different points in the price cycle are chosen. Where possible, comparisons between international and local prices should be viewed over longer periods.

Chart 4 Differences between average retail RULP prices in the five largest cities and Mogas 95 (lagged seven days): 1 July 2007 to 30 September 2009



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Note: Prices include excise and GST.

Retail prices and the exchange rate

As Mogas 95 is priced in US dollars, changes in the value of the Australian dollar affect the domestic price of petrol. As is shown in chart 5, the increase in the value of the Australian dollar since March 2009 has largely mitigated the rise in the (US dollar denominated) price of Mogas 95.

Chart 5 Comparison of Australian average retail petrol prices since March 2009 with floating exchange rate and March exchange rate: 3 March 2009 to 18 November 2009

Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Price cycles

Retail prices in the larger cities have tended to move in regular cycles. These cycles are a major cause of concern for many motorists. The degree of coordination exhibited in the price cycle is also a concern for the ACCC. The regularity of weekly price cycles has enabled the refiner–marketers and major retailers to understand and predict the likely response to changes of their own behaviour. Petrol markets in Australia are predisposed to coordinated conduct due to factors such as the repeated nature of competitive interaction combined with the high degree of communication of retail prices between major players in the market. In these circumstances less competitive outcomes can result.

The operation of the restoration component of the price cycle was an issue of concern in the ACCC's consideration of the proposed acquisition of Mobil Oil Australia's retail assets by Caltex Australia Ltd. The ACCC concluded that it was likely the proposed acquisition would increase the effectiveness of the current market practices which act to limit competition in petrol retailing. The ACCC formed the view that, as one of the leaders of the weekly price cycle in these cities, the increase in Caltex's market share would increase the likelihood of stable price increases, particularly compared to a situation where some or all of the sites are acquired by more maverick or aggressive retailers.

The ACCC considered that this coordination is facilitated through the frequent exchange of pricing information between competitors via the Informed Sources Oil Pricewatch System. The ACCC considered that the enhancement of coordinated conduct resulting from Caltex's acquisition of 302 sites from Mobil was likely to substantially lessen competition in contravention of section 50 of the *Trade Practices Act 1974* (the Act).

While the ACCC was able to take into account the increased capacity to engage in coordinated conduct in its consideration of the proposed acquisition under section 50 of the Act, the ACCC is concerned that facilitating practices which assist such coordinated conduct do not appear to be adequately addressed under now well-established court interpretation of section 45.

What is a price cycle?

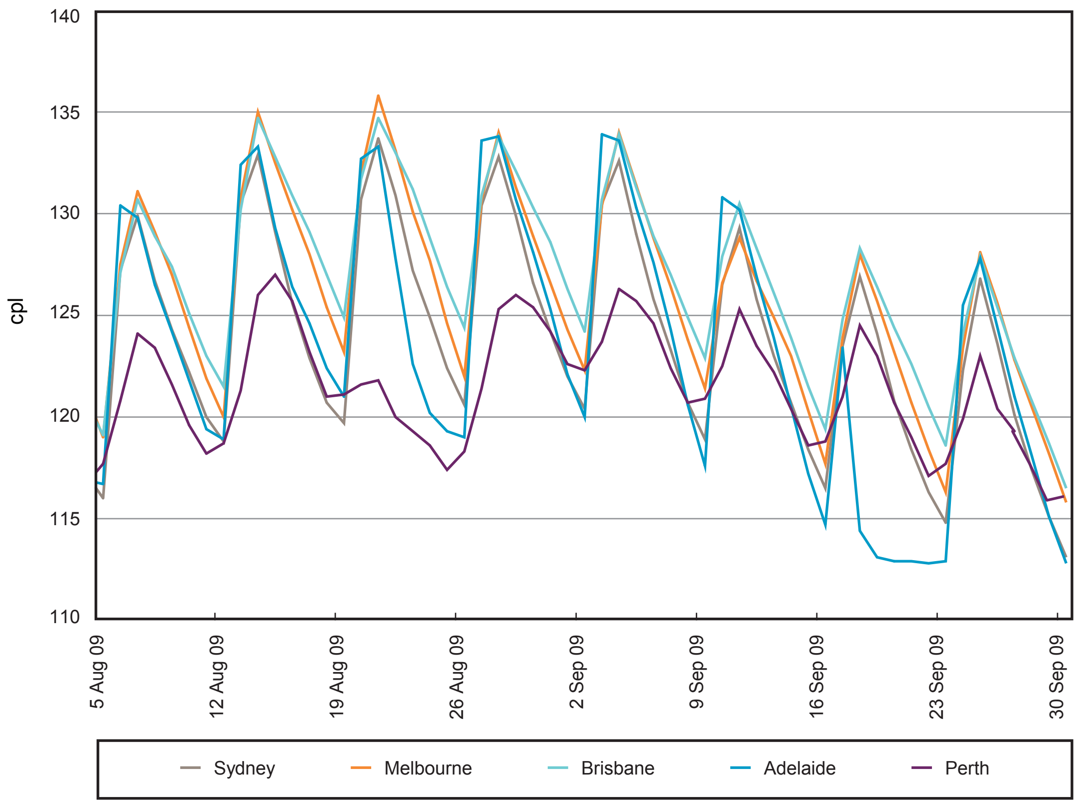
The regular pattern of these cycles is clearly evident in chart 1. Chart 6 illustrates the pattern of the price cycle in finer detail. It shows daily prices in Sydney, Melbourne, Brisbane, Adelaide and Perth over August and September 2009. The price cycle has two distinct phases:

- a price restoration phase
- a discounting phase.

During the price restoration phase, prices generally increase sharply over a period of 24 hours and then steadily decline over the rest of the week during the discount phase. The price restoration phase is led by three major refiner–marketers—Caltex, Mobil and BP. In the discounting phase the most active retailers are usually Woolworths, 7-Eleven, particular independents (for example, United), and to a lesser extent Coles Express.

These cycles do not occur in the international benchmarks; they are due to the pricing policies employed by the local petrol companies in the face of local competition. In particular, the existence of the price cycle suggests that each of the major players has adopted similar pricing strategies. Where one or more of the major players does not follow the typical pattern, the price cycle can break down. In chart 6 there is an example of the price cycle breaking down in Adelaide in mid-September 2009 and in Perth in mid-August 2009.

Chart 6 Daily retail prices in the five largest cities: Wednesday, 5 August 2009 to Thursday, 1 October 2009



Source: Informed Sources.

The stability and magnitude of the price cycle have increased in recent years

The magnitude of the price cycle varies from time to time and place to place, but typically the price increase from trough to peak in 2009 has been in the order of 10 cpl. This means that, depending on the phase of the cycle, local prices can diverge from the international benchmark by several cents per litre on any particular day.

The ACCC has observed that the stability and amplitude of the price cycle has increased in recent years. Table 1 shows that the average amplitude of the price cycle in the five largest cities has generally increased in both absolute and proportional terms since 2005.

Table 1 Average amplitude of the price cycle in the five largest cities: 2005 to 2009

	Sydney		Melbourne		Brisbane		Adelaide		Perth	
	cpl	%	cpl	%	cpl	%	cpl	%	cpl	%
2005	7.0	6.3	7.1	6.4	7.1	6.9	7.6	6.7	10.8	9.8
2006	9.0	7.2	9.2	7.3	8.2	7.0	9.8	7.8	7.3	5.9
2007	9.4	7.5	9.6	7.7	8.4	7.1	10.3	8.3	8	6.4
2008	10.1	7.1	9.9	6.9	8.5	6.3	11.2	7.9	9.1	6.5
2009 (to 30 Nov)	12.3	10.3	11.1	9.2	9.3	7.9	13.4	11.2	7.7	6.6

Source: ACCC and Informed Sources.

The cheapest day of the price cycle has varied over time

Over the past five years there has been a change in the days of the week on which petrol prices peak and trough in the five largest cities.

In 2005 the most common day on which daily average prices were at the trough of the price cycle was Tuesday in Sydney and Melbourne, Thursday in Brisbane, Friday in Adelaide and Monday in Perth. By 2009 this had changed to Wednesday in Sydney, Melbourne, Brisbane and Adelaide. In Perth, where FuelWatch operates, the cycle is less consistent and pronounced; Tuesday is the most common day for the trough.

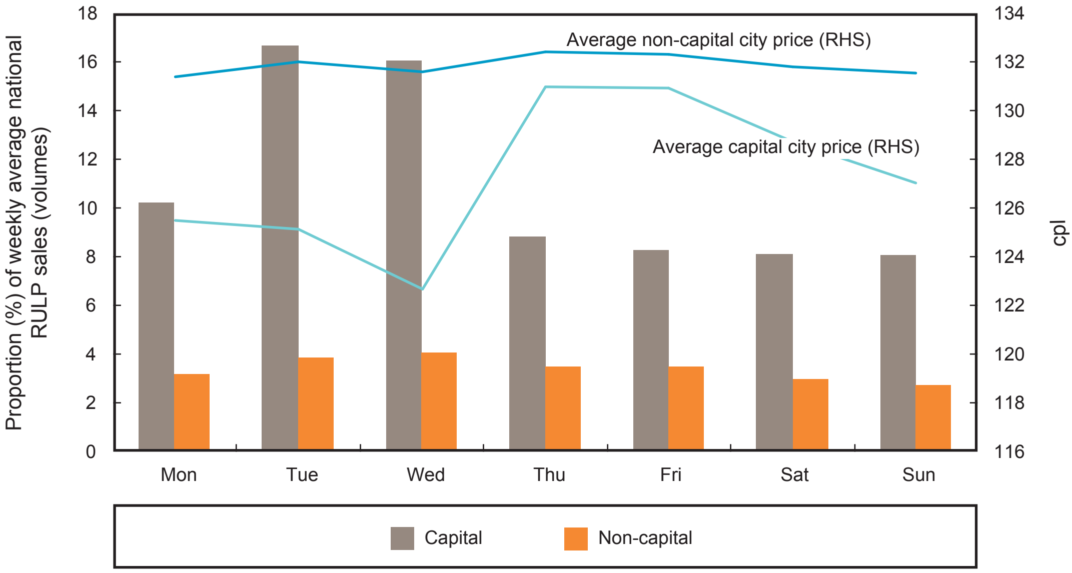
A similar change occurred in peaks. In 2005 in Sydney, Melbourne and Brisbane, Thursday was the most common day of the week on which daily average prices were at the peak of the price cycle. By 2009 this had changed to Friday. In 2005 the most common day of the week for peaks in Adelaide was Sunday, and in Perth it was equally Tuesday and Thursday. By 2009 this had changed to Thursday in Adelaide. The most common day for the peak in Perth was Friday.

More petrol has been sold on the cheaper days of the price cycle

Chart 7 shows that over 2008–09 RULP sales were higher on Tuesdays and Wednesdays, when prices were at their lowest during the week. This is not surprising given that price cycles have been a relatively predictable event and have been evident in Australia's largest cities for many years. However, the chart also shows that a sizable proportion of RULP has been sold on the more expensive days. Presumably, consumers who purchase fuel on the more expensive days are either less price sensitive or have less flexibility in timing their fuel purchases.

In non-capital cities and regional areas of Australia, where regular price cycles generally do not occur, RULP sales are more consistent over the week.

Chart 7 Average national RULP sales and prices by day of the week: 2008–09



Source: ACCC analysis from data supplied through its monitoring process and Informed Sources.

Note: Each column represents the proportion of total national weekly volume sold.

Price cycles and Australian motorists

Price cycles are a major concern for many motorists. The ACCC receives a large number of complaints about the operation of the price cycle each year. Nevertheless, many motorists have been able to take advantage of the price cycle to purchase fuel on the cheaper days of the week. Further, until now average retail price levels do not appear to have varied substantially from the international benchmark.

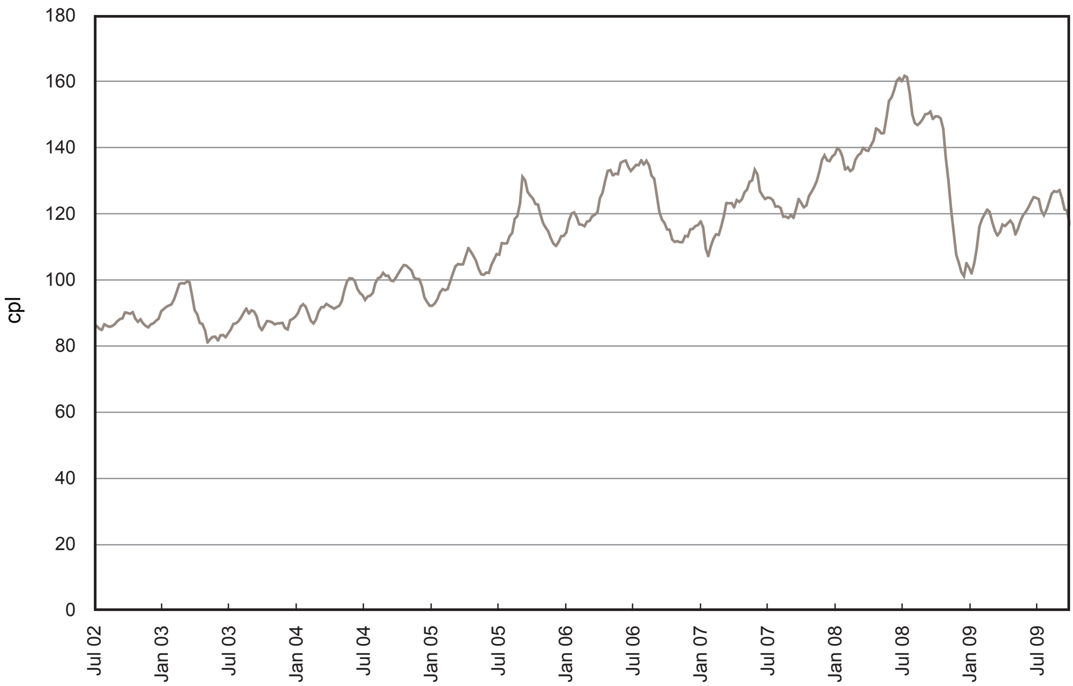
However, the degree of coordination exhibited in the price cycle is a concern for the ACCC. The regularity of weekly price cycles has enabled the refiner–marketers and major retailers to understand and predict the likely response to changes of their own behaviour. Petrol markets in Australia are predisposed to coordinated conduct due to factors such as the repeated nature of competitive interaction combined with the high degree of communication of retail prices between major players in the market. In these circumstances less competitive outcomes can result.

How have prices moved in the longer term?

Over the past seven years, petrol prices have been highly volatile. This was especially the case during 2008, when prices rose rapidly before collapsing with the onset of the global financial crisis (see chart 8). Key features of price movements over the past seven years include:

- Between July 2002 and July 2008, a clear upward trend in prices was evident.
- Prices fell sharply in the second half of 2008.
- There has been a significant increase in prices (about 15 per cent) since the trough in December 2008.

Chart 8 Average monthly petrol prices in the five largest cities: July 2002 to September 2009

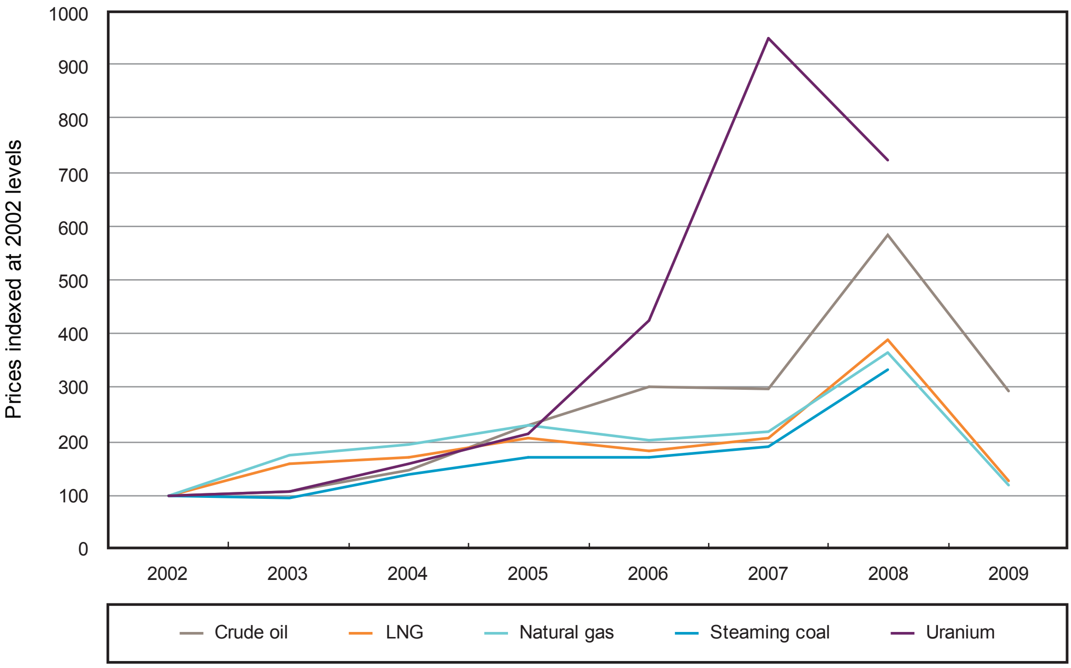


Source: ACCC and Informed Sources.

The increase in petrol prices since 2002 reflects a broader trend in the price of energy commodities

Since 2002, the price of crude oil has increased, but this increase has not been unique to oil. Chart 9 shows that there have also been increases in the prices of other energy commodities. This was especially the case in 2008, when there were substantial increases in the price of crude oil, liquefied natural gas, natural gas and steaming coal. Where price data is available for 2009, it reveals that the price of energy commodities has fallen with the onset of the global financial crisis.

Chart 9 Movements in the international prices of energy commodities: 2002 to 2009

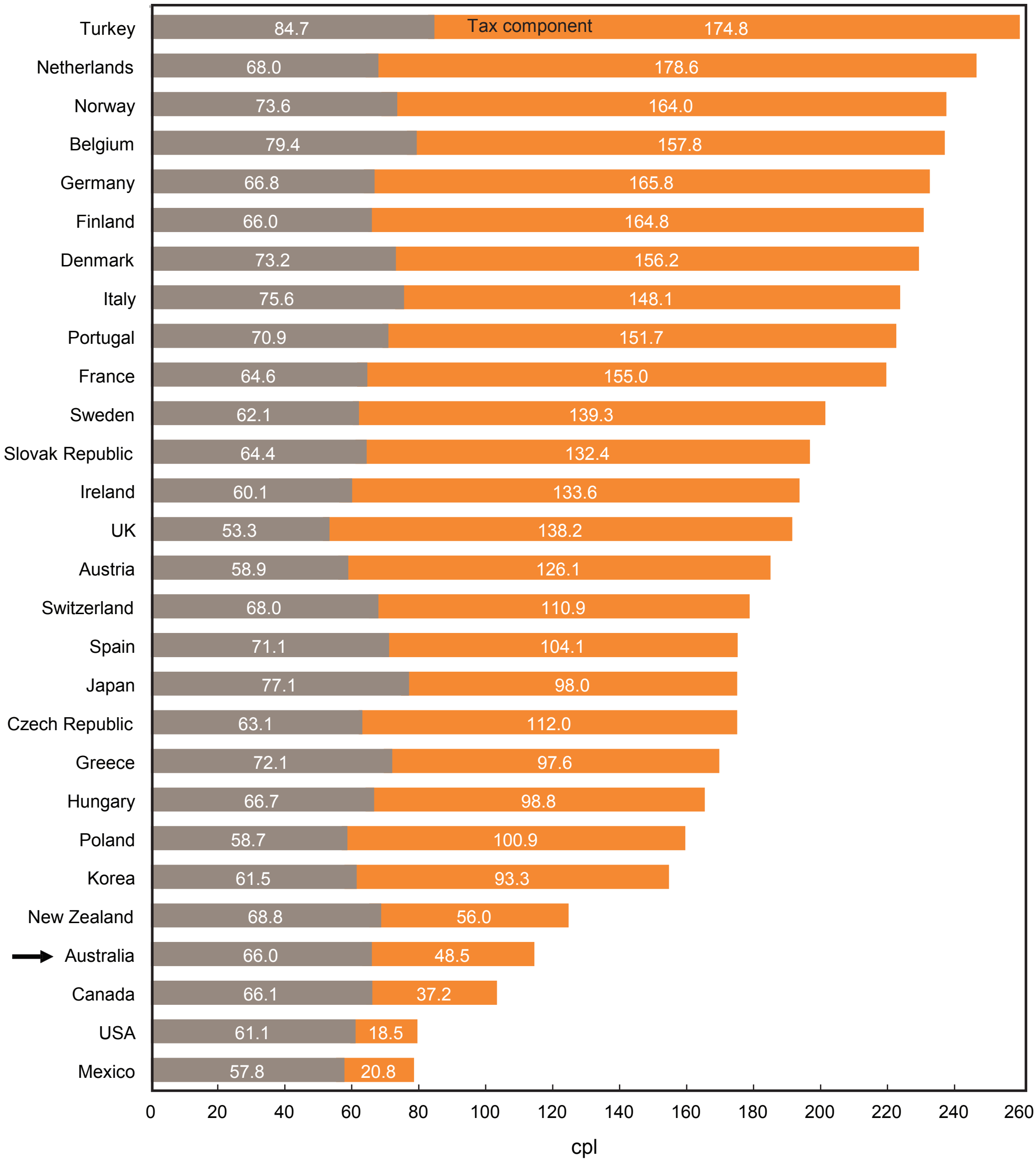


Source: ACCC; United States Energy Information Administration; and BP *Statistical Review of World Energy*, June 2009.

Petrol prices in Australia compared to prices in other countries

Overall, retail petrol prices in Australia have been low compared with other countries in the Organisation for Economic Co-operation and Development (OECD) (see chart 10). In the March quarter of 2009, Australia had the fourth-lowest petrol prices. Petrol prices in 11 countries were $A2 per litre or more and petrol prices in 23 countries were $1.50 per litre or more. To a large degree, the lower petrol prices in Australia have been due to lower taxation. If the impact of taxation is removed, the underlying price of petrol in Australia has been around the median.

Chart 10 Petrol prices and taxes in OECD countries: March quarter 2009



Source: Department of Resources, Energy and Tourism, *Australian Petroleum Statistics*, issue no. 155 (June 2009).

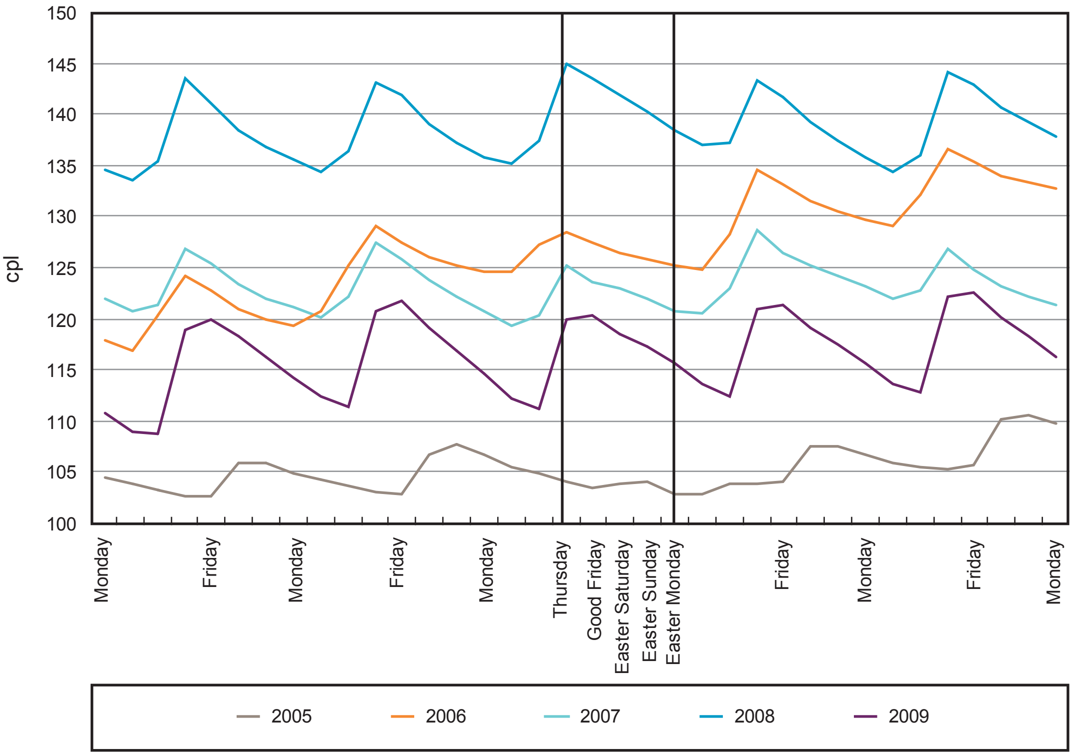
Petrol price movements around public holidays have been in line with movements at other times

There is a perception in the community that petrol prices increase by more than usual just before public holidays and long weekends. To test this perception, the ACCC conducted a detailed review of prices in the five largest cities around every public holiday. This price data shows that price movements around public holidays have been similar to price movements at other times.

By way of example, charts 11 and 12 show average daily prices in the five largest cities around the Easter and Christmas periods for the past five years. In all cases the regular weekly price cycle is evident, but price changes appear to have been in line with the weeks before and after the holiday.

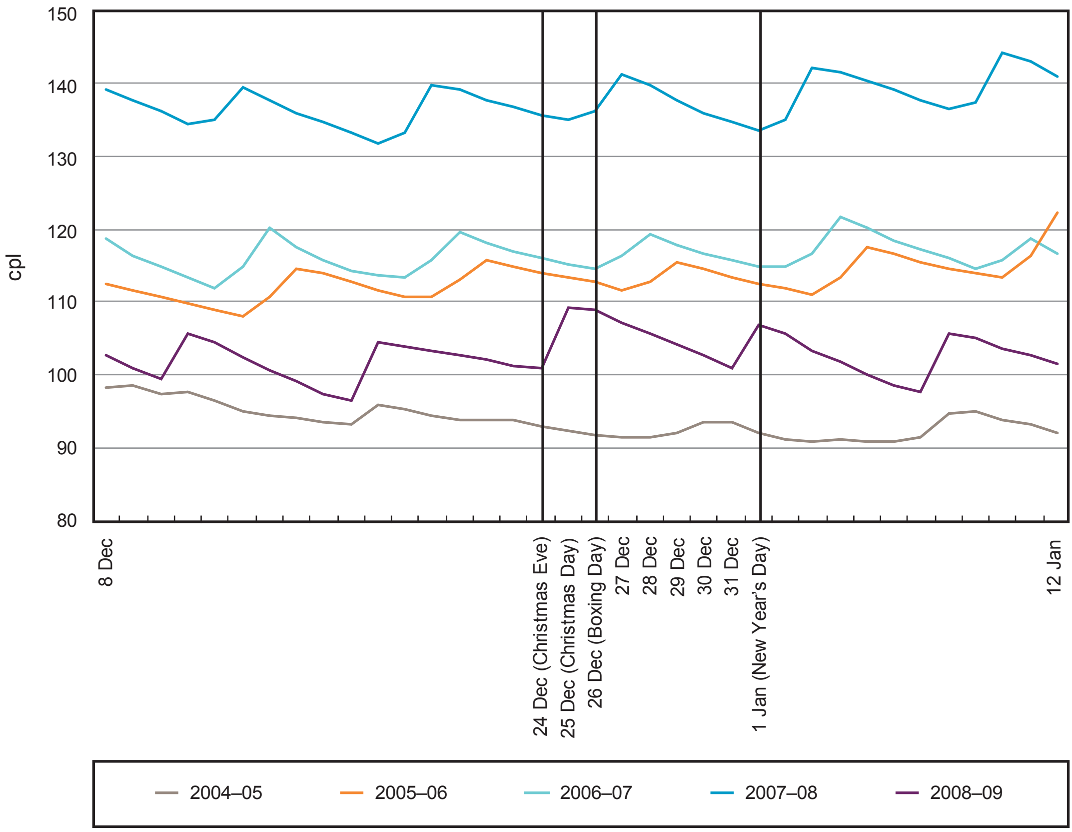
In part, the perception that price increases are unusually large just before holidays may be due to the operation of the regular weekly cycle, which causes prices to rise just before all weekends, not just holiday weekends. Price rises may be more noticeable before holiday weekends because a large number of motorists make long trips, using more petrol than usual.

Chart 11 Average daily retail prices in the five largest cities over the Easter period: 2005 to 2009



Source: ACCC and Informed Sources.

Chart 12 Average daily retail prices in the five largest cities over the Christmas / New Year period: 2004–05 to 2008–09



Source: ACCC and Informed Sources.

Price levels have varied between service station operators

The ACCC has found that not all operators in a location have charged the same price. The price charged at an individual site can vary due to the location, quality or size of the site, the other products available at the site, the number and identity of the other service stations in the area and the pricing policies of the operators. In its statement of issues on the proposed acquisition of Mobil's retail assets by Caltex, the ACCC noted that there was a distinct ordering in the average retail prices offered by the major retailers examined over weekly price cycles. Among the five retailers examined:

- 7-Eleven and Woolworths generally had the lowest average prices over the cycle—with average retail pump prices up to 0.4 cpl below those of the Mobil sites, depending on the capital city
- Coles Express had average prices over the cycle that were lower than those of Caltex in three of the four capital cities
- Mobil had average prices over the cycle that were between 0.1 cpl and 0.7 cpl lower than those of Caltex.

The ACCC's preliminary view was that there were two reasons for these differences in average prices over weekly cycles. First, Mobil and the Caltex sites on average increased prices at the start of the price cycle earlier and often more quickly than Woolworths and 7-Eleven. As a result, there were periods (usually lasting a few hours) when Mobil and the Caltex sites had significantly higher prices than 7-Eleven or Woolworths.

Second, during the discounting phase of the price cycle, it appears that the Caltex sites on average did not reduce their prices as rapidly or by as much as Woolworths, 7-Eleven and Mobil.

Prices in regional centres and country towns have been higher than prices in the city

While country and city prices have followed the same broad trends, country prices have tended to be higher than city prices. The difference in prices between city and country locations has been around 6 cpl on average, but the differential has varied depending on the features of the particular location.

There is no single variable which explains the differential. The factors the ACCC has found to be important include:

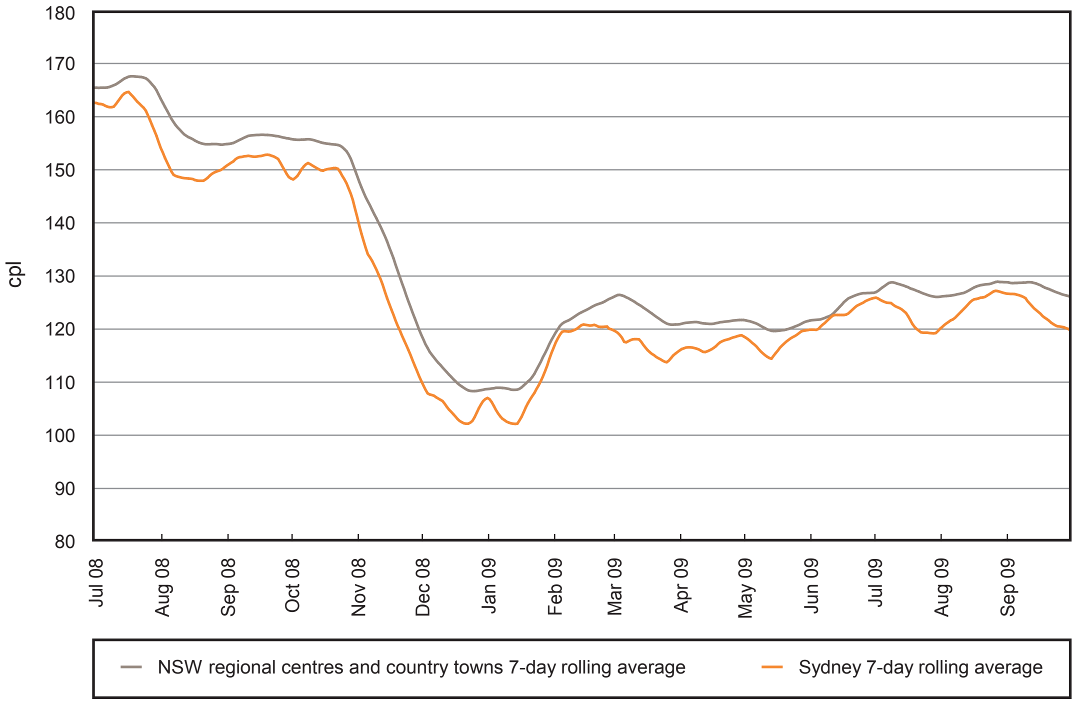
- volumes sold—this factor has a significant bearing on prices: the ACCC has found that if a typical country service station is selling around half the volume of a typical city service station then it needs to sell petrol at around 4 cpl more to earn the same return on sales (see chapter 14)
- convenience store sales—these usually make a greater contribution in the city to service station operating costs, such as the wages of the console operator
- population—usually locations with larger populations have lower prices, but the relationship has not been strong
- number of service stations—again, prices have usually been lower in locations with more service stations, but this relationship has also been weak
- distance—usually the further the location from a refinery or major terminal, the higher the price.

Prices in regional centres and country towns have responded more slowly to movements in the international benchmarks than prices in the city

The lag between Mogas 95 and local retail prices is longer in the country than in the capital cities. By way of example, chart 13 shows prices in Sydney against the average price in the rest of New South Wales. From the chart it is evident that prices in country New South Wales are typically higher than those in Sydney, but also that it takes longer for country prices to respond to both increases and decreases in the international benchmark. This is also true for the capital cities and regional areas in the other states.

Typically, country service stations sell less petrol than city service stations and are more distant from the refineries and major terminals. Consequently, it takes longer for product to move through the supply chain and so it takes longer for international price movements to affect retail prices in regional areas.

Chart 13 Average daily prices in Sydney and the rest of New South Wales: 1 July 2008 to 30 September 2009

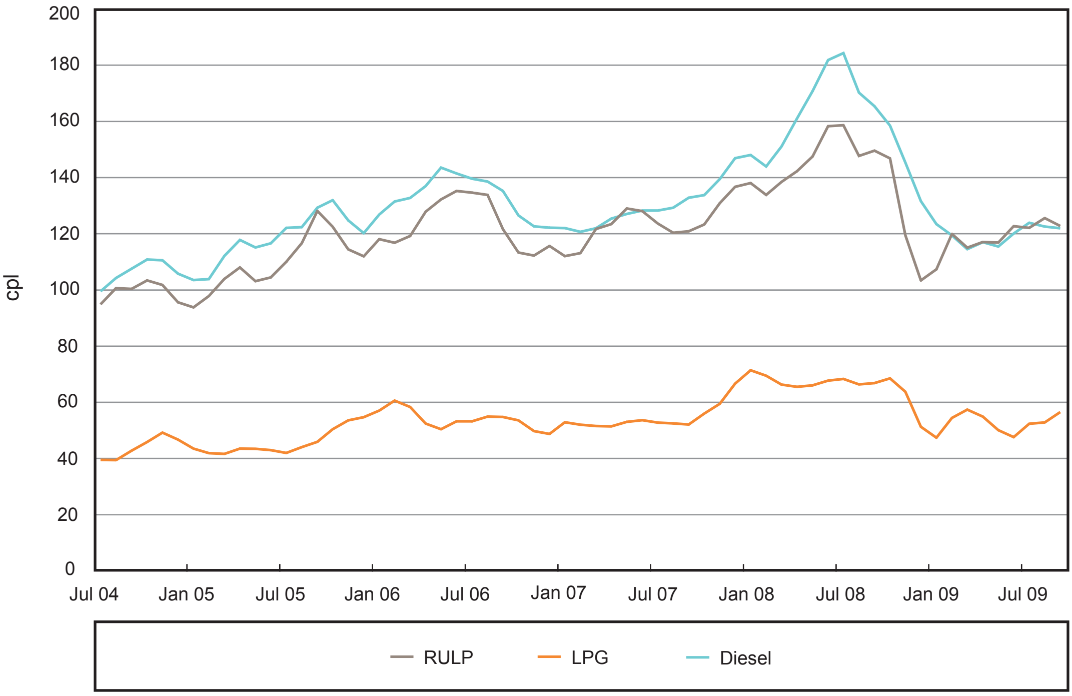


Source: ACCC and Informed Sources.

Australian petrol, diesel and automotive LPG prices have followed broadly similar trends over the past few years

Chart 14 shows the course of RULP, diesel and automotive LPG prices over the past few years. In general the three price series have followed broadly similar trends. This is to be expected as each fuel is derived from crude oil and they are somewhat substitutable as transport fuels in the longer run. Note that throughout 2007–08 diesel prices were higher than petrol prices in the face of strong demand in the Asia-Pacific. More recently diesel and petrol prices have converged.

Chart 14 Average monthly retail prices of RULP, diesel and automotive LPG in the five largest cities: July 2004 to 30 September 2009



Source: ACCC calculations based on Informed Sources data.

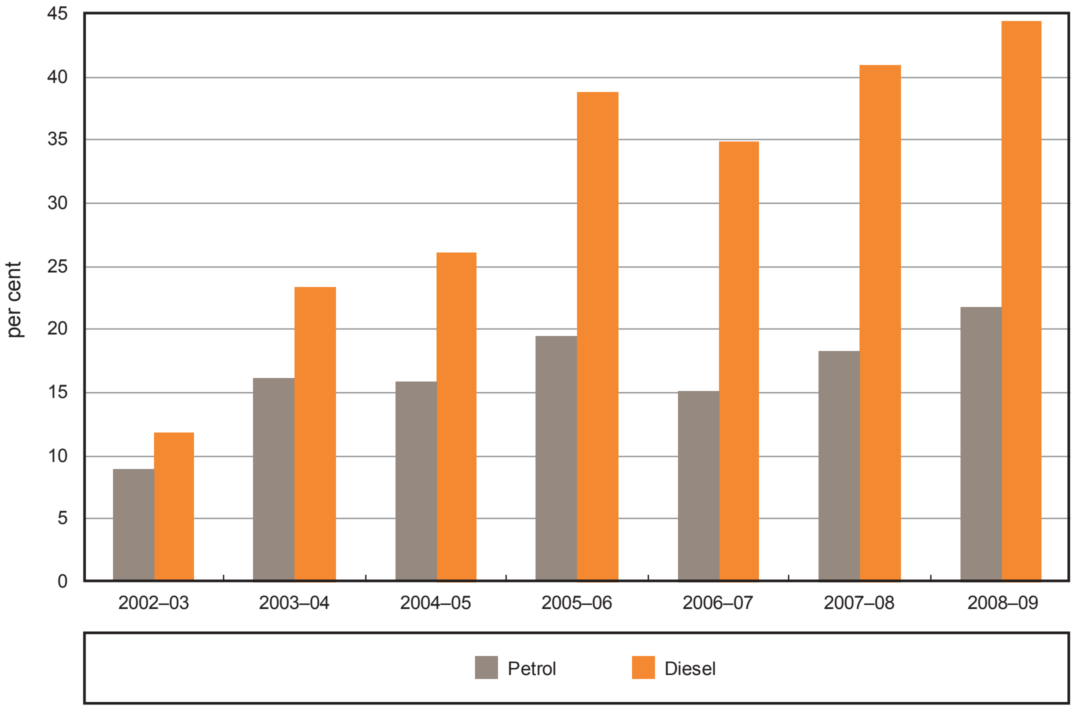
Note: Excise (of 38.14 cpl) is applied to petrol and diesel but not to automotive LPG.

Like petrol, Australian diesel and automotive LPG prices have been low when compared to other countries in the OECD. In the case of diesel, Australian prices were the fifth-lowest in March 2009. Australian automotive LPG prices were the lowest of the comparator countries. In both cases the low prices in Australia were largely due to lower taxation.

Imports of petrol and diesel supplement local production

In Australia in 2008–09 about 20 per cent of petrol and about 40 per cent of diesel supplies were imported to supplement local refinery production. As such, imports represent the marginal source of supply. This reliance on imports explains why international prices have played a central role in determining local prices.

Chart 15 Petrol and diesel imports as a percentage of total sales in Australia: 2002–03 to 2008–09

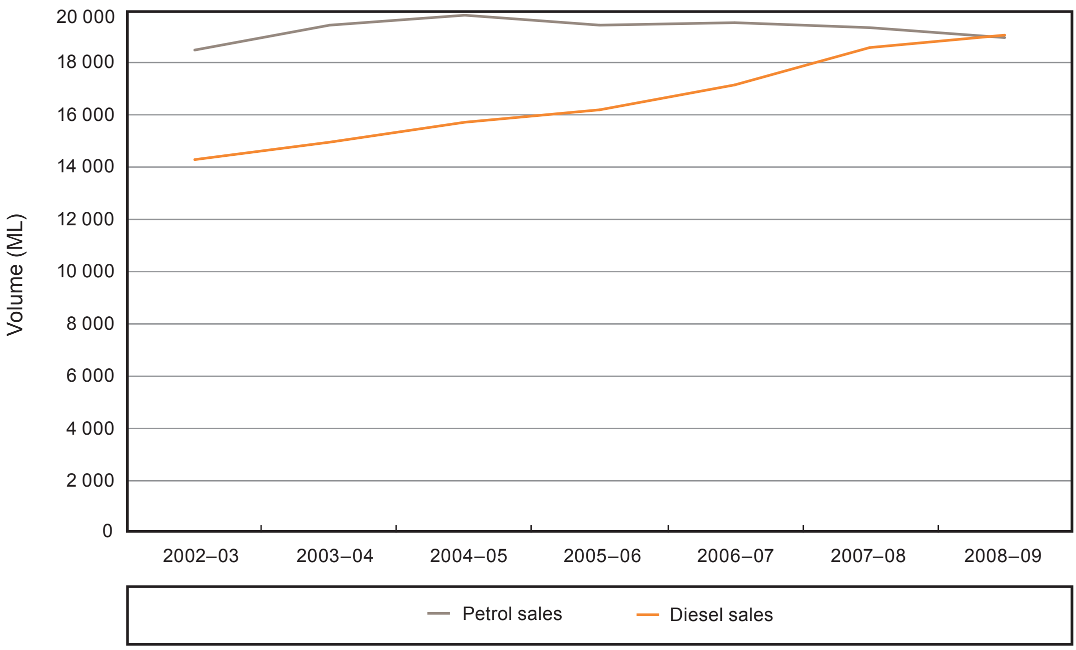


Source: *Australian Petroleum Statistics*, RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009); and ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

The total volume of diesel sold in Australia has recently overtaken the volume of petrol sold

Diesel volumes sold have increased significantly over the past few years. In part, this has been due to increased demand from the mining sector. With petrol volumes remaining fairly flat in recent years, diesel volumes have recently exceeded petrol volumes (see chart 16). However, a significant proportion of diesel in Australia is used for non-automotive purposes. In 2008–09 retail sales of diesel (primarily for automotive use), while growing strongly, only comprised 22.4 per cent of retail petrol, diesel and LPG sales.

Chart 16 Sales of petrol and diesel in Australia: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Profits

The ACCC has collected extensive financial information from the four refiner–marketers and major wholesalers and retailers. It has analysed the information for production, wholesale, and retail of petrol and other fuels. It has also compared the petrol industry's results to other industries operating in Australia and to petrol companies operating overseas.

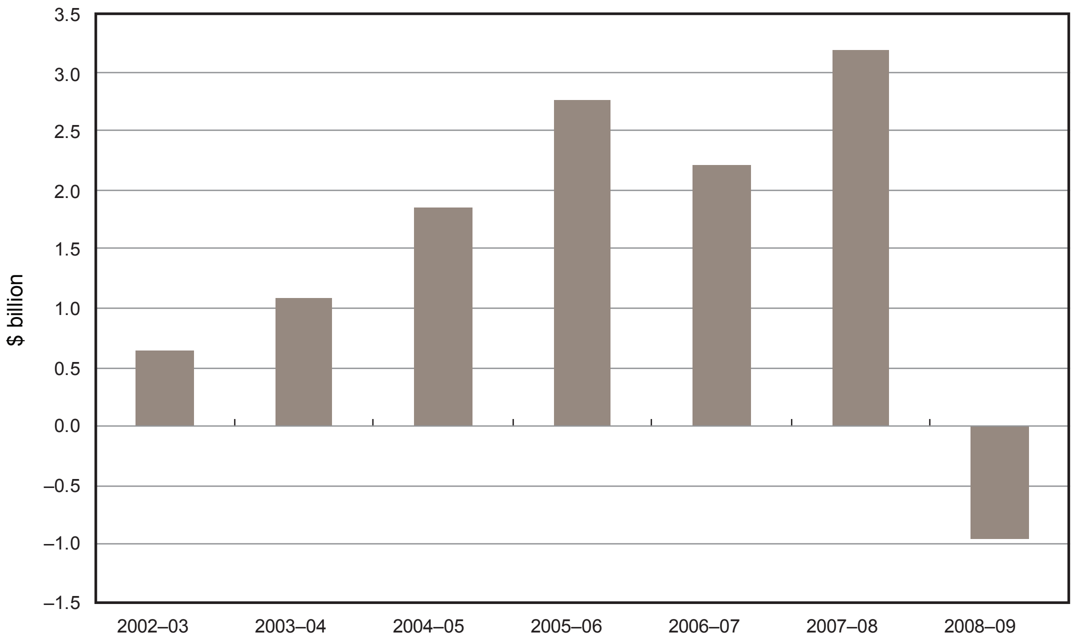
Profits have been volatile over the past seven years

Returns to shareholders over the past seven years have been mixed. Between 2002–03 and 2005–06, total profits increased year on year. Profits then declined in 2006–07 and peaked in 2007–08. In aggregate, the petrol companies made losses in 2008–09 of about $1 billion (see chart 17).

In large part, this loss was due to the valuation of inventories in the face of declining international prices. Petrol companies need to order crude oil well in advance of its refining and ultimate sale as refined petrol. If there is a movement in the international benchmarks (either up or down) while product is moving through the supply chain then the final selling price may differ from the initial purchase price. Changes in the value of the $A have also had an impact on profits. Consequently, it is important to view industry profits over a number of years so that any volatility in the valuation of inventories can average out.

Between July and December 2008 there was a rapid fall in international oil and petrol prices. This meant that the petrol companies were selling refined petrol at a discount compared to the price they paid for crude oil.

Chart 17 Aggregate petroleum industry net profits on all products: 2002–03 to 2008–09

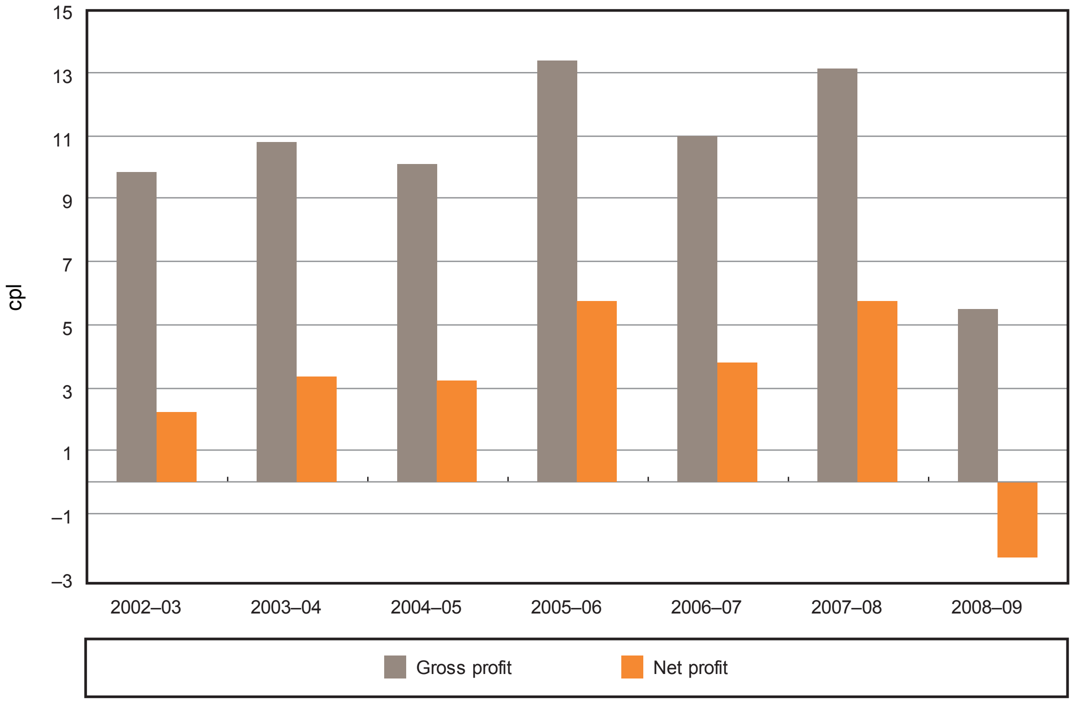


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Petroleum industry profits have been a small proportion of the retail price

A small proportion of the final bowser price has been accumulated in profits by the refining, wholesale and retail sectors. The ACCC has estimated that over the past seven years the gross profit on the sale of petrol across the downstream petroleum industry has averaged about 11 cpl. Gross profit is a measure of the difference between the sale price of the product and its purchase cost. The petrol companies do not keep the entire gross profit; they need to pay a range of costs out of this profit, including wages, rent and maintenance. After subtracting these costs, the ACCC has estimated that the net profit to the petrol companies averaged 3.1 cpl over the seven years (see chart 18). In recent years, net profit on petrol for the combined refining, wholesale and retail sectors has typically been in the range of 2 to 6 cpl. The ACCC estimates that in 2008–09 the petrol companies made a net loss of about $480 million on the sale of petrol in aggregate.

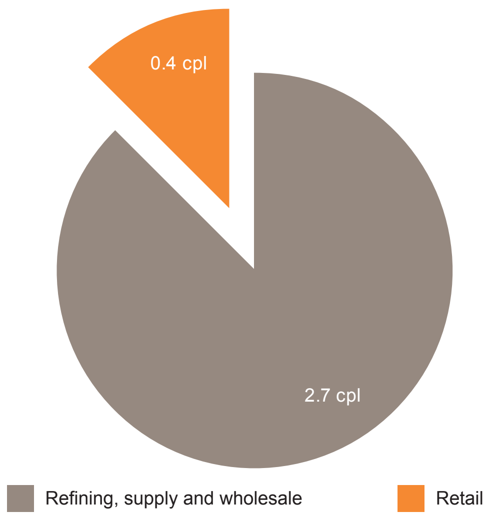
Chart 18 Gross and net profit on petrol for the refining, wholesale and retail sectors: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

In addition, the ACCC has found that the largest proportion of total industry net profits has accrued to the refining, supply and wholesale sectors (see chart 19). The supply sector buys and sells crude oil and refined products on behalf of the refining and wholesale sectors. A small proportion of net profit has accrued to the retail sector.

Chart 19 Average share of net profit on petrol by sector: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

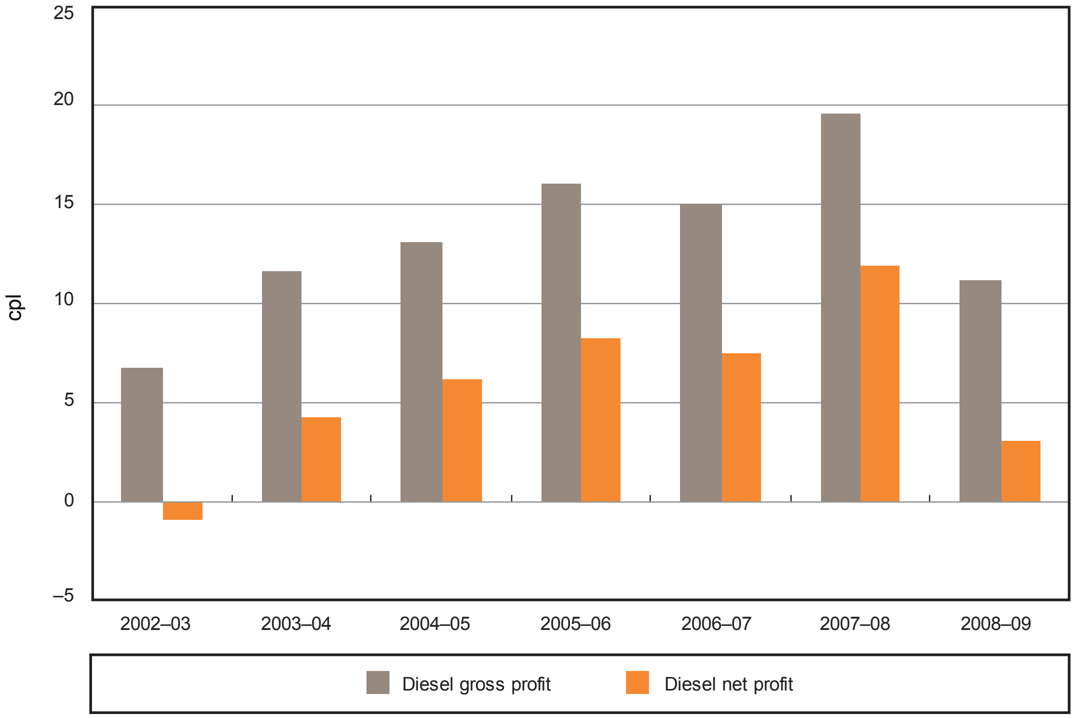
Note: Revenues and costs exclude excise and GST.

Diesel profits have been higher than petrol profits

The ACCC has also estimated the gross and net profit for each litre of diesel purchased by a motorist (see chart 20). The average annual gross profit was 13 cpl (compared to 11 cpl for petrol) and the average annual net profit was 6 cpl (compared to 3.1 cpl for petrol).

The higher profits on diesel have largely been due to strong demand for diesel across the Asia-Pacific, which has led to higher prices, especially in 2007–08. Australia imports over 40 per cent of its diesel, so the local price is set with reference to the international benchmark. Australian refineries produce petrol and diesel from crude oil in relatively fixed proportions. Consequently, when diesel prices are higher than petrol prices, the local refineries receive a higher gross profit on diesel. This was particularly the case in 2007–08.

Chart 20 Gross and net profit on diesel for the refining, wholesale and retail sectors: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Petrol industry profits have been in line with other sectors

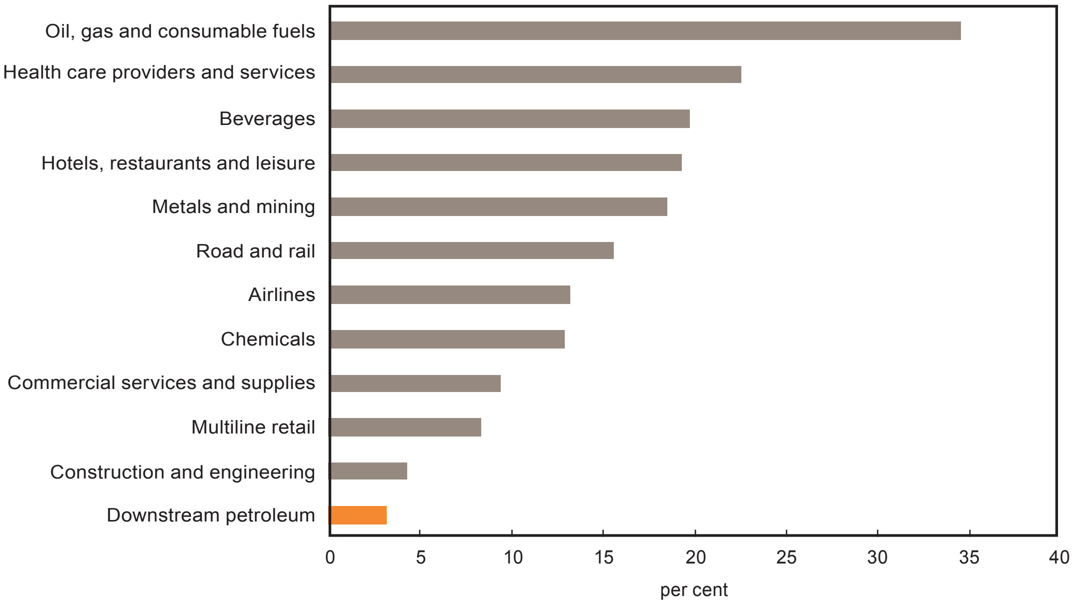
To test the overall reasonableness of aggregate profit levels, the ACCC has examined a range of profit measures and compared them to other industries.

In terms of both return on assets and return on sales, the petrol industry has ranked low compared to other industry sectors represented in the S&P/ASX 100 index (see charts 21 and 22).

The return on sales (EBIT/sales) and return on assets (EBIT/assets) of the industry averaged 3.2 per cent and 9.7 per cent respectively over the seven years. If 2008–09 is excluded (to remove the impact of the loss in that year), these averages increase to 4.0 per cent for return on sales and 12.3 per cent for return on assets.

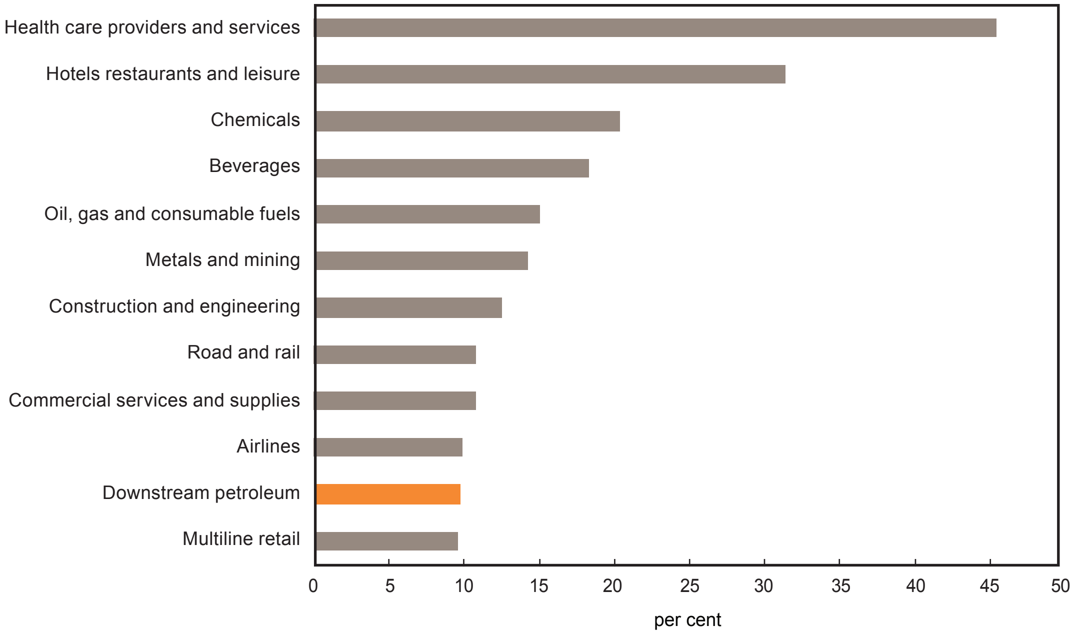
Note that these average calculations mask divergences between the performances of individual firms.

Chart 21 Average return on sales (EBIT/sales) in the petrol industry compared to industry sectors in the S&P/ASX 100: 2002–03 to 2008–09



Source: Bloomberg and ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 22 Average return on assets (EBIT/assets) in the petrol industry compared to industry sectors in the S&P/ASX 100: 2002–03 to 2008–09



Source: Bloomberg and ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Oil, gas and consumables is the upstream petroleum production and exploration sector.

Costs

Out of every dollar collected by the petrol companies at the bowser, only about 3 cpl is retained as net profit. This means that the underlying costs of supply account for the remainder of the bowser price. These costs are explained further in this section.

Petrol industry costs have been dominated by refined international benchmark prices and taxes

The two largest cost components in petrol, diesel and automotive LPG prices are:

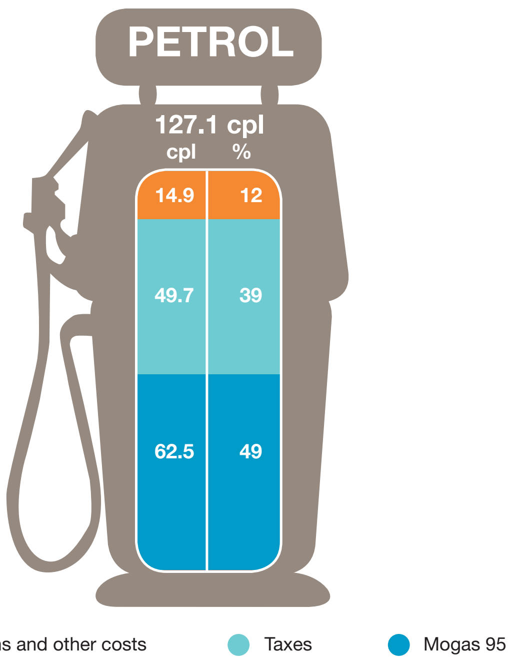
- the international benchmark price
- excise (for petrol and diesel) and GST.

Together, these two cost components account for 88 per cent of the price of petrol. That is, out of a retail price of 127 cpl, around 112 cpl is directly attributable to the cost of refined petrol and taxes (see chart 23).

For diesel these two components also account for 88 per cent of the bowser price (see chart 24). For automotive LPG they account for 78 per cent (see chart 25).

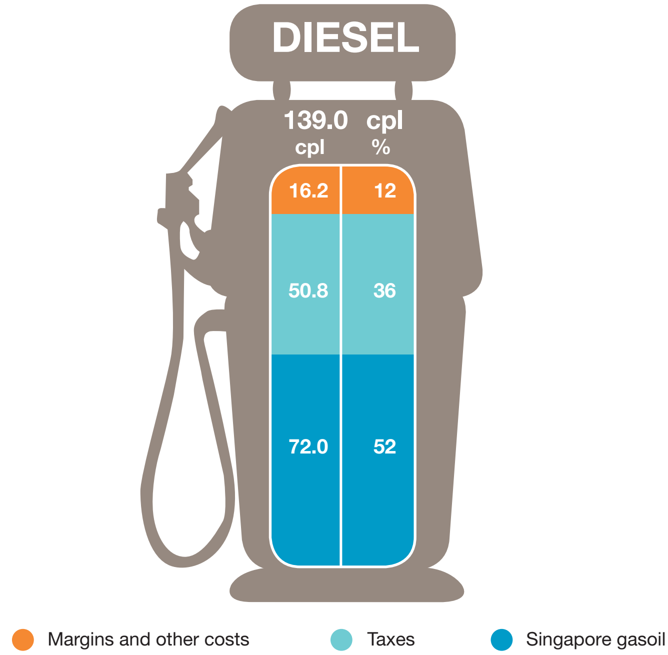
This means that margins and other costs account for about 15 cpl of the retail price of petrol, 16 cpl for diesel and 13 cpl for automotive LPG. Out of these amounts, the petrol companies need to cover a number of costs such as freight (including freight to Australia from overseas), wages, and terminal and service station operations. The ACCC has estimated that over the past seven years the total profit margin on petrol across the refining, wholesale and retail sectors has been in the order of 3.1 cpl, and in the order of 6 cpl for diesel.

Chart 23 Components of Australian retail RULP prices in the five largest cities: 2008–09



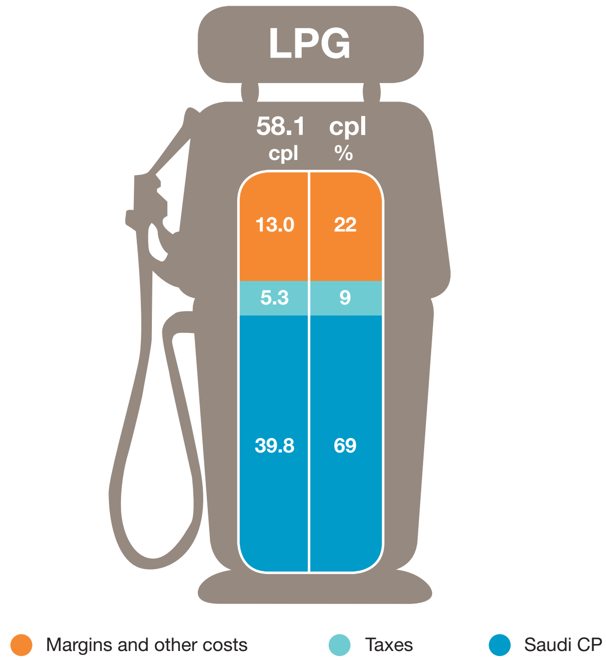
Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Chart 24 Components of Australian retail diesel prices in the five largest cities: 2008–09



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Chart 25 Components of Australian retail automotive LPG prices in the five largest cities: 2008–09



Source: ACCC calculations based on LPG Australia, RBA and Informed Sources data.

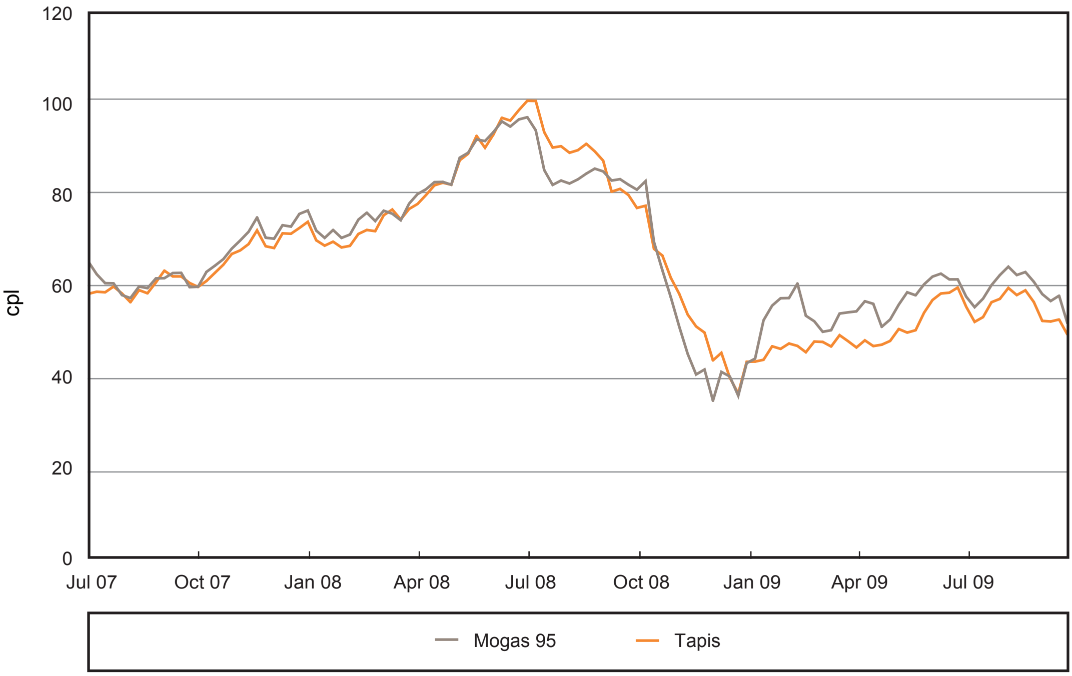
There has been a close relationship between the international price of refined petrol and the cost of crude oil

The most important determinant of the international price of refined petrol is the cost of crude oil. In general, crude oil accounts for in excess of 90 per cent of the cost of producing refined petrol. Chart 26 shows that the price of refined petrol in Singapore has closely followed the price of Tapis crude oil. Tapis is a Malaysian crude oil that is used as a benchmark across the Asia-Pacific.

Between July 2006 and July 2008, strong global demand for petroleum products caused a sharp rise in the cost of crude oil. Australian retail petrol prices followed this upward trend. With the onset of the global financial crisis in July 2008, world demand for petroleum products declined sharply. Crude oil costs followed and so did Australian petrol prices. More recently, as the global financial crisis has eased, crude oil costs have again started to trend upward.

There is a clear chain of causality from the cost of international crude oil to the price of refined petrol in Singapore and then to retail prices in Australia.

Chart 26 Movements in refined petrol and crude oil benchmark prices: 1 July 2007 to 30 September 2009



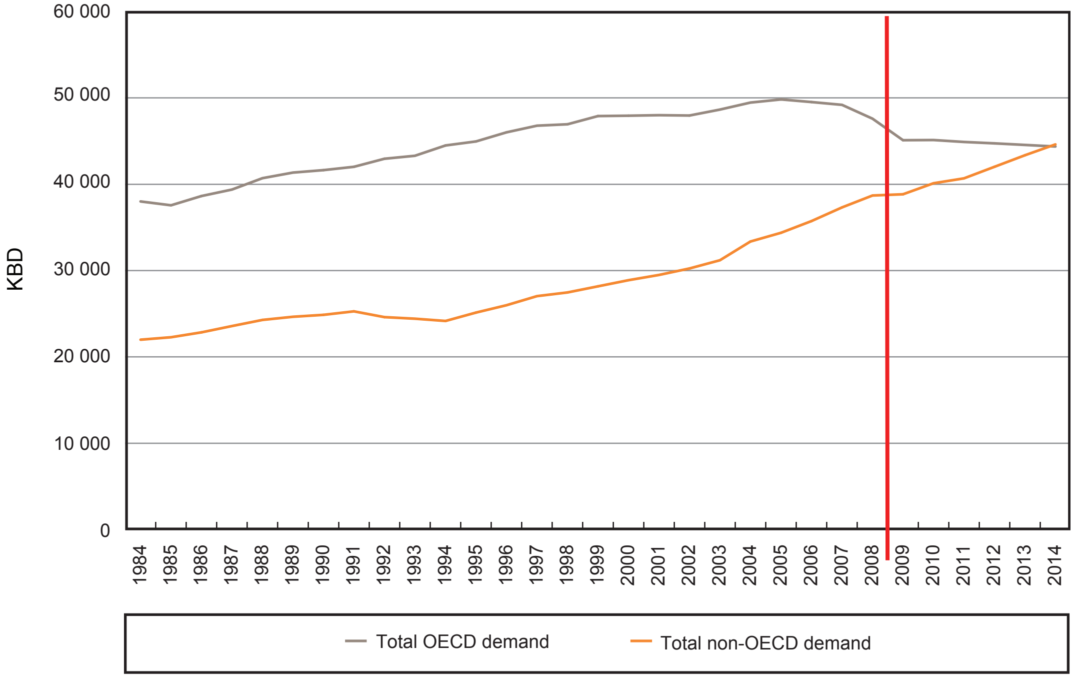
Source: ACCC calculations based on Platts and CBA data.

Global demand for oil is expected to increase in coming years

Since 1984, world demand for oil based products has grown by 1.4 per cent per annum, on average. Total demand in OECD countries has declined in recent years, especially with the onset of the global financial crisis. By contrast, demand in non-OECD countries has been growing strongly (averaging 2.4 per cent per annum since 1984). Together, China and India account for 30 per cent of non-OECD demand. Since 2000, annual growth in demand in China and India has averaged 6.4 per cent and 3.7 per cent respectively.

The International Energy Agency (IEA) has projected that at some point in the next few years, demand by non-OECD countries is likely to outstrip demand in OECD countries (see chart 27). If demand for oil in non-OECD countries continues to grow as expected, this could place pressure on the cost of crude oil and international petrol prices in coming years.

Chart 27 Demand for oil based products, OECD and non-OECD: 1984 to 2014



Source: ACCC using data sourced from IEA. Data copyright OECD/IEA 2009.

Note: Figures for 2009 to 2014 are IEA forecasts.

Conclusion—prices, costs and profits

At a general level, petrol prices have been in line with the underlying costs of supply and international benchmarks:

- movements in petrol prices have generally been in line with movements in the Singapore Mogas 95 price on average, but the price cycle has caused divergences of up to several cents per litre depending on the phase of the cycle
- retail petrol prices in Australia have been low compared with other countries in the OECD
- on average, profits have been at the lower end compared with other industry sectors operating in Australia and with petroleum companies operating overseas.

The most significant cost element facing the industry has been the cost of refined petrol, which is dominated by the cost of crude oil. It is therefore the owners of the crude oil that have received the largest share of revenue from the petrol sold at the bowser. Out of a retail price of 127 cpl, refined petrol accounts for around 62 cpl, taxes account for around 50 cpl and the remaining 15 cpl goes to the local petrol companies to cover the cost of wholesaling and retailing of the petrol, plus a profit margin.

Role of the ACCC

The community relies on competition to keep prices and profits in check, just as it does for most other products. Competition is required to deliver the best outcomes for consumers.

The ACCC has two broad roles in relation to the petrol industry.

1. The ACCC monitors the prices, costs and profits relating to the supply of unleaded petroleum products in the petroleum industry.

In December 2007, the Minister for Competition Policy and Consumer Affairs directed the ACCC to undertake monitoring for three years to the end of 2010. In December each year, the ACCC provides the minister with a report on its monitoring activities. This is the second report.

The ACCC collects fuel prices in each capital city and 150 regional centres and country towns. Each day the ACCC reviews these prices and compares them to the international benchmarks. The ACCC also obtains cost and profit information from the petrol companies each year. The ACCC uses this information to compare Australian prices, costs and profits against international benchmarks. The minister has also asked the ACCC to informally monitor the prices of diesel and liquefied petroleum gas (LPG). If the ACCC becomes aware that competition is not delivering satisfactory outcomes, it can alert the government and community to the problem.

2. The ACCC enforces competition and consumer protection laws across Australia.

These laws apply to all industry sectors, not just the fuel industry. When sufficient evidence exists that a business has misled consumers or behaved in an anti-competitive way to their detriment, the ACCC can take legal action under the Act. The ACCC has taken action against businesses to protect consumers where there has been evidence of unlawful conduct in the Australian fuel industry.

This report outlines the ACCC's activities and findings in relation to its monitoring role as well as its enforcement of the Act.

The ACCC wishes to thank the companies for the information they provided for this report.

Compliance with the Trade Practices Act

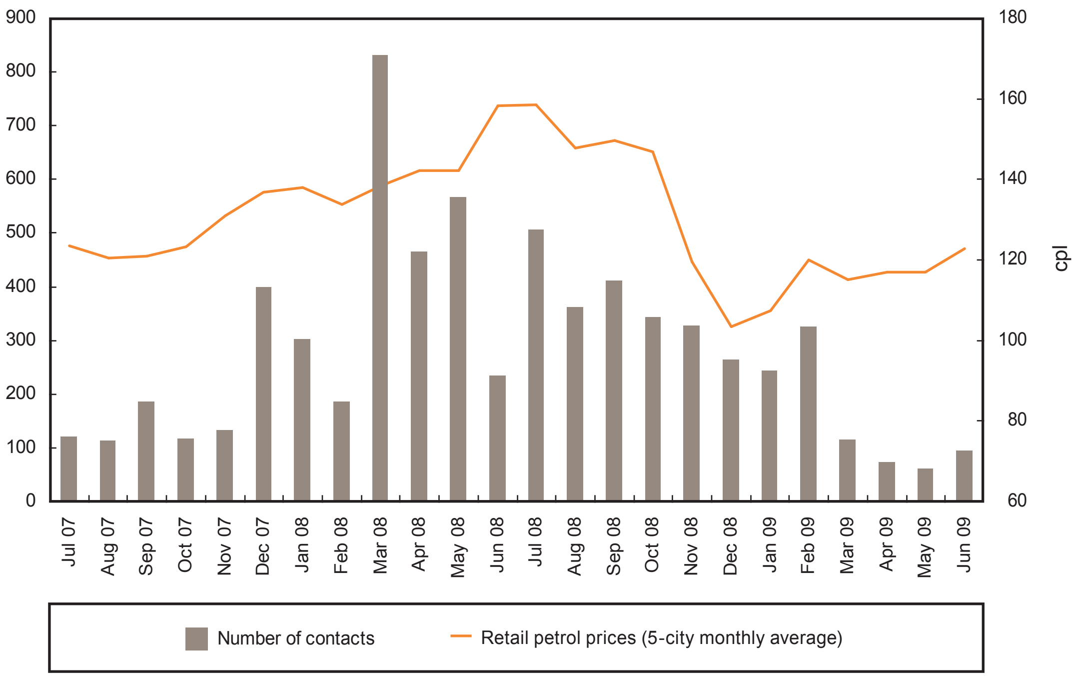
The purpose of the Act is to enhance the welfare of Australians through the promotion of competition and fair trading and provision for consumer protection. In broad terms the Act covers unfair market practices, industry codes, mergers and acquisitions, product safety, product labelling, price monitoring, and the regulation of telecommunications, gas and electricity networks and airports.

The ACCC has received a large number of complaints and inquiries about the petrol industry

In 2008–09, the ACCC received about 3000 complaints and inquiries regarding the fuel industry. These contacts came from every state and territory but were broadly in proportion to the population of each state. The number of complaints increased sharply when petrol prices increased sharply in 2008, and has declined since (see chart 28).

The vast majority (66 per cent) of these complaints and inquiries were in relation to high prices. The ACCC has reviewed the complaints about high prices to identify common issues and has examined these issues in the context of its monitoring work.

Chart 28 Contacts about fuel issues received by the ACCC by month and average petrol prices in the five largest cities: 2007–08 and 2008–09



Source: ACCC and Informed Sources.

ACCC review of conduct that may breach the Trade Practices Act

The ACCC takes potential breaches of the Act seriously. Over the course of 2008–09 it has undertaken a number of investigations of conduct to determine whether the conduct might breach the Act.

Misleading conduct and false representations

Most of the complaints the ACCC received in 2008–09 about conduct that could potentially breach the Act related to misleading and deceptive conduct and false or misleading representations. Under the Act, conduct may be in breach where it is likely to or has the effect of misleading consumers. Such conduct may include lying to consumers, leading them to a wrong conclusion, creating a false impression or making false or inaccurate claims.

The main concerns raised by consumers included pricing practices (particularly price boards), labelling on fuel pumps, advertising promotions (such as discount schemes), fuel quality claims and inaccurate fuel measurements. Over 2008–09 the ACCC undertook further assessments in relation to 99 matters. The ACCC was able to achieve compliance outcomes in a number of the matters.

Review of the 40 cent discount on fuel

The ACCC has long acknowledged the consumer benefits arising from fuel shopper docket arrangements. As far back as 2004, the ACCC publicly noted their capacity to deliver cheaper petrol and encourage competition.

However, there is a balance to be found between providing consumers with discounts on the one hand and, on the other, offering significant price cuts for sustained periods or repeated offers which might have a deeper impact on competition in the long term.

In July 2009 the ACCC reviewed the special shopper docket promotions offered by Coles and Woolworths.

After considering the Coles and Woolworths discount schemes offered in July, the ACCC formed the view that as these offers were one-off promotions, and given their short-term nature, the promotions did not contravene the Act. In particular, the short term of the promotion meant for most consumers that heavy fuel discounts were only available on one tank of fuel.

In October 2009, Coles advised the ACCC that it proposed a new fuel discount promotion. Coles Express proposed to offer discounts of 40 cpl to customers whose purchases amounted to more than $300 at a Coles supermarket between 16 and 29 October. Discounts of 25 cpl and 10 cpl were to apply to purchases above $200 and $100 respectively.

While there were some similarities between this offer and the three-day promotion in July 2009, the repetition of the promotion, combined with the longer period available to shoppers to acquire multiple fuel discount vouchers, meant there were also significant differences.

The ACCC formed the view it would wish to consider this promotion further and communicated this to senior Coles executives. This resulted in a decision by Coles to withdraw the promotion.

Business-to-business dealings

The ACCC also received a number of complaints alleging conduct such as price fixing, predatory pricing, certain types of exclusive dealing conduct and general anti-competitive agreements that substantially lessen competition. Over 2008–09 the ACCC identified 17 matters for further assessment, which led to four investigations. In each matter, the allegations were not substantiated.

The ACCC also examined three public merger matters in 2009. In December 2009 the ACCC announced its intention to oppose Caltex's proposed acquisition of the retail assets of Mobil.

Review of the buy–sell arrangements

The refiner–marketers trade large volumes of petrol between themselves to minimise the need to transport fuel from refineries in one state to markets in other states. These buy and sell transactions are known as 'buy–sell' arrangements.

In the 2007 petrol inquiry, the ACCC expressed concern that the buy–sell arrangements between the refiner–marketers might be harming competition. Earlier this year the ACCC concluded a detailed review of the arrangements and their potential effect on competition.

The ACCC collected extensive information on the buy–sell arrangements and the wholesale transactions undertaken by the refiner–marketers. The ACCC used this material to review a range of possible theories of competitive harm.

Based on the material before it, the ACCC formed the view that there was insufficient evidence to support a conclusion that the arrangements contravened the Act.

However, markets are dynamic and there remains a risk that buy–sell arrangements may lessen competition or facilitate collusion in the future. If the ACCC receives complaints or identifies information through its existing price monitoring functions which indicates that any collusion or anti-competitive conduct has occurred, it will not hesitate to investigate the conduct and take appropriate action.

Improving business practices

Throughout the year, the ACCC received complaints about some practices which were causing concern for consumers. In October 2009 the ACCC wrote to the major petrol companies and industry associations to request that they review their business practices and take corrective action where necessary. The issues the ACCC raised in its letter included:

- discrepancies between advertised board prices and prices displayed at the fuel pump
- labelling of fuel containing ethanol
- fuel quality
- advertising and labelling
- restrictive trade practices
- businesses' obligations not to engage in collusive conduct such as price fixing.

Conclusion—level of compliance with the Act

Over 2008–09 the ACCC received in excess of 3000 complaints about the petrol industry. However, the vast majority of these complaints related to high prices. The ACCC undertook a number of investigations into conduct that may breach the Act, but to date none of these investigations have produced evidence of a serious breach.

While the ACCC identified a number of business practices that could be improved for the benefit of consumers, overall, based on the material currently before the ACCC, the petrol industry appears to have generally met its obligations under the Act.

The ACCC will continue to monitor the operation of the industry and will take action, including through the courts, if necessary.

1 Framework and approach

1.1 The minister's direction

On 17 December 2007 the Assistant Treasurer and Minister for Competition Policy and Consumer Affairs, the Hon. Chris Bowen MP, directed the Australian Competition and Consumer Commission to monitor the prices, costs and profits of unleaded petrol in Australia. The minister made this direction after receiving *Petrol prices and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol* (the 2007 petrol inquiry report) in December 2007.[1]

The minister directed the ACCC to monitor prices, costs and profits relating to the supply of unleaded petrol products for a period of three years and report to him by 17 December each year. A copy of the letter and direction is attached at appendix A.

The ACCC's first report in this series was provided to the minister in December 2008 (the 2008 monitoring report).[2]

The monitoring of the prices, costs and profits of unleaded petrol has been undertaken in accordance with Part VIIA of the *Trade Practices Act 1974* (the Act). The ACCC's functions under this Part include:

- holding price inquiries
- examining proposed price rises for goods or services that have been declared by the minister
- monitoring the prices, costs and profits of an industry or business that the minister directs it to monitor, and reporting the results to the minister and making them publicly available.

Part VIIA of the Act also enables the ACCC to compel the provision of information and documents (section 95ZK) where appropriate.

In February 2008, the minister asked the ACCC to increase its focus on diesel and automotive liquefied petroleum gas (LPG) prices.[3]

1.2 Objectives of the monitoring report

In accordance with the minister's letter and direction, the objectives of this monitoring report are to:

- better inform consumers as to the operation of the petrol industry
- focus on the wholesale element of the market (including imports) where competition was considered to be less than fully effective in the 2007 ACCC petrol inquiry report
- examine the trends in prices, costs and profits based on a methodology that can be applied consistently in the three monitoring reports directed by the minister.

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1 The Hon. Chris Bowen MP, Assistant Treasurer and Minister for Competition and Consumer Affairs, media release no. 002, 18 December 2007.

2 ACCC, *Monitoring of the Australian petroleum industry: report of the ACCC into the prices, costs and profits of unleaded petrol in Australia*, December 2008.

3 The Hon. Chris Bowen MP, Assistant Treasurer and Minister for Competition and Consumer Affairs, media release no. 008, 16 February 2008.

This monitoring report largely follows the framework employed in the 2008 monitoring report, with some additional features. In particular, this report:

- describes the ACCC's activities in relation to the petroleum industry, including its role in enforcing the Trade Practices Act
- sets out the international context of petrol pricing
- reports on the ACCC review of buy–sell arrangements and the Department of Resources, Energy and Tourism (RET) review of petroleum import infrastructure in Australia
- provides a more detailed overview of the financial performance of the industry
- examines some emerging trends for the industry.

The reader is referred to the 2007 ACCC petrol inquiry report for a detailed overview of the industry and the key issues.

In performing its price monitoring function, the ACCC must, under subsection 95G(7) of the Act, have 'particular regard' to the following matters:

a) the need to maintain investment and employment, including the influence of profitability on investment and employment;
b) the need to discourage a person who is in a position to substantially influence a market for goods or services from taking advantage of that power in setting prices;
c) the need to discourage cost increases arising from increases in wages and changes in conditions of employment inconsistent with principles established by relevant industrial tribunals.

The ACCC has had regard to these matters in carrying out its petrol monitoring functions. The ACCC considers that the matters in subsection 95G(7) will generally be met by economically efficient prices which reflect:

- an efficient cost base
- a reasonable rate of return on capital.[4]

In general, the matters in paragraph 95G(7)(a) are satisfied where a reasonable rate of return on capital is employed in prices for goods and services in a monitored industry. This provides incentives for firms to maintain profitable investment. At the same time, in accordance with paragraph 95G(7)(b), firms in a monitored industry which may have substantial influence in a market for relevant goods and services are discouraged from charging prices based on profits above a reasonable rate of return. The ACCC considers paragraph 95G(7)(c) less relevant to its petrol monitoring role following changes to industrial relations legislation in 1996 which led to a movement away from centralised wage fixing to agreements negotiated at the enterprise level. The object of the *Workplace Relations Act 1996* was to give 'primary responsibility for industrial relations and agreement making to employers and employees at the enterprise and workplace levels'.[5]

Therefore, in forming conclusions on the prices, costs and profits of unleaded petrol in this report, the ACCC has had regard to these efficiency and competition matters. The early chapters in the report examine aspects of market structure and compliance with the Act. Market structure influences the operation of competition. The middle chapters in the report examine pricing in the wholesale and retail sectors and the factors that affect prices. The later chapters in the report review the financial performance of the industry, including returns made by the industry.

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4 See ACCC, *Statement of regulatory approach to assessing price notifications*, June 2009, pp. 12–13 for guidance on the ACCC's approach having regard to the matters in s. 95G(7).

5 Commonwealth Department of Industrial Relations, *Changes in federal workplace relations law—legislation guide*, December 1996, p. 1.

1.3 Data collection and approach

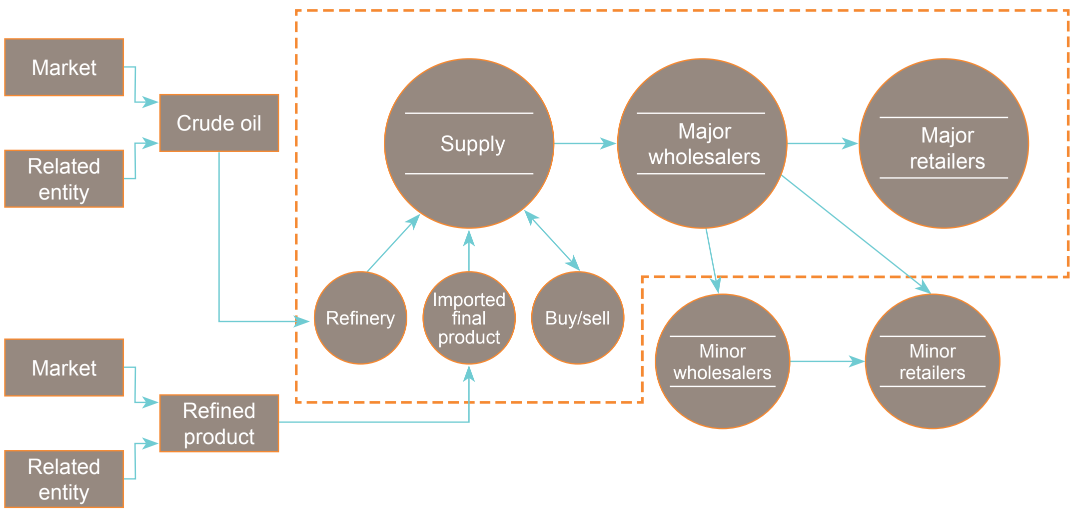
1.3.1 Scope of the report

This monitoring report covers the Australian petroleum industry, with a focus on the refining, supply and wholesale sectors. The scope is illustrated by the dotted red area in figure 1.1.

The ACCC has not sought financial information from all participants. In particular, the ACCC has not obtained financial information from overseas suppliers of crude oil or refined product, or from minor wholesalers and retailers.

In line with the minister's direction, this report focuses on unleaded petrol. However, to fully understand and report on the prices, costs and profits of unleaded petrol it is necessary to obtain information on other fuels (particularly diesel and automotive LPG). For example, the industry does not generally use dedicated resources to produce particular products. Facilities and staff are employed to produce a suite of products. To estimate the level of profits associated with the supply of unleaded petrol it is necessary to allocate common costs across the various products. This can only be done if information has been collected on the range of products.

Figure 1.1 Scope of the 2009 monitoring report



The ACCC requested information from the following industry participants:

- refiner–marketers (Mobil,[6] Shell, BP, Caltex)
- supermarket chains (Coles Express, Woolworths)
- independent wholesalers (Liberty, United, Gull, Neumann)
- large independent retail chains (Gull, United, 7-Eleven, Neumann).[7]

The ACCC also obtained information on retail petrol prices from Informed Sources.

The ACCC wishes to thank the companies for the information they provided for this report.

6 Strasburger Enterprises (Properties) Pty Ltd (SEP) operates retail sites under the Mobil brand. Retail data for these sites was collected from SEP.

7 These retail chains were selected because they operate at least 50 service stations each.

1.3.2 Data collection process

The data collection process employed for the 2009 monitoring report largely followed the process employed for the 2008 report. The ACCC met with the petrol companies over February and March 2009 to discuss its data requirements and lessons from the 2008 report. Following these discussions, the ACCC modified the data templates that were employed for the 2008 report to take into account comments from the industry.

Templates were provided to the refiner–marketers and independent importers in May and June 2009 to obtain wholesale and import transaction data for July to December 2008. Templates were also provided to the petrol companies in June to obtain some outstanding financial data for the years 2002–03 to 2007–08.

Templates were then provided to the petrol companies to obtain wholesale and import transaction data for January to June 2009 and financial data for the 2008–09 financial year. In addition, templates were sent to terminal operators to obtain information on the operation of major terminals.

1.3.3 Challenges with the data

The ACCC faced a number of challenges during its process of collecting information from industry stakeholders. These are outlined below.

Consistency with industry accounts

A degree of care and caution should be exercised when examining the data presented in this report. Monitoring the costs, revenues and profitability of the downstream petroleum industry is complicated by the fact that individual companies, in particular the refiner–marketers, use a variety of accounting models and organisational structures. The ACCC has attempted to make the financial data collection as standardised as possible while taking into account the potential cost to companies of working outside their existing accounting systems. However, these accounting differences have inevitably complicated comparisons of financial performance.

In addition, refiner–marketers indicated that they do not usually allocate costs to particular products at the refinery level. This is because refineries jointly produce a mix of products and there is no unique way of allocating joint and common costs to individual product types. The ACCC understands and accepts this point. The discussion of costs at the refinery level necessarily includes all refinery production. However, to obtain an indication of the profitability of petrol, the ACCC has undertaken an allocation exercise. This indicator should be reviewed in conjunction with the appropriate caveats.

It is important to note that the data reported at the wholesale and retail levels does not cover the whole industry. Owing to the large number of small operators present in the industry, data was not obtained from wholesalers other than the refiner–marketers and Liberty, United, Neumann and Gull. At the retail level, data was not obtained from independent retailers other than the large independent chains identified. However, information on the retail prices of the smaller operators was available from Informed Sources. In addition, the ACCC was able to measure the volumes of fuel sold by the smaller operations from information provided by the larger wholesalers and refiner–marketers.

Finally, much of the financial information that has been provided to the ACCC is commercially sensitive. Thus the discussion of costs, revenues and profits must necessarily be at an aggregate rather than a company level.

Time series and base data

In order to comply with the minister's direction, the ACCC considered it necessary to analyse prices, costs and profits over time. Consequently, the ACCC sought data from the 2002–03 financial year to the 2008–09 financial year.

The ACCC also considered that using similar base data to that used in the petrol inquiry would enable the ACCC to develop a consistent approach and allow the comparison of data received for the purposes of the petrol inquiry.

1.4 Role of the ACCC in the petrol industry

The ACCC's roles in relation to petrol can be broadly classified into two main categories.

- First, it monitors the operation of competition to ensure that the petrol companies are complying with the Trade Practices Act. The Act prohibits conduct such as price fixing, predatory pricing, misleading advertising and mergers that substantially lessen competition. Since March 2007 the ACCC has also been administering the Oilcode.
- Second, it follows the direction by the Minister for Competition Policy and Consumer Affairs to monitor the prices, costs and profits relating to the supply of unleaded petroleum products. If competition is not delivering satisfactory outcomes the ACCC can alert the government and community to the problem.

A full account of the ACCC's activities in relation to petrol over 2008–09 is set out in chapter 2.

1.4.1 Previous ACCC involvement in the petrol industry

The ACCC was formed in 1995 through a merger of the Prices Surveillance Authority and the Trade Practices Commission. The ACCC and its precursor agencies have had a long involvement in the petroleum industry. This includes prices surveillance, informal price monitoring, education and enforcement of the Act.

Before 1 August 1998, the ACCC established maximum wholesale prices for petrol, including freight differentials, under the *Prices Surveillance Act 1983*. The Australian Government deregulated petrol prices from 1 August 1998. In making this decision, the government considered that the maximum endorsed wholesale price in the capital cities acted as a target for prices at the end of a discount cycle, while in the country the maximum endorsed wholesale price acted as a price floor underwriting the price paid by country consumers.

1.4.2 The ACCC 2007 petrol inquiry

In June 2007 the ACCC wrote to the Treasurer, the Hon. Peter Costello MP, in relation to domestic petrol prices. The ACCC observed that a discrepancy had arisen between movements in domestic petrol prices and international petrol prices, and proposed that a price inquiry be held under Part VIIA of the Trade Practices Act. The ACCC indicated that the inquiry should cover the current industry structure, an assessment of competition in the industry, the determination of prices, and current impediments to efficient petrol pricing and possible methods to address them.

On 15 June 2007 the Treasurer approved the holding of a price inquiry into the price of unleaded petrol pursuant to section 95H(2) of the Act. The petrol price inquiry reported in December 2007.

The 2007 report highlighted fundamental structural issues that raised concerns about current operations and future competitiveness of the Australian petrol industry.

Key findings of that report included the following.

- There is no obvious evidence of price fixing or collusion between the major participants in the industry.
- Fundamental pricing of petrol is dictated by international factors.
- Competition exists in wholesale petrol markets in Australia, but it is not fully effective.
- There are impediments to the most significant potential competitive threat to domestic refiners—the large-scale importing of petrol by an independent.
- Impediments to importing are self-reinforcing, making the barriers to large-scale independent importing of petrol substantial.
- Buy–sell arrangements may have had the effect of lessening competition in wholesale petrol markets.
- The four refiner–marketers and the supermarket alliances control a significant share of the retail market.
- Information sharing arrangements between major retailers provide them with significant advantages over customers and smaller retailers.

The Australian Government responded on 15 April 2008 to the recommendations and issues raised in the 2007 petrol inquiry report. In brief, the government:

- supported the ACCC's recommendation for a more detailed examination and ongoing monitoring of buy–sell arrangements
- agreed to the ACCC's recommendation of a comprehensive audit of import terminals, to be managed by RET
- agreed that the appropriateness of the arrangements for terminal gate price publication be reviewed as part of the scheduled review of the Oilcode by RET
- noted the ACCC's recommendation that section 45 of the Act should be amended to clarify the meaning of the term 'understanding', and indicated that it would give this recommendation further consideration in the context of other amendments to the Act
- noted that the ACCC would continue to consider developments in petrol shopper docket arrangements.

2 ACCC petrol-related activities

This chapter outlines the ACCC's activities in relation to petrol over 2008–09. It also addresses some issues that have arisen in the second half of 2009. The first part of the chapter covers the ACCC's petrol monitoring activities. The second part covers the ACCC's enforcement, under the *Trade Practices Act 1974*, of generic requirements which apply to all industries.

2.1 Monitoring

On 17 December 2007 the Assistant Treasurer and Minister for Competition Policy and Consumer Affairs, the Hon. Chris Bowen MP, directed the ACCC to monitor the prices, costs and profits of unleaded petrol[1] in Australia. Over 2008–09 the ACCC's monitoring role has spanned the following activities.

2.1.1 Monitoring report

This 2009 monitoring report builds on the work of the 2007 petrol inquiry report and the 2008 monitoring report. It provides a comprehensive overview of the prices, costs and profits of the industry. There is a particular focus on the wholesale sector.

2.1.2 Ongoing price monitoring

The ACCC's monitoring of the prices, costs and profits of the supply of petrol is informed by the collection of extensive data on the supply of petroleum products. The information collected by the ACCC includes:

- retail prices of petrol, diesel and automotive liquefied petroleum gas (LPG) in the capital cities and 150 regional centres and country towns
- retail prices of E10 petrol in 46 locations across Australia
- international crude oil and refined petrol prices
- published terminal gate prices of the oil companies and some independents
- the city–country retail price differential.

During 2009 the ACCC enhanced its monitoring activities by:

- monitoring premium unleaded petrol (PULP) 95/96 and PULP 98 in all capital cities and available country towns
- increasing the number of regional centres and country towns monitored from 110 to 150.

In addition to the ACCC's ongoing monitoring of unleaded petrol pricing, the Assistant Treasurer and Minister for Competition Policy and Consumer Affairs asked the ACCC to focus on diesel and automotive LPG prices.[2]

Over the course of 2009 the ACCC reviewed the following specific petrol issues.

1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

2 The Hon. Chris Bowen MP, media release no. 008, 16 February 2008; and media release no. 083, 1 October 2008.

Pricing over holidays

There is a perception in the community that petrol prices increase just before public holidays. In part, this view is correct because the regular petrol price cycle usually generates price rises late in the week in the larger cities. Consequently, prices usually rise before all weekends, including public holiday weekends.

The ACCC has undertaken analysis to test whether price rises before public holidays are unusually high. This analysis shows that price rises around public holidays have been similar to price movements at other times (see chapter 11).

Price cycles

Retail prices in the larger cities have tended to move in regular cycles. These cycles are a major source of concern for many motorists. The operation of the price cycle is examined in more detail in chapter 11.

In 2009 a weekly petrol price cycle commenced in Perth. The ACCC obtained price information from the Western Australian Fuelwatch scheme to examine the emergence of the weekly cycle in more detail (see chapter 11).

2.1.3 Import parity pricing

Import parity pricing (IPP) is used extensively within the fuel industry. Importantly, many of the supply contracts within the industry employ IPP as the basis for determining pricing. In view of the importance of this pricing formulation within the industry, the ACCC considered it prudent to review the composition of IPP.

The ACCC commissioned two reports.

- McLennan Magasanik Associates provided advice on the IPP employed for petrol and diesel.
- The Allen Consulting Group provided advice on the IPP employed for LPG.

A summary of these reports is in appendix B. The ACCC welcomes comments on the two reports.

2.1.4 Alternative fuels

Alternative fuels (particularly ethanol and biodiesel) are becoming increasingly important in Australia. The New South Wales government has introduced a mandate requiring 2 per cent of unleaded petrol sold in 2010 to be ethanol. It has proposed to increase this to 10 per cent in 2013. The Queensland government is also considering introducing an ethanol mandate. In view of these developments, the ACCC has given additional attention to the supply of alternative fuels.

2.1.5 Regional price monitoring strategy

As well as monitoring the retail prices of fuels in capital cities and some country towns, the ACCC is informed about regional fuel pricing issues by members of the public and through media reports. Using this information and its own analysis of regional fuel prices—including examining price differences between towns and regions, and changes in relevant benchmark prices—the ACCC has monitored fuel prices in regional areas. From time to time the ACCC also arranges for its staff to visit regional areas to review local issues.

When the ACCC identifies a concern about fuel pricing in a regional area, it initially seeks further information by making inquiries. If the ACCC considers that a breach of the Act may have occurred, it investigates the issue with a view to determining whether to take enforcement action.

2.2 Informing consumers

Throughout 2008–09 the ACCC has expanded its public information activities to make a broad range of information readily available.

2.2.1 Website

The ACCC has restructured its website and increased the amount of information it provides. Petrol issues are now consolidated on a single page providing links to price data, fact sheets and publications: www.accc.gov.au/fuel.

2.2.2 Fact sheets

The ACCC published five fuel fact sheets in 2009:

- *What influences the price of unleaded petrol?*
- *Petrol price cycles in Australia*
- *Fuel prices in regional Australia*
- *What influences the price of diesel?*
- *What influences the price of automotive LPG?*

These fact sheets are available on the ACCC website.

2.2.3 Parliamentary briefings

In early 2009, the ACCC provided a series of briefings to Commonwealth parliamentarians. These included:

- Labor MPs—24 February 2009
- crossbench MPs—25 February 2009
- independent senator—23 April 2009.

2.2.4 Ministerial correspondence

Over 2008–09 the ACCC addressed 53 pieces of correspondence from Commonwealth and state parliamentarians on fuel issues. The most common topics raised in this correspondence were:

- price differentials between different locations
- the relationship between local prices and international benchmarks
- price differentials between the different fuels.

2.2.5 ACCC Infocentre

The ACCC Infocentre handled 80 281 phone calls, 17 137 emails and 2272 letters during 2008–09. Of these, about 3000 contacts raised issues in respect of fuel. Issues arising from these calls are discussed further below.

2.3 Enforcement of the Trade Practices Act

The ACCC is responsible for enforcing the Act across the economy, including the petrol industry. The ACCC's roles include enforcement and compliance, mergers and acquisitions, authorisations and notifications, and administration of the Oilcode.

2.3.1 Enforcement and compliance

Complaints and inquiries

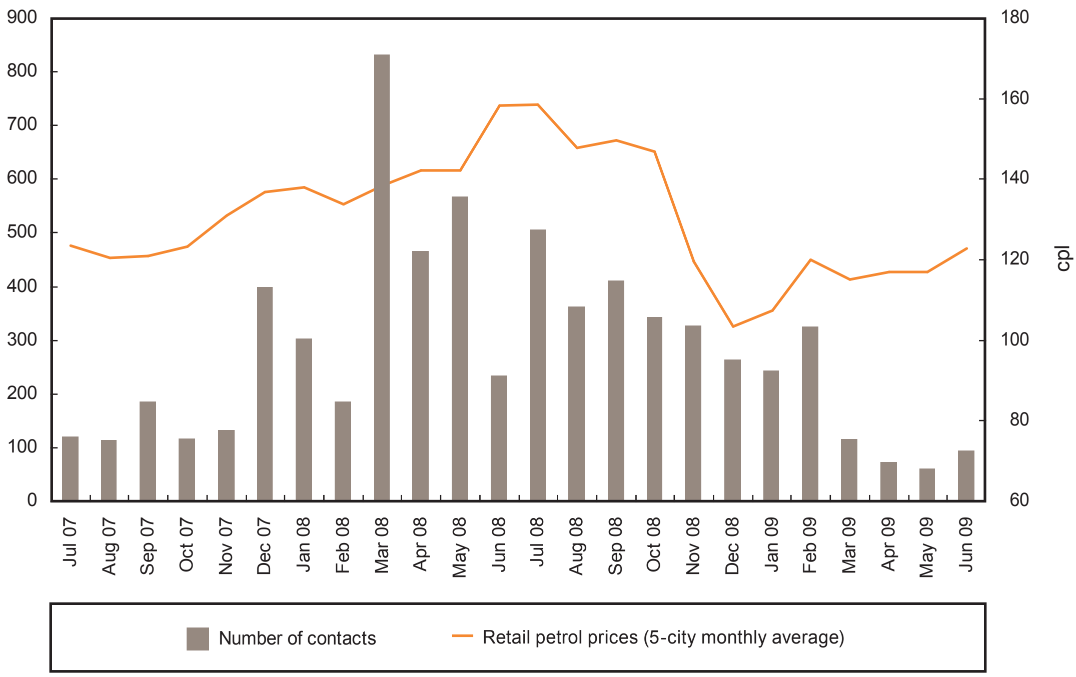
The ACCC receives information about potential breaches of the Act from a wide variety of sources, but the most common source is complaints and inquiries. During 2008–09 the ACCC received about 3000 contacts about fuel issues from every state and territory. The numbers of contacts from each state and territory were broadly in proportion to the population of each.

The vast majority (66 per cent) of contacts related to high prices. The number of contacts about fuel issues increased sharply as prices rose through 2008 and have declined since (see chart 2.1). The ACCC has reviewed the contacts about high prices to identify common issues and has examined these issues in the context of its monitoring work.

About 800 of these calls related to potential compliance issues under the Act. The ACCC examined these contacts carefully and made further inquiries or assessment in respect of 116 matters.

The topics which raised most concern included high prices, pump issues, price discrepancies, ethanol issues, alleged collusion, advertising, and fuel quality.

Chart 2.1 Contacts about fuel issues received by the ACCC by month and average petrol prices in the five largest cities: 2007–08 and 2008–09



Source: ACCC records and Informed Sources.

Misleading conduct and false representations

Most of the contacts the ACCC received in 2008–09 about compliance with the Act related to alleged misleading and deceptive conduct and false or misleading representations. Conduct may be in breach of the Act where it is likely to mislead or has the effect of misleading consumers. Such conduct may include lying to consumers, leading them to a wrong conclusion, creating a false impression or making false or inaccurate claims.

The main concerns raised by consumers included concerns about pricing practices (particularly relating to prices displayed on price boards), labelling on fuel pumps, advertising promotions (such as discount schemes), fuel quality claims and inaccurate fuel measurements. Over 2008–09, the ACCC undertook further inquiries or assessment in relation to 99 matters. As a result the ACCC was able to achieve compliance outcomes in a number of these matters.

Business-to-business dealings

The ACCC also received a number of contacts alleging conduct such as price fixing, predatory pricing, certain types of exclusive dealing and general anti-competitive agreements that may substantially lessen competition. While most of these matters were addressed directly with the complainants, over the 2008–09 financial year, the ACCC identified 17 matters for further inquiry or assessment, which led to four investigations. In each matter, the allegations were not substantiated.

There were three issues where the ACCC conducted more detailed inquiries. These issues were the exchange of pricing information between petrol retailers, the 40 cents per litre (cpl) discount promotion offered by the major supermarkets, and the buy–sell arrangements between the petrol companies. These are discussed below.

Exchange of pricing information between petrol retailers

A number of the consumer complaints received by the ACCC related to price increases associated with the regular weekly price cycle. Chapter 11 presents information on the operation of the price cycle.

Provision of pricing information between competitors, either directly or through an intermediary, can impact on pricing trends and in particular whether petrol price rises ‘stick’. In the 2007 petrol inquiry report the ACCC noted that ‘direct exchange of price information between suppliers is conducive to anti-competitive coordination, particularly in concentrated markets’.[3] The ACCC also noted that Informed Sources provides a centralised exchange of up-to-date individualised retail petrol pricing information for its subscribers, primarily the major refiner–marketers and supermarket chains. Equivalent information is not available to consumers. The ACCC stated that this arrangement has the potential to reduce uncertainty for retailers, reducing risk for retailers who seek to lead prices up in a market.

The ACCC also set out its concerns about the courts’ interpretation of the term ‘understanding’ in section 45 of the Act and proposed legislative amendments.[4]

The Act captures contracts, arrangements or understandings between competitors which include provision for cartel conduct, such as price fixing. Earlier this year, the Treasury released

3 ACCC, *Petrol prices and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol*, December 2007, p. 241.

4 ACCC, *Petrol prices and Australian consumers*, pp. 228–30.

a discussion paper on the adequacy of the current interpretation of the term 'understanding' in the Act to capture anti-competitive conduct. Some submissions on the discussion paper stated that the Australian approach was oriented towards capturing formal agreements involving cartel conduct rather than 'facilitating practices'.[5] Various submissions to the Treasury recommended that consideration be given to a provision addressing facilitating practices in the Act. The Treasury is currently considering those submissions.

The concept of facilitating practices refers to conduct which does not constitute an explicit cartel arrangement but helps competitors to eliminate strategic uncertainty and coordinate their conduct more effectively.[6] For example the exchange of pricing information between competitors increases transparency between those traders and, with it, changes the incentive for those traders to compete. In short, facilitating practices may facilitate cartel-like outcomes. The OECD notes that information exchanges are the most common form of facilitating practices.

Both the European Union and the United States have legislation that addresses facilitating practices.

European Union

Facilitating practices correspond to the European competition law concept of 'concerted practices', which are prohibited if they have either the object or effect of preventing, restricting or distorting competition. A concerted practice occurs where traders knowingly substitute practical cooperation for the risks of competition—there is no need for a fully formed agreement.

United States

Like the EU, US law requires proof of some form of coordination, in this case an agreement and an anti-competitive effect, an unreasonable restraint of trade, on interstate or foreign commerce before declaring a facilitated practice unlawful. Both tacit and explicit agreements are recognised—US courts have found agreements based on acts done with an expectation of reciprocity as well as the direct exchange of assurances.

The ACCC is of the view that a legislative approach that addresses facilitating practices could be considered for Australia.

Review of the 40 cpl discount on fuel

The ACCC has long acknowledged the consumer benefits arising from fuel shopper docket arrangements. As far back as 2004, the ACCC publicly noted their capacity to deliver cheaper petrol and encourage competition.

However, there is a balance to be found between providing consumers with discounts on the one hand and, on the other, offering significant price cuts for sustained periods or repeated offers which might have a deeper impact on competition in the long term.

In July 2009 the ACCC reviewed the special shopper docket promotions offered by Coles and Woolworths.

The promotions—instigated by Coles and then followed by Woolworths—came into effect on Monday, 13 July 2009 and involved substantial discounts on fuel purchases. Under the promotions,

5 OECD, *Facilitating practices in oligopolies*, 2007.

6 The Treasury, 'Meaning of "understanding" in the *Trade Practices Act 1974*', January 2009; submissions at www.treasury.gov.au/contentitem.asp?ContentID=1511&NavID=037.

customers were offered discounts on fuel purchases of a maximum of 40 cpl if they spent up to $300 in a single transaction in Coles or Woolworths supermarkets during the three-day period from 13 to 15 July.

The ACCC reviewed the three-day fuel discount promotions offered by the major supermarkets to assess whether they breached the Act.

After considering the Coles and Woolworths discount schemes offered in July, the ACCC formed the view that, as these offers were one-off promotions and given their short-term nature, the promotions did not contravene the Act. In particular, the short term of the promotion meant that for most consumers heavy fuel discounts were only available on one tank of fuel.

In October 2009, Coles advised the ACCC that it proposed a new fuel discount promotion. Coles Express proposed to offer discounts of 40 cpl to customers who purchased more than $300 at a Coles supermarket between 16 and 29 October. Discounts of 25 cpl and 10 cpl were to apply to purchases of above $200 and $100 respectively.

While there were some similarities between this offer and the three-day promotion in July 2009, the repetition of the promotion combined with the longer period available to shoppers to acquire multiple fuel discount vouchers meant there were also significant differences.

The ACCC formed the view it would wish to consider this promotion further, and communicated this to senior Coles executives. This resulted in a decision by Coles to withdraw the promotion.

Review of the buy–sell arrangements

Buy–sell arrangements are discrete agreements between each of the refiner–marketers. The agreements enable petrol companies to buy product in locations where they do not operate a refinery, and to sell product in regions where they do have refining capacity. In the 2007 petrol inquiry the ACCC expressed concern that buy–sell arrangements between the refiner–marketers might be harming competition. Earlier this year the ACCC concluded a detailed review of the arrangements and their potential effect on competition.

After collecting and analysing extensive pricing data relevant to buy–sell arrangements, the ACCC formed the view that there was insufficient evidence to support a conclusion that the arrangements contravened the Act. The ACCC's findings are described further in chapter 7.

Improving business practices

Throughout the year, the ACCC became aware of some practices which were causing concern for consumers. In October 2009, the ACCC wrote to the major petrol companies and industry associations to request that they review their business practices and take corrective action where necessary. The practices the ACCC raised in its letter included the following.

- Displaying prices—discrepancies between prices advertised on signboards and prices displayed at the fuel pump. This appears to have been a particular issue when prices were being changed.
- Labelling of fuel containing ethanol—consumers raised concerns that in some instances fuel containing ethanol has not been adequately differentiated from regular unleaded. This appears to be a particular problem on signboards where only fuel containing ethanol is sold at the service station.
- Fuel pump issues—consumers complained to the ACCC about poorly maintained fuel pumps. Allegations related to inaccurate pump measurements and pumps for some fuels being closed,

particularly on cheaper days of the price cycle, despite those fuels being advertised as available on price boards.

- Fuel quality—consumers raised concerns about fuel being sold that is contaminated or does not meet advertised specifications such as its RON (research octane number) rating.[7]
- Advertising and labelling—consumers complained about failure to clearly display terms and conditions of offers, unclear labelling of different fuel products, and inaccurate representations about performance, grade or composition of fuels.
- Restrictive trade practices—the ACCC reminded businesses about their obligations not to engage in collusive conduct such as price fixing. The ACCC takes allegations of anti-competitive conduct very seriously and encourages anyone with information about such conduct to contact the ACCC.

The ACCC will monitor the issues it raised in this letter and will take action, including through the courts if necessary.

2.3.2 Mergers and acquisitions

The Act's merger and acquisition provisions fall within the competition provisions of Part IV. Section 50 prohibits acquisitions that would have the effect, or likely effect, of substantially lessening competition in a substantial market. The ACCC administers and enforces the merger provisions under the Act.

Over 2009 the ACCC completed a review of three public merger proposals. The outcomes of the ACCC's review of these mergers are summarised below.

Sale of retail assets of Mobil Oil Australia Pty Ltd (Ref: 37501)

On 26 May 2009, Caltex and Mobil executed a share sale agreement and a business sale deed. Under the share sale agreement, Caltex would acquire the fuel retail business operated by Mobil and SEP, and the assets used in connection with the business, including the 302 Mobil service station sites (the sale sites).

On 2 September 2009 the ACCC published a statement of issues about the proposed acquisition, setting out its preliminary view. The ACCC's preliminary view was that the proposed acquisition was likely to have the effect of substantially lessening competition in markets for the wholesale supply and distribution of petrol and diesel in New South Wales and Queensland and in a number of retail markets for petrol, diesel and LPG.

In December 2009 the ACCC published its view that it intends to oppose the proposed acquisition of Mobil Oil Australia's retail assets by Caltex Australia Ltd.

7 The Department of the Environment, Water, Heritage and the Arts is responsible for fuel standards.

Shell Company of Australia Ltd—acquisition of storage capacity from Vopak Terminals Australia Pty Ltd at its Port Botany fuel terminal (Ref: 36888)

In November 2008, Shell entered into a new arrangement for storage capacity at the Port Botany fuel terminal owned and operated by Vopak. The ACCC considered the completed acquisition of storage capacity in the context of the market for the wholesale supply of refined petroleum products into New South Wales.

The ACCC formed the view that the completed acquisition was unlikely to result in a substantial lessening of competition in the relevant market. In reaching its conclusion the ACCC had regard to whether potential independent importers would be likely to be foreclosed as a result of the completed acquisition. The ACCC noted that potential independent importers face difficulties which are non-specific to the completed acquisition, including:

- the high costs of storage capacity and diseconomies of scale faced by smaller independent wholesalers and retailers in importing small volumes, relative to the existing alternative of obtaining supply locally
- the limited customer base available given the large share of the retail market held by refiner–marketers and supermarket alliances.

In reaching its conclusion, the ACCC also had regard to further storage capacity which was planned, as well as the availability of undeveloped land at competing terminals in Port Botany.

The ACCC will continue to monitor future acquisitions of storage capacity at Vopak's Port Botany terminal.

Caltex Petroleum Services Pty Ltd—acquisition of Cocks Petroleum and Slater/Wonfair (Ref: 36623)

On 13 October 2008, Caltex acquired a Mobil fuel reselling business operated by Cocks Petroleum Pty Ltd and South Coast Retail Pty Ltd. The assets of the Cocks Petroleum / South Coast Retail business comprised four service stations and three bulk fuel depots located in the south-east region of New South Wales.

On 15 December 2008, Caltex acquired the Caltex-branded fuel reselling business operated by Malcolm Slater Pty Ltd and Wonfair Pty Ltd. The assets of the Slater/Wonfair business comprised four service stations and two bulk fuel depots located in the south-east region of New South Wales.

The ACCC formed the view that the completed acquisitions were unlikely to substantially lessen competition in the relevant markets.

2.3.3 Authorisations and notifications

In certain circumstances the ACCC can grant immunity from legal action for potentially anti-competitive conduct. Businesses may obtain immunity by applying for an authorisation or submitting a notification with the ACCC.

Authorisation is a process under which the ACCC can grant immunity for potential breaches of the competition provisions of the Act if it is satisfied the conduct delivers a net public benefit. Notification of exclusive dealing conduct (such as the 'tying' of the purchase or sale of goods and/or services) provides immunity for potential breaches of the applicable sections of the Act. Immunity under an exclusive dealing notification operates from the date it is validly lodged with the ACCC, or soon after in the case of third line forcing conduct, and remains unless revoked by the ACCC.

In 2008–09 the ACCC received one fuel-related authorisation application. Woodside Energy Ltd and Benaris International Pty Ltd, two of four joint-venture partners in the Otway gas project off the Victorian coast, sought authorisation to continue to jointly market their shares of LPG produced by the project until 2012. On 2 September 2009 the ACCC issued a final determination granting authorisation until 31 December 2012.

In 2008–09 the ACCC considered 67 fuel-related exclusive dealing notifications and allowed immunity to continue in each case. Of these notifications:

- 23 related to proposed shopper docket third line forcing arrangements
- two related to prescribing electronic payment arrangements at service stations
- one related to tying a lease transfer to maintaining arrangements with a refiner–marketer
- one large group of notifications related to fuel-reseller licences being tied to such matters as purchase of convenience store items.

In its February 2004 report 'Assessing shopper docket petrol discounts and acquisitions in the petrol and grocery sectors' the ACCC concluded that shopper docket discount arrangements then in place were likely to result in a net public benefit. The benefits to the public arose from lower prices to consumers, the generation of a culture of discounting, and increased non-price competition. These findings were made in the context of the arrangements before the ACCC at the time. The balance in terms of public benefits depends on the particular circumstances of the offer.

From 23 September 1996, the date of the first Woolworths petrol shopper docket notification, to the end of the 2007–08 financial year, the ACCC had received about 1000 fuel shopper docket notifications. About 700 of these have been received since the ACCC released its 2004 report.

The ACCC has also received many fuel-related applications for authorisations and notifications other than those relating to shopper dockets. The subject matter has ranged from environmental standards to input purchases.

A number of notifications and authorisations granted relate to conduct no longer occurring.

In the past, both the Coles and Woolworths shopper docket arrangements have been covered by notifications lodged with the ACCC.

On 1 January 2007 a number of amendments were made to the Act. These included an amendment to subsections 47(6) and (7) with the effect that third line forcing by related bodies corporate no longer breaches these subsections.

This means that tied discount promotions between related companies (including many of the supermarket arrangements) no longer raised concerns under the third line forcing provisions of the Act and no longer require notification.

Collective bargaining

Collective bargaining is an arrangement under which two or more competitors in an industry come together to negotiate terms and conditions (which can include price) with a supplier or a customer. A group of businesses may sometimes appoint a representative, such as an industry association, to act on their behalf in the negotiations.

For many years the Act has allowed businesses to apply for immunity from legal action under the Act to collectively bargain and engage in collective boycotts through the authorisation process.

The ACCC may authorise businesses to collectively bargain and engage in collective boycotts when it is satisfied that the public benefit from the arrangements outweighs any public detriment.

Changes made in 2006 provide a streamlined process for small businesses seeking authorisation to engage in collective bargaining and/or collective boycotts. The streamlined authorisation process provides greater certainty to the assessment timetable for collective bargaining applications.

Following the recommendations of the Review of the Competition Provisions of the *Trade Practices Act 1974* (known as the Dawson review), the Act was further amended to provide small businesses with a new process for gaining immunity for collective bargaining arrangements under the Act. This process requires a collective bargaining notification to be lodged with the ACCC.

During 2008–09 the ACCC received no authorisation applications or notifications for collective bargaining in relation to the petrol sector.

2.3.4 Administration of the Oilcode

The Oilcode came into effect on 1 March 2007 as a prescribed industry code of conduct under the Act. The Oilcode forms part of the Australian Government's Downstream Petroleum Reform Package. The purpose of the Oilcode, in general terms, is to regulate the conduct of suppliers, distributors and retailers in the downstream petroleum retail industry.

The ACCC's role is to ensure compliance with the Oilcode and the Act by informing downstream petroleum industry participants of their rights and obligations under law and by enforcing the law if necessary.

Over 2008–09 the ACCC received three Oilcode-related complaints and eight inquiries. The complaints related to termination of contract, disclosure and retail pricing. One complaint was referred to dispute resolution, while the other two complaints were not pursued because insufficient evidence was provided to support the allegations.

In September 2009 the Department of Resources, Energy and Tourism released its review of the Oilcode. The review made 11 recommendations, including measures for further disclosure regarding fuel reselling agreements and more clarity and certainty regarding the dispute resolution scheme, and suggested a further examination of the role of collective bargaining in the industry. The Australian Government has stated that it will carefully consider the review's recommendations in consultation with interested parties before finalising its response.

3 Structure of the Australian petroleum industry

3.1 Overview

The purpose of this chapter is to set out the structure of the Australian petroleum industry. This includes describing the industry's key elements as well as recent trends in Australia.

The Australian petroleum industry is generally classified into upstream and downstream operations. The upstream industry covers crude oil exploration, production and export. This report focuses on the downstream industry, which incorporates:

- refining and supply—includes importing, exporting and refining
- wholesale
- retail.

Refining and supply refers to the supply of domestically refined and imported petroleum products for provision to the wholesale sector.[1] Importing involves sourcing from foreign refineries and traders petroleum products that either are ready for sale or require only slight processing in Australia. Exporting refers to the sale of refined products to overseas customers. Refining refers to the production of petroleum products using crude oil that is either sourced in Australia or imported. Supply involves the coordination of sales from importing, exporting and refining to the wholesale sector.

Wholesale refers to the sale and movement of petroleum products from a wholesaler to other wholesalers, retailers, or end users such as transport, agricultural and mining companies.[2]

Retail relates to the sale of petroleum products to the public through retail sites.

A number of companies operating in the industry are integrated across some or all of these three sectors. The companies that are integrated from supply to retail are known as refiner–marketers. In Australia the refiner–marketers are BP, Caltex, Mobil and Shell.

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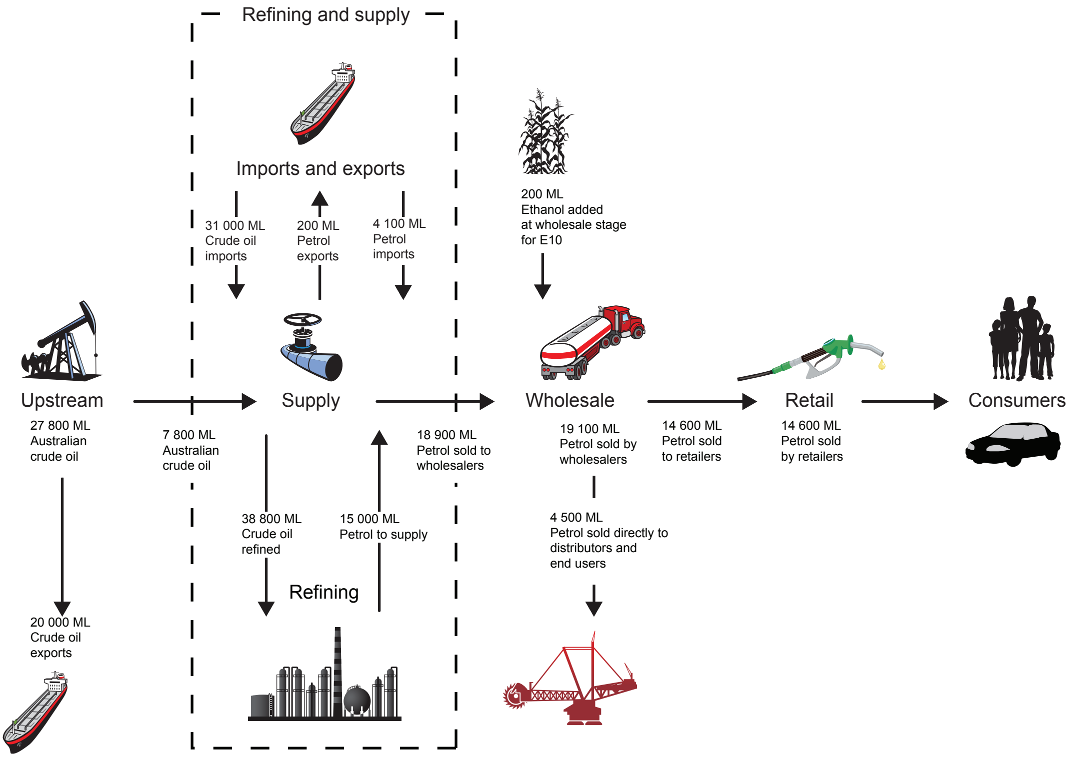
1 Supply includes the buy–sell arrangements between refiner–marketers (see chapter 7). It also includes a significant proportion of the sales made by refiner–marketers to independent wholesalers (the balance are made at the wholesale level).

2 Some wholesale sales are internal, depending on how a company is structured.

Figure 3.1 gives an overview of the volumes of crude oil and petrol flowing between the sectors of the industry within Australia. These volumes are examined in more detail through this chapter and other parts of the report.

Figure 3.1 Volumes of crude oil and petrol flows: 2008–09



Source: *Australian Petroleum Statistics*, Department of Resources, Energy and Tourism (RET), issue 155 (June 2009); ACCC estimates based on data obtained from firms monitored through the ACCC's monitoring process; and *Australian Biofuels 2009*, APAC Biofuel Consultants.

Notes: Data represent rounded estimates.

Crude oil includes condensate, and represents total crude refined, not just the share used to produce petrol.

Petrol includes regular unleaded petrol (RULP),[3] premium unleaded petrol (PULP) and ethanol blended petrol.

3 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

3.2 Crude oil production

3.2.1 Crude oil inputs

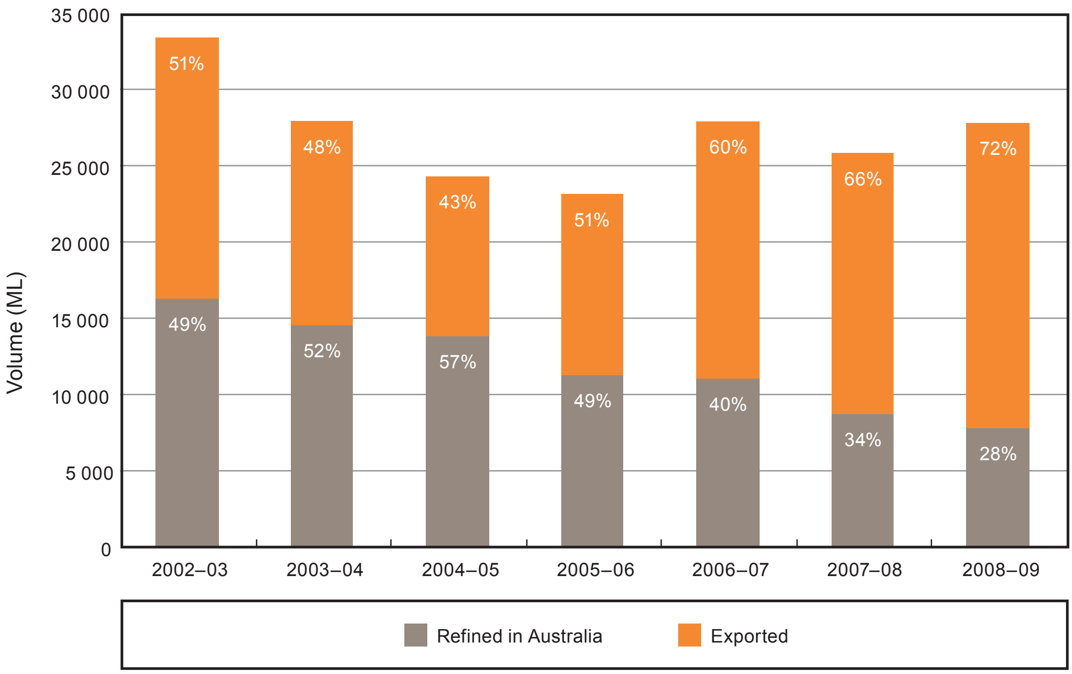
Domestic crude oil is mainly sourced from two areas: the North West Shelf in Western Australia and the South East Gippsland Basin in Victoria. The same areas also produce condensate,[4] which can be blended with crude prior to refining or exporting.

From 2002–03 to 2008–09 Australian crude and condensate production fell from 33 300 megalitres (ML) to 27 800 ML (see chart 3.1). Seventy-two per cent of domestic production was exported in 2008–09. Chart 3.2 compares the volumes of crude and condensate exports and imports.

The composition of most types of crude oil and condensate from the North West Shelf means they cannot be efficiently processed by Australian refineries, so they are usually exported. [5]

Consequently, most crude used in Australian refineries is imported (see chart 3.3). In 2002–03, 37 per cent of crude refined in Australia was sourced domestically; by 2008–09 this had fallen to just 20 per cent.

Chart 3.1 Australian crude oil and condensate production by usage: 2002–03 to 2008–09

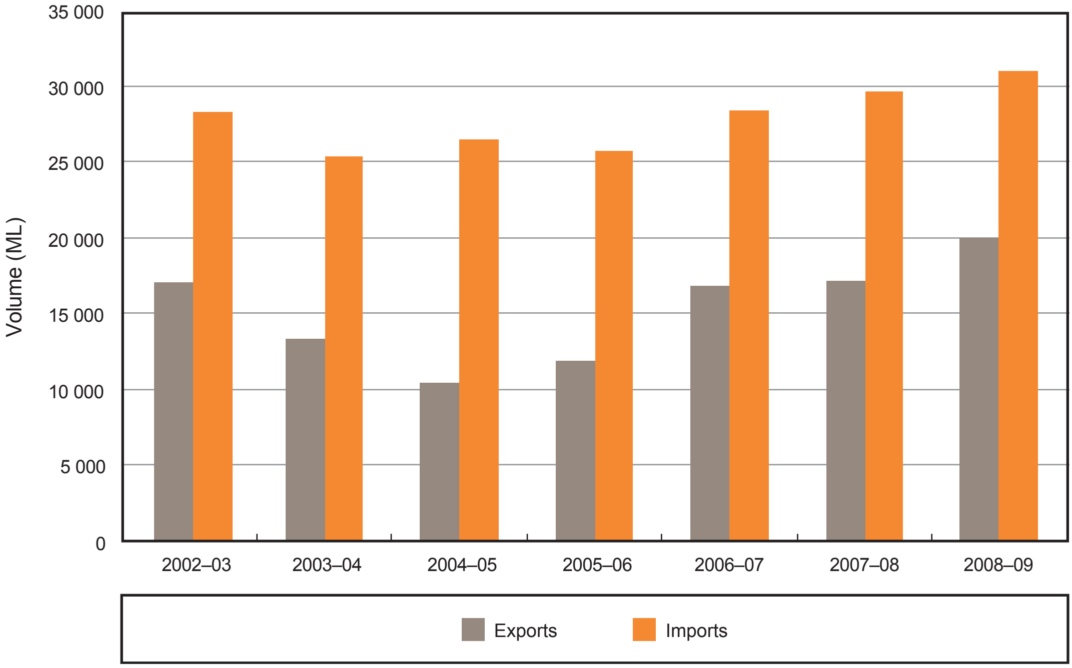


Source: *Australian Petroleum Statistics,* RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009).

4 Condensate is defined in the *Excise Act 1901* as either (a) a substance that is derived from gas associated with oil production and that is liquid at standard temperature and pressure, or (b) liquid petroleum that is a mixture of hydrocarbons that is produced from gas wells, and that is liquid at standard temperature and pressure after recovery in surface separation facilities. Standard temperature and pressure refers to a temperature of 20°C and a pressure of one standard atmosphere.

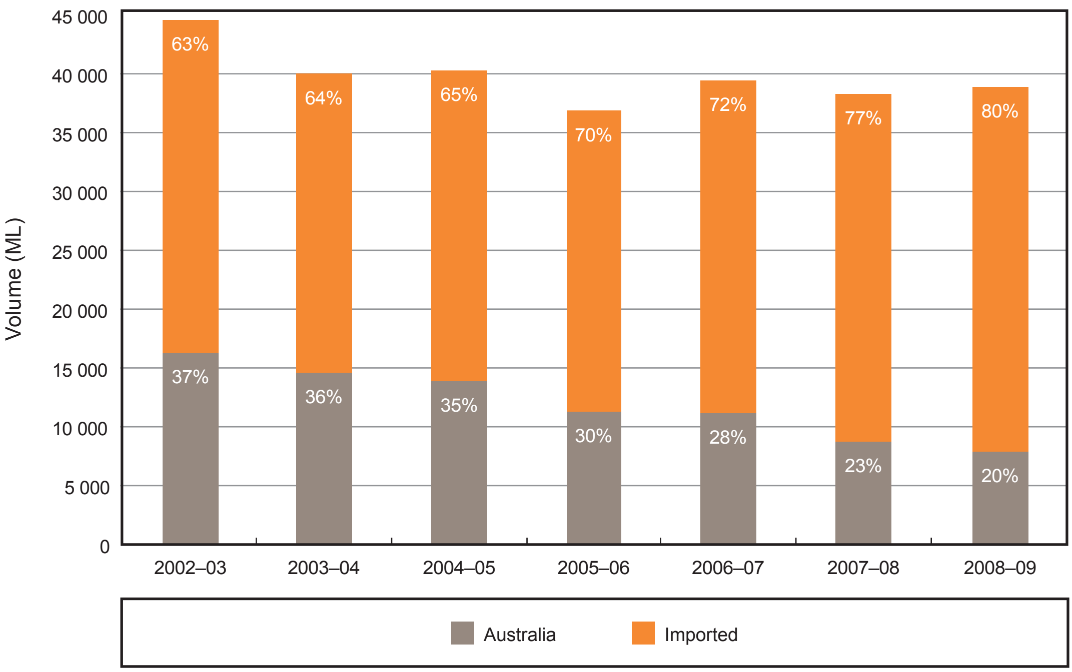
5 ACCC, *Petrol prices and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol*, December 2007, p. 54.

Chart 3.2 Volume of Australian crude oil and condensate exports and imports: 2002–03 to 2008–09



Source: *Australian Petroleum Statistics,* RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009).

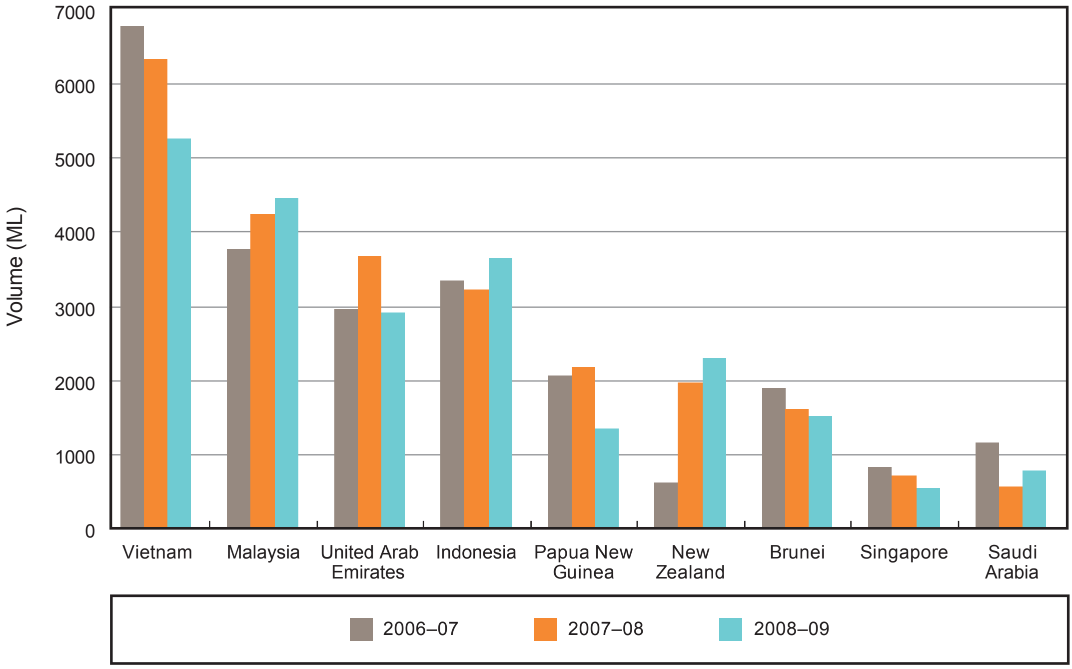
Chart 3.3 Volume of crude oil and condensate refined in Australia by source: 2002–03 to 2008–09



Source: *Australian Petroleum Statistics*, RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009).

Most of Australia's crude oil imports come from South-East Asia (see chart 3.4). While Vietnam has been Australia's major single supplier over the past three years, other countries, particularly Malaysia and Indonesia, are increasing their significance. Vietnam's new Dong Quat refinery is expected to account for most of that country's crude. Increasing demand in Asia for crude oil, along with other factors, may lead to Australia having to source crude from more distant regions such as West Africa, Latin America and Central Asia.[6]

Chart 3.4 Sources of crude oil imports to Australia : 2006–07 to 2008–09



Source: *Australian Petroleum Statistics,* RET, issue 155 (June 2009).

6 ACIL Tasman, *An assessment of Australia's liquid fuel vulnerability*, May 2008, p. xiii, cited in RET, 'Investment, competitive markets and structural reform', discussion paper for Energy White Paper, April 2009.

3.3 Refining in Australia

Domestic refineries are the major source of petroleum products, producing about 70 per cent of the petroleum products consumed in Australia, as:

- locally produced product is made to specific Australian standards, which are generally higher than those of other markets in the Asia-Pacific region
- it is generally more expensive to ship refined petroleum products than crude oil
- local infrastructure is set up to allow the timely and efficient delivery of product, providing a degree of security of supply.

Australia began to move to higher standards for petrol and diesel earlier this decade when the government introduced Commonwealth fuel quality standards and industry incentives for their adoption ahead of the mandated date. The cleaner fuel standards were aimed at addressing urban air quality in Australian cities and to facilitate new engine technologies. In light of this, the standards aimed to move Australia closer to the higher level standards adopted in Europe and North America. As a result, the implementation of standards occurred relatively quickly in Australia compared to other countries in the Asia-Pacific region.

As a consequence of this, Australian petrol and diesel standards were for a time among the strictest in the Asia-Pacific region in terms of allowable content of substances considered harmful to the environment. This resulted in some challenges associated with sourcing diesel at Australian standards in the region at that time. However, as most countries in the Asia-Pacific region have progressively moved to higher level standards, more petrol and diesel have become available at the standards required for sale in Australia.

In recent years almost all the major capital expenditure by refineries has been to meet changes in standards, primarily to remove pollutants from diesel. During 2005, Australian refineries invested $1.3 billion in plant and equipment (more than double the 2004 investment) to meet higher standards which came into effect in 2006.[7] This investment does not appear to have resulted in significant expansion of Australia's productive capability.

7 Australian Institute of Petroleum (AIP), *Downstream Petroleum 2007*.

3.3.1 Refinery capacity

There are seven oil refineries operating in Australia. Another refinery, owned by Mobil at Port Stanvac in South Australia, was 'mothballed' from July 2003 to June 2009.[8] This refinery was the smallest in Australia, and Mobil determined that it would not be economical to operate. Mobil has announced plans to demolish the refinery and remediate the site over the next 10 years.[9]

The total capacity of all Australian refineries is 42 700 ML per annum (see table 3.1). A refinery's capacity is the volume of fuel that could be produced through distillation of crude oil operating non-stop at an optimum utilisation rate. Generally capacity is not achieved, due to shutdowns and inherent difficulties in balancing crude inputs with demand for outputs. In some cases capacity can actually be exceeded—for example, by increasing the use of blend components, which do not need to be distilled.

There are now no operating refineries in South Australia, and no refineries in Tasmania, the Northern Territory or the Australian Capital Territory. These states and territories source their petrol from refineries in other states or through imports.

Table 3.1 Capacities of Australian refineries

	Refinery locations		
City	**Suburb**	**Owner**	**Capacity (ML pa)**
Brisbane	Bulwer Island	BP	5 110
Brisbane	Lytton	Caltex	6 303
Subtotal Brisbane			**11 413**
Geelong	Corio	Shell	6 905
Melbourne	Altona	Mobil	4 530
Subtotal Geelong/Melbourne			**11 435**
Sydney	Clyde	Shell	4 930
Sydney	Kurnell	Caltex	7 835
Subtotal Sydney			**12 765**
Perth	Kwinana	BP	7 960
Subtotal Perth			**7 960**
Total			**43 573**

Source: *Downstream Petroleum 2007*, AIP, p. 5.

Note: Data as at end 2006, to be updated in *Downstream Petroleum 2009*, AIP.

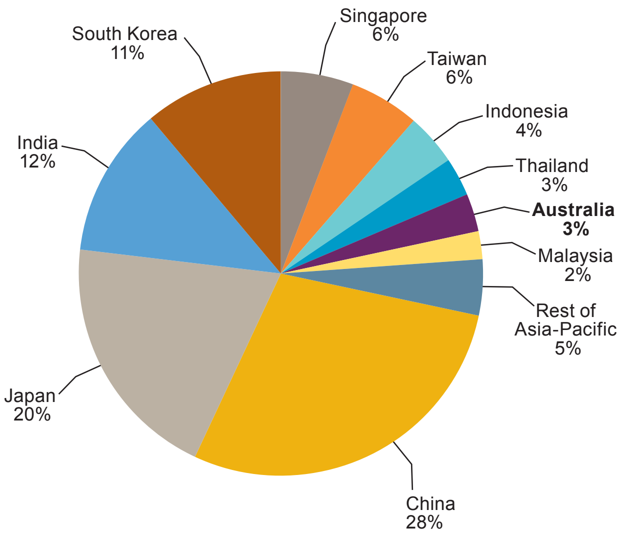
8 The refinery's operations were shut down, though it was maintained in a condition that would have enabled Mobil to recommence operations had it become viable again.

9 Mobil media release, 25 June 2009.

Australia's refinery capacity is relatively small compared with other countries in the Asia-Pacific region, accounting for only 3 per cent of the total (see chart 3.5).

Over the past decade, capacity in the Asia-Pacific region has increased significantly through the building of new refineries and extension of existing infrastructure, especially in China and India. During the same period, Australia has slightly reduced its refining capacity, largely due to the mothballing and subsequent closure of the Port Stanvac refinery.

Chart 3.5 Percentage of Asia-Pacific region refinery capacity by country: 2009



Source: *Oil and Gas Journal* (22 December 2008); and updates from Bloomberg.

3.3.2 Refinery production

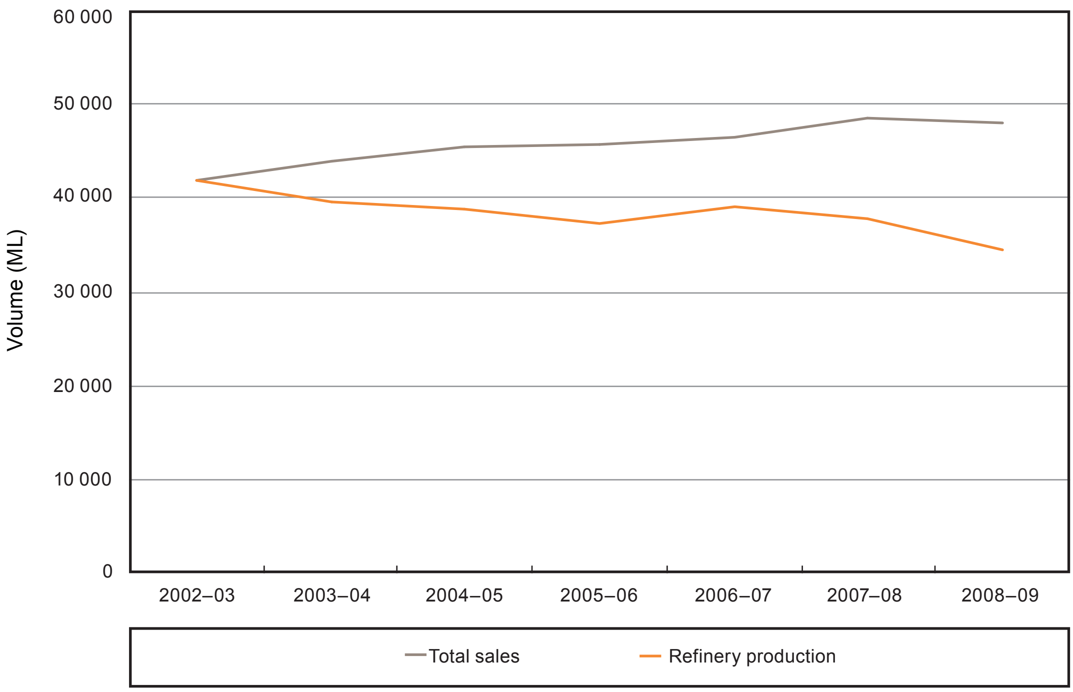
While both domestic refining and importing play a part in the supply of petroleum products in Australia, refining activities supply the majority of petroleum products that are consumed. The volume of products refined in Australia has declined over the past seven years, while sales have increased (see table 3.2 and chart 3.6). In 2008–09, domestic refineries produced 72 per cent of sales, which was well below 2002–03.

Table 3.2 Petroleum products production as a percentage of sales in Australia : 2002–03 to 2008–09

	Petroleum products sales (ML)	Petroleum products production (ML)	Production as % of sales
2002–03	41 980	41 951	100
2003–04	43 899	39 654	90
2004–05	45 496	38 786	85
2005–06	45 610	37 160	81
2006–07	46 541	39 108	84
2007–08	48 434	37 744	78
2008–09	48 052	34 590	72

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 3.6 Refinery production and sales of petroleum products in Australia: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

3.3.3 Petrol production

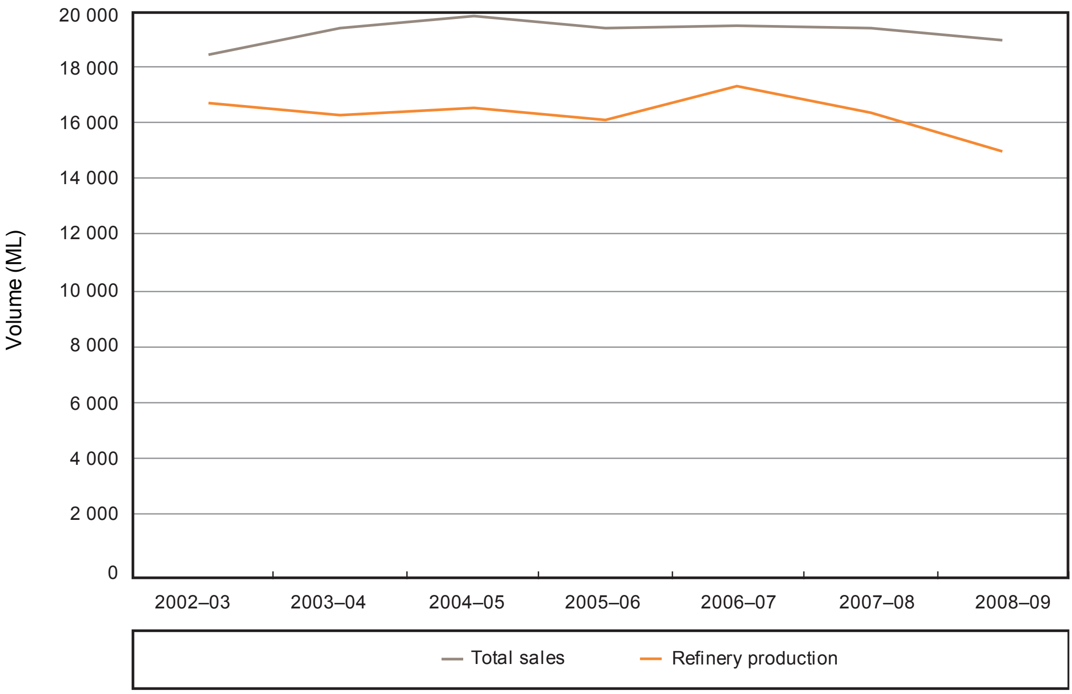
Over the past seven years petrol sales in Australia have been fairly steady, though refinery production volumes have declined since 2006–07 (see table 3.3 and chart 3.7). This was primarily due to production outages at Australian refineries over the past two years.

Table 3.3 Petrol production as a percentage of sales in Australia: 2002–03 to 2008–09

	Petrol sales (ML)	Petrol production (ML)	Production as % of sales
2002–03	18 447	16 685	90
2003–04	19 422	16 270	84
2004–05	19 813	16 543	83
2005–06	19 406	16 111	83
2006–07	19 499	17 293	89
2007–08	19 374	16 394	85
2008–09	18 942	14 978	79

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 3.7 Refinery production and sales of petrol in Australia: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

3.3.4 Diesel production

Diesel sales have increased significantly over the past seven years (see table 3.4 and chart 3.8). The major production decline in 2005–06 was largely due to changes in Australian standards for diesel. This prompted most refiner–marketers to invest in and upgrade their refinery equipment; consequently production slowed or ceased for periods during 2005–06. In subsequent years production increased, though it remained below 2004–05 levels.

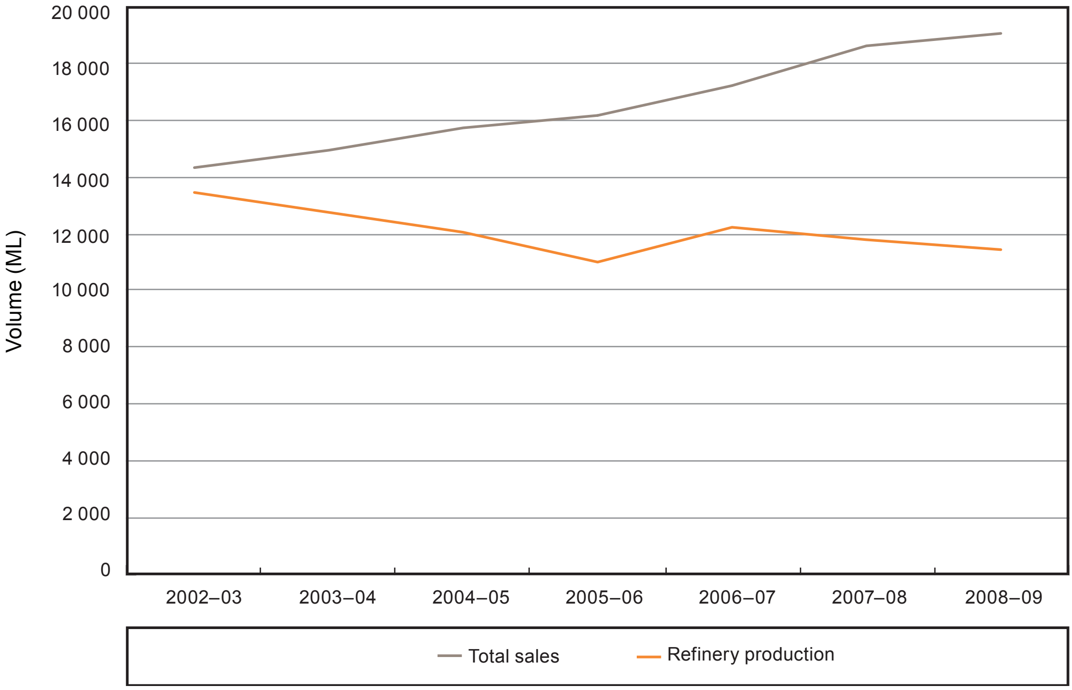
The substantial deficit between sales and production has been met by imports. The strong growth in demand for diesel was primarily a result of the mining boom, combined with users taking advantage of diesel's lesser environmental impact and greater fuel efficiency. In 2008–09, the volume of diesel sold in Australia overtook the volume of petrol sold. The contrast with the stable demand for petrol suggests that diesel, rather than petrol, could be a source of future growth for the Australian downstream petroleum industry (see chart 3.9).

Table 3.4 Diesel production as a percentage of sales in Australia: 2002–03 to 2008–09

	Diesel sales (ML)	Diesel production (ML)	Production as % of sales
2002–03	14 317	13 430	94
2003–04	14 952	12 749	85
2004–05	15 732	12 075	77
2005–06	16 173	11 036	68
2006–07	17 164	12 212	71
2007–08	18 607	11 792	63
2008–09	19 013	11 448	60

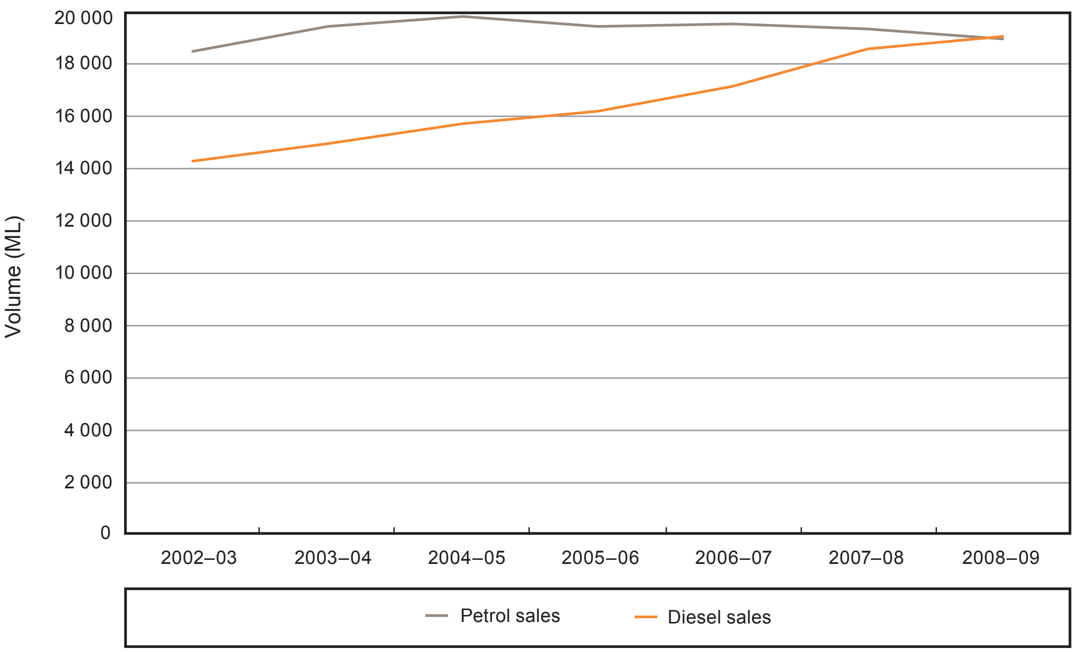
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 3.8 Refinery production and sales of diesel in Australia: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 3.9 Sales of petrol and diesel in Australia: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Refining petrol market share

In the refining sector, market share is divided among the four refiner–marketers. In general terms, from 2002–03 to 2008–09 Caltex's and BP's petrol market share increased, while Mobil's and Shell's decreased (see table 3.5).

Table 3.5 Share of petrol production in Australia: 2002–03 to 2008–09

	2002–03 %	2003–04 %	2004–05 %	2005–06 %	2006–07 %	2007–08 %	2008–09 %
BP	24.7	25.6	27.2	23.5	25.6	27.2	29.1
Caltex	28.6	31.1	32.5	34.3	35.4	33.7	34.6
Mobil	18.3	16.8	15.9	14.8	13.3	13.9	14.2
Shell	28.3	26.5	24.5	27.4	25.7	25.2	22.1

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Data in corresponding tables in the ACCC 2007 petrol inquiry report and the ACCC 2008 petrol monitoring report were for all petroleum products. By contrast, the above table only includes petrol.

3.3.5 Operation of Australian refineries

Three of the key factors affecting the efficiency of Australia's refineries are the types of crude oil for which they are configured, their age, and the type of investment they have undertaken in recent years.

The type of crude oil used is critical to both the efficiency of the refinery and the quantities of each product produced. The equipment in a refinery determines the types of crude it is able to use and is not easily changed. All Australian refineries are set up to use predominantly light, sweet crudes.[10] They can use small proportions of heavier, sour crudes—for example, to increase bitumen output—though this generally requires additional processing and equipment. BP's Bulwer Island is the only Australian refinery with the special equipment able to process heavy crudes.

Refinery types

Refineries can be categorised into five broad types, ranging from simple distillation to fully complex (see table 3.6). This is based on the type of equipment they have for extracting products from crudes. Australia's seven refineries are all categorised as complex. They differ from fully complex refineries as they lack a coker unit that would allow them to refine the heaviest crudes. Fully complex refineries built in Asia over recent years can produce petrol to Australian standards from all types of crudes. Other than these, most Asian refineries are simpler than their Australian counterparts—they lack cracking and alkylation units, and are unable to produce to Australian standards.[11]

10 'Light' refers to their density: these oils are more liquid than heavy crudes. 'Sweet' refers to their low level of sulphur compared to sour crudes. Lighter and sweeter crudes are low-viscosity, low-sulphur oils which require less equipment to process, and produce a greater proportion of petrol and diesel than heavy products such as lubricating oils and bitumen.

11 AIP and Caltex submissions to 2007 ACCC petrol inquiry. Most Australian refineries have catalytic cracking units to increase petrol yield. Bulwer Island is the only exception, with a hydrogen cracking unit which increases diesel yield.

Table 3.6 Refinery types

Type of refinery (by degree of complexity)	Additional features (compared to simpler type)
Simple distillation	Thermal distillation only
Hydro-skimming	• Isomerisation unit • Catalytic reforming unit • Desulphurisation unit
Semi-complex	Thermal gasoil unit (simple cracking)
Complex (all Australian refineries)	• Cracking unit—catalytic or hydrogen • Alkylation units
Fully complex	Coker unit

Source: AIP.

Refining process

Oil refining converts crude oil into more useful petroleum products through a variety of physical and chemical processes. Petroleum products can be broadly categorised into light distillate, middle distillate and heavy distillate. Liquefied petroleum gas (LPG) and petrol are examples of light distillate products. Jet fuel and diesel are examples of middle distillate products, while heavy distillate products include industrial fuel and lubricants.

The first stage of refining involves using extreme heat to separate (distil) the components of the crude oil. Figure 3.2 is indicative of a complex refinery as operating in Australia. The products at the top require less heat than those at the bottom.

The second stage is conversion: the components of crude oil are converted into products. For example, petrol does not come directly from crude; it is converted from one or more other products, depending on the type of refinery.

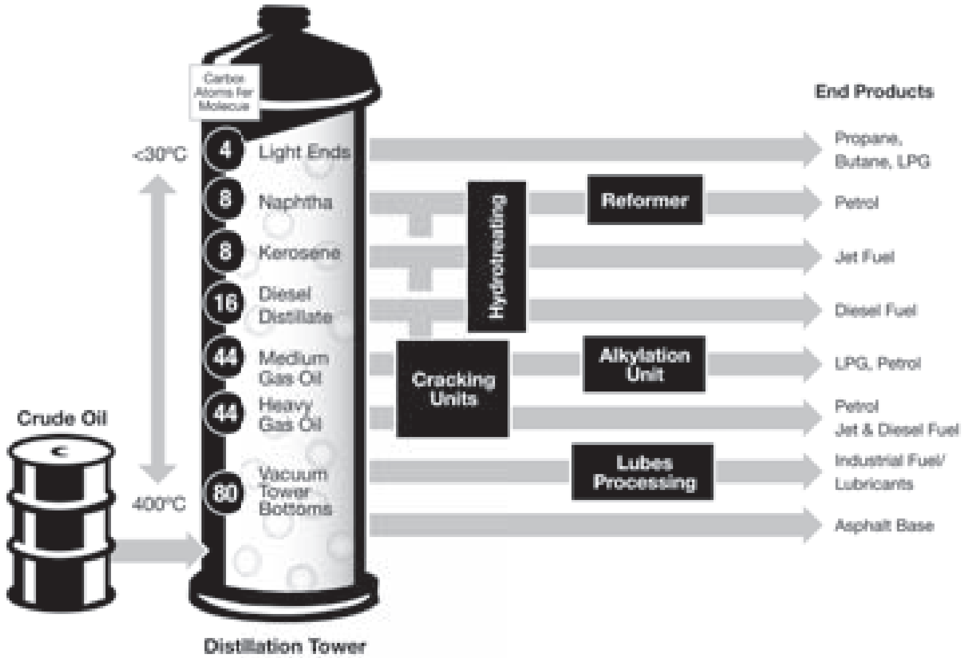
Conversion is the stage where a refinery can significantly improve its efficiency. Depending on the type of crude oil being processed, the conversion equipment can potentially extract more value from a given quantity of crude. The most significant type of equipment is the cracking unit, which (as shown in figure 3.2) can allow refineries to convert medium and heavy oils to more valuable automotive and aviation fuels. Chart 3.10 shows an indicative yield of the three categories of products that can be obtained from a barrel of Cossack crude in an Australian refinery. (Cossack is one of the North West Shelf crudes refined domestically.)[12]

The final stages (not shown) are purification (such as desulphurisation to meet environmental mandates) and then blending.[13]

12 DeRiSC Pty Ltd.

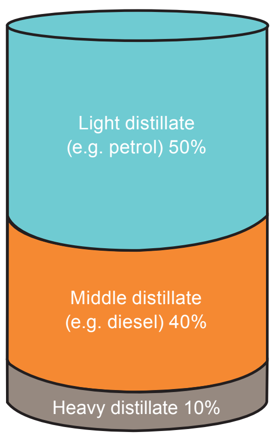
13 Description of refining process adapted from information provided by AIP.

Figure 3.2 Crude oil refining processes and products



Source: ExxonMobil Australia.

Chart 3.10 Indicative yield of a barrel of Cossack crude in an Australian refinery



Source: DeRiSC Pty Ltd.

Refinery outages

Most Australian refineries were constructed in the 1950s and 1960s.[14] While there has since been significant updating and modification of plant and equipment, especially in 2005 and 2006, the age of the refineries has contributed to maintenance problems and breakdowns.

14 AIP, *Downstream Petroleum 2007*.

Almost every refinery had a major production outage during 2008–09 (see table 3.7). Some of these were planned shutdowns (turnarounds) as part of maintenance, upgrading and training programs. The most significant shutdown was at Shell's Clyde refinery. While the Geelong refinery had no major outages it was due for a major turnaround, which Shell delayed due to the shutdown at Clyde.

Table 3.7 Major production outages at Australian refineries: 2008–09

Refinery (state, company)	Type of outage	Outage dates	Total outage period	Source
Bulwer Island (QLD, BP)	Maintenance to diesel desulphurisation unit and hydrogen cracker (planned)	May 08 – 5 July 08	2 months	Bloomberg
Lytton (QLD, Caltex)	Maintenance to diesel desulphurisation unit and hydrotreater (planned)	16, 17, 20 – 26 Nov 08	9 days	Bloomberg/ Caltex
	Refinery shutdown due to incident involving diesel desulphurisation unit and hydrotreater (unplanned)	12 Dec 08 – mid Jan 09	1 month	Bloomberg/ Caltex
Geelong (VIC, Shell)	None	na	na	na
Altona (VIC, Mobil)	None	na	na	na
Clyde (NSW, Shell)	Repair catalytic cracker (unplanned)	25 Jan 08 – 8 Jul 08	5½ months	Bloomberg
	Address unplanned outages over previous year (planned) Modifications to diesel desulphurisation unit to meet new standards (planned)	30 Nov 08 – 5 Aug 09	8 months	Bloomberg and Platts media releases
Kurnell (NSW, Caltex)	Maintenance of catalytic cracker (planned)	Mar 09 – Apr 09	1–1½ months	Bloomberg
Kwinana (WA, BP)	Maintenance of catalytic cracker and other key units (planned)	29 Oct 08 – 29 Dec 08	2 months	Bloomberg

3.4 Ethanol production infrastructure in Australia

The use of ethanol blended petrol is increasing. It is primarily sold as E10 (a 10/90 ethanol/petrol blend). One of the producers, Manildra, sells E85 at four retail outlets in New South Wales.[15] In 2008–09, ethanol production volume was estimated to represent just 1.2 per cent of total petrol sales, though significant growth is forecast.[16]

Australia currently has five ethanol production plants, though one (Rocky Point) has stopped production (see table 3.8). Capacity has grown by about three times since 2005 to 300 ML. In 2007 these plants represented 0.2 per cent of total world capacity; in 2008 this had fallen to 0.15 per cent.[17] Before 2007, Manildra's New South Wales plant accounted for almost all of Australia's ethanol production. With the increase in capacity at Sarina and subsequent opening of Dalby Bio's plant in the first half of 2009, New South Wales and Queensland almost equally share total national capacity.

Table 3.8 Ethanol plant capacity: 2005 to 2009

Location	Owner/ operator	Feedstock	2005 ML	2006 ML	2007 ML	2008 ML	2009 ML
Nowra, NSW	Manildra	Wheat	90	90	90	100	150
Dalby, QLD	Dalby Bio	Sorghum	0	0	0	0	90
Sarina, QLD	CSR	Molasses	4	4	32	32	60
Nurioopta, SA	Tarac	Grapes	1	1	1	1	1
Woongoolba, QLD	Rocky Point	Sorghum, molasses	2	2	4	4	0
Totals			**97**	**97**	**127**	**137**	**301**

Source: *Australian Biofuels 2008*, APAC Biofuel Consultants, July 2008, pp. 29, 31; and *Australian Biofuels 2009*, APAC Biofuel Consultants, August 2009, pp. 36–37.

Note: Data is year end except 2009 (August).

Over the next three years almost all capacity expansion under consideration is by companies operating existing plants (see table 3.9). As a result of the global financial crisis, planning and construction of new plants in New South Wales, Western Australia and Queensland has been postponed or cancelled. Four additional plants are under consideration. If all the expansion in table 3.9 went ahead, the nine plants would have a capacity of 945 ML by 2014—3.1 times the 2009 level. One of these plants is under consideration for Western Australia and would be the first in the state.

15 APAC Biofuel Consultants, *Australian Biofuels 2009*, August 2009, p. 43.

16 APAC Biofuel Consultants, *Australian Biofuels 2009*, August 2009, p. 32.

17 Renewable Fuels Association (USA), www.ethanolrfa.org/industry/statistics, 15 June 2009.

Table 3.9 Potential ethanol plant capacity: 2010 to 2014

Location	Owner	Feedstock	2010 ML	2011 ML	2012 ML	2013 ML	2014 ML
Nowra, NSW	Manildra	Wheat	300	300	300	300	300
Dalby, QLD	Dalby Bio	Sorghum, other grains	90	90	90	90	90
Sarina, QLD	CSR	Molasses	100	100	100	100	100
Woongoolba, QLD	Rocky Point	Sorghum, molasses	0	0	0	4	4
Nuriootpa, SA	Tarac	Grapes	1	1	1	1	1
Subtotals existing plants			*491*	*491*	*491*	*495*	*495*
Gunnedah, NSW	Primary Energy	Wheat, sorghum	0	0	40	80	80
Miles, QLD	Western Downs	Wheat, sorghum	0	0	0	60	120
Mackay, QLD	Mackay Sugar	Molasses	0	0	0	0	60
Rockingham, WA	WestPetro	Grain	0	0	0	80	190
Subtotals potential plants			*0*	*0*	*40*	*220*	*450*
Totals			**491**	**491**	**531**	**715**	**945**

Source: *Australian Biofuels 2009*, APAC Biofuel Consultants, August 2009, pp. 36, 38.

3.4.1 Feedstock

A key factor in the financial viability of producing ethanol is availability of a reliable source of feedstock close to the plant. This minimises transport costs and increases the efficiency of both the source plant and the ethanol plant.[18] All the plants operating in Australia have an alliance with their feedstock source. It is preferable for the plant to have the capacity to process more than one feedstock. For example, while the Dalby plant primarily uses sorghum, it can also convert other grains into ethanol.

18 APAC Biofuel Consultants, *Australian Biofuels 2008*, July 2008, pp. 20, 31.

3.4.2 Ethanol mandates

The key driver of growth has been the New South Wales state government mandate. Introduced on 1 October 2007, the New South Wales mandate was the first in Australia. This mandates that ethanol account for 2 per cent of the volume of RULP and PULP sold in the state. The government plans to increase it incrementally to 10 per cent.[19] The Queensland government is proposing a 5 per cent mandate by 2011.[20]

It is estimated that in 2008–09 ethanol production was 210 ML, just below capacity of 219 ML.[21] In 2008–09 the 2 per cent mandate in New South Wales created an estimated demand for 96 ML.[22] This is estimated to increase to 191 ML in 2010, 287 ML in 2011 and 478 ML from July 2011. If Queensland were to introduce a 5 per cent mandate, this would create demand for 175 ML of ethanol. While existing capacity would be insufficient to meet demand under these estimates, demand would be met if a significant proportion of the expansion outlined in table 3.9 were to go ahead.

3.5 Importing of refined petroleum products

Individual companies may import petroleum products to enable them to service their own wholesale and retail operations, and to meet their contractual supply obligations. A variety of circumstances may lead to an increase in importing by one or more companies, including when:

- local supply is constrained due to problems with refineries
- demand for petroleum products increases substantially
- a company is unable to, or prefers not to, access locally refined products
- demand for different products varies from the optimal production mix of Australian refineries.

In order to import, companies require access to infrastructure, especially storage and distribution terminals, to enable them to import and store products. This infrastructure is analysed in chapter 4.

19 APAC Biofuel Consultants, *Australian Biofuels 2008*, July 2008, p. 26.

20 Queensland Department of Employment, Economic Development and Innovation, *Public benefit test, legislation of a 5% ethanol mandate*, draft report, July 2009.

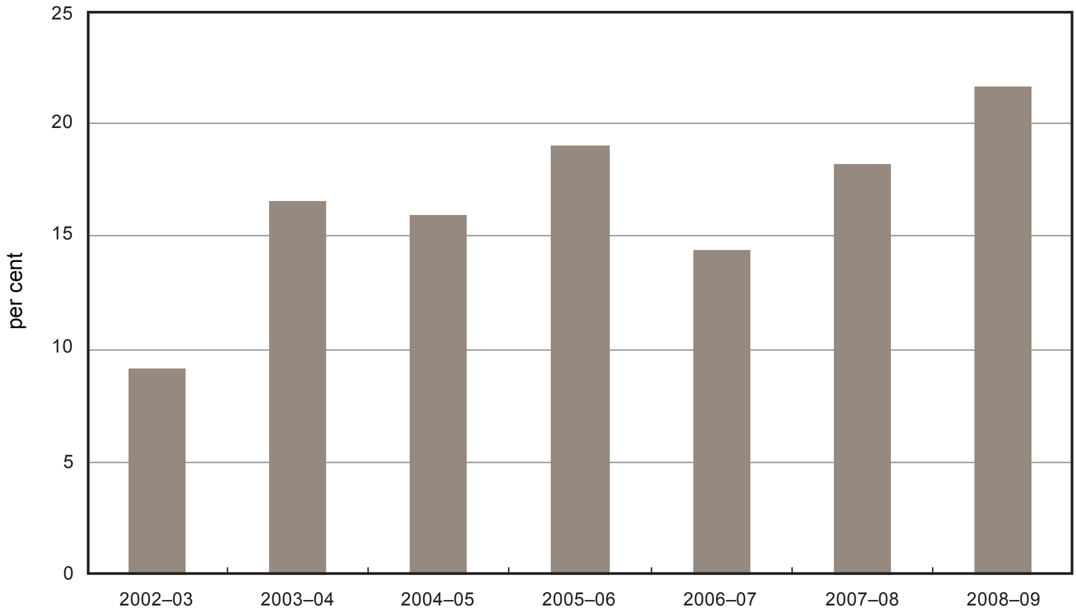
21 APAC Biofuel Consultants, *Australian Biofuels 2009*, August 2009, p. 32.

22 RET estimate based on *Australian Petroleum Statistics*, 2008–09.

3.5.1 Petrol importing

Most wholesalers and retailers sell primarily locally refined petrol; imported petrol is usually a supplementary source. In 2008–09, imports accounted for over 20 per cent of sales, the highest over the past seven years and well above the 9 per cent in 2002–03 (see chart 3.11).

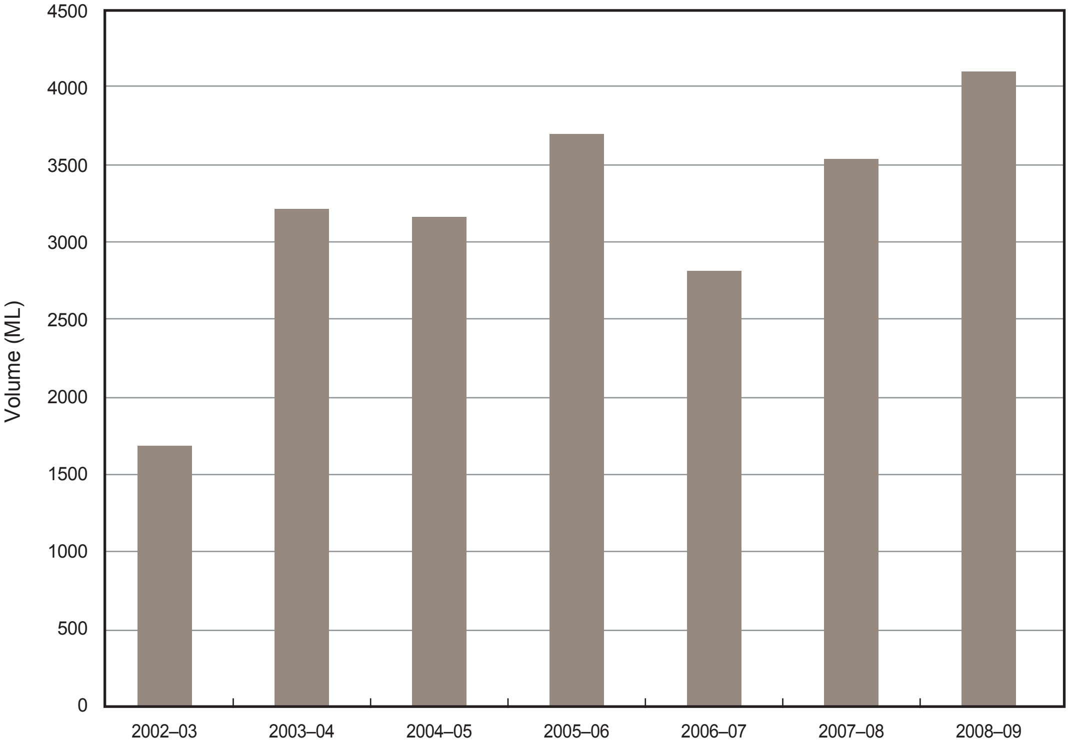
Chart 3.11 Petrol imported as a percentage of total sales in Australia: 2002–03 to 2008–09



Source: *Australian Petroleum Statistics*, RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009); and ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

The volume of petrol imported increased significantly in 2008–09, to 4100 ML (see chart 3.12). Increases in the past two years have largely been due to the refiner–marketers covering temporary shutdowns of local refineries. In 2008–09, the shutdown of Shell's Clyde refinery for more than half the year was a key explanation for the increase in imports.

Chart 3.12 Volume of petrol imported into Australia: 2002–03 to 2008–09



Source: *Australian Petroleum Statistics*, RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009).

While Australia imported most of its petrol from Singapore, which is a major refining and trading centre in the Asia-Pacific region, the volumes imported from other countries increased in 2008–09 (see table 3.10). Singapore accounted for 84 per cent of imports, down from 93 per cent in the previous year. There was a significant increase (from 3 to 7 per cent) in the percentage imported from Taiwan, the only other sizeable source. Imports from Oman and South Korea increased, though the amounts remained small—3 and 2 per cent respectively.

Table 3.10 Sources of petrol imports into Australia: 2006–07 to 2008–09

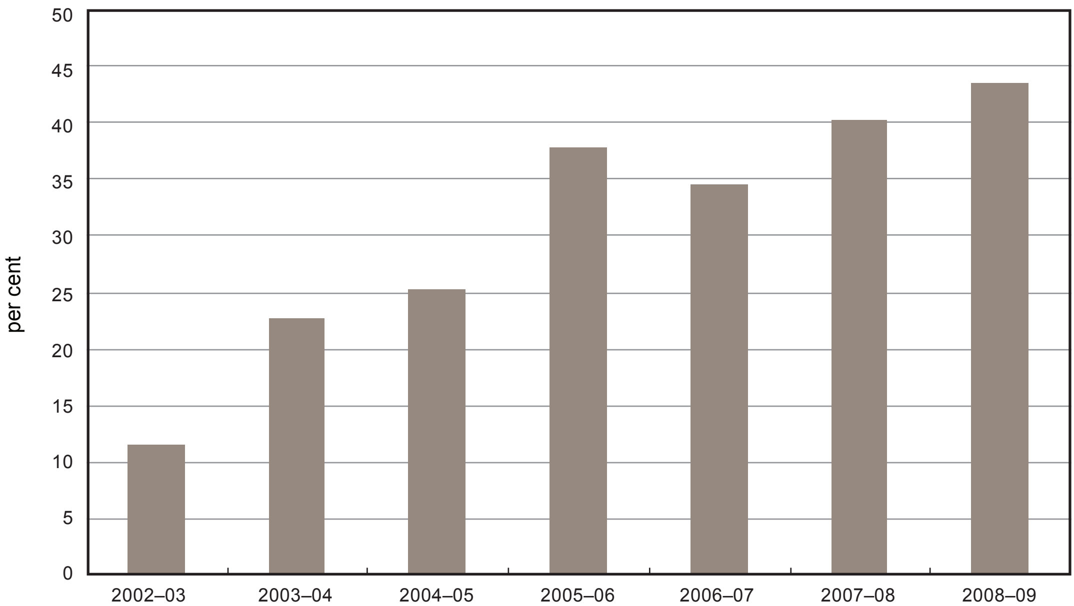
	2006–07		2007–08		2008–09	
	ML	%	ML	%	ML	%
Singapore	2668	90	3301	93	3426	84
Taiwan	182	6	110	3	297	7
Oman	0	0	0	0	108	3
South Korea	1	0	18	0	81	2
Other	99	3	125	4	182	4
Total	**2950**	**100**	**3536**	**100**	**4093**	**100**

Source: *Australian Petroleum Statistics*, RET, issue 155 (June 2009).

3.5.2 Diesel importing

In contrast with petrol, over the past seven years diesel imports as a percentage of sales have increased significantly (see chart 3.13). In 2008–09 almost 45 per cent of the diesel sold in Australia was imported. This was up from 41 per cent in the previous year and well above the 12 per cent in 2002–03.

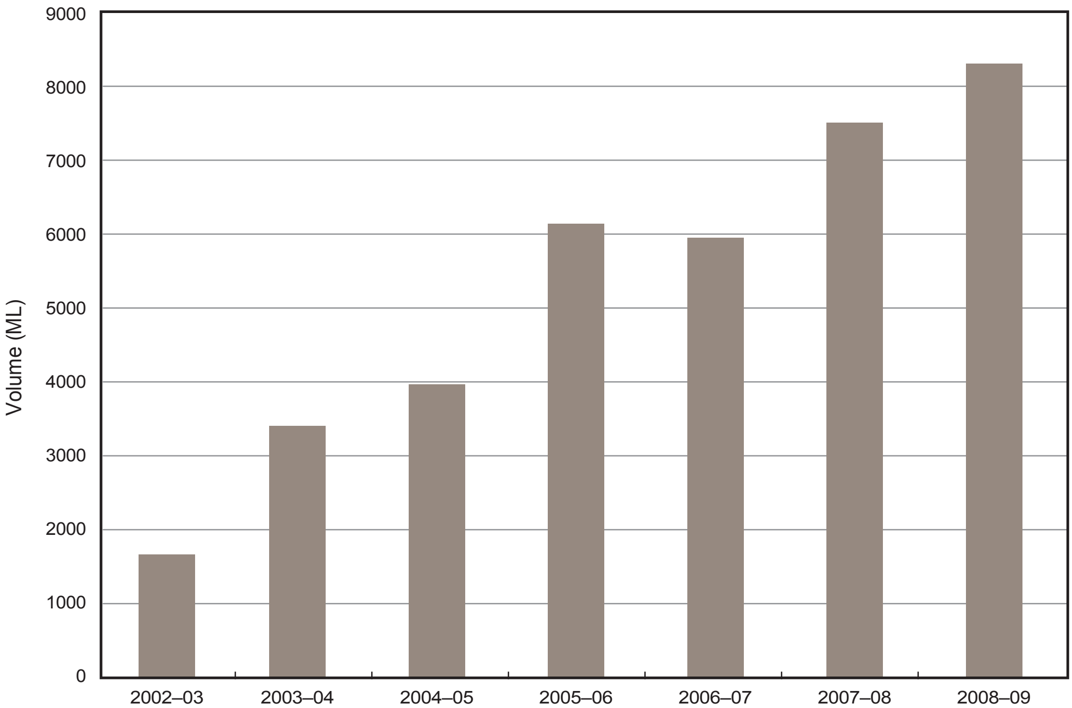
Chart 3.13 Diesel imports as percentage of total sales in Australia: 2002–03 to 2008–09



Source: *Australian Petroleum Statistics*, RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009); and ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

The volume of diesel imported into Australia has risen dramatically over the past seven years, from 1600 ML in 2002–03 to 8300 ML in 2008–09 (see chart 3.14). It is now twice as much as volume of petrol imported (see chart 3.12).

Chart 3.14 Volume of diesel imported into Australia: 2002–03 to 2008–09

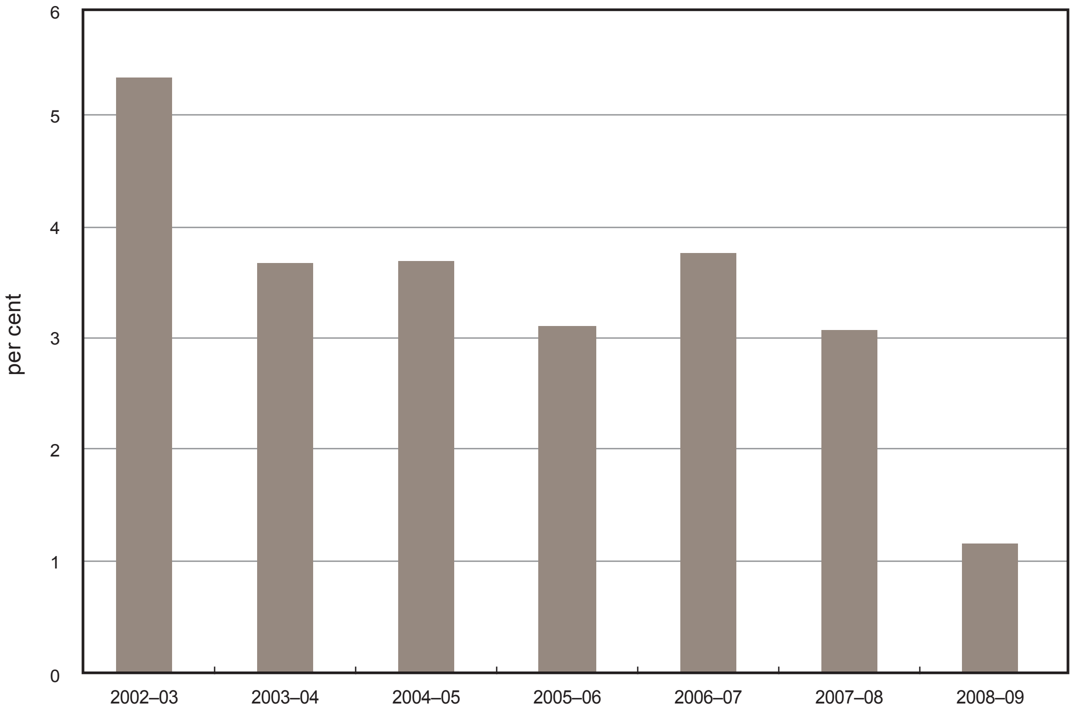


Source: *Australian Petroleum Statistics*, RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009).

3.6 Exporting refined product

Petrol exports constitute a very small proportion of domestic supply (defined as refinery production plus net imports). Refiner–marketers export when there is excess supply. In 2008–09 there was a large fall in the percentage exported (see chart 3.15).

Chart 3.15 Petrol exports as a percentage of domestic supply: 2002–03 to 2008–09



Source: *Australian Petroleum Statistics*, RET, issues 83 (June 2003), 119 (June 2006) and 155 (June 2009).

3.7 Wholesaling

3.7.1 Wholesale market share

Most petrol wholesaling in Australia is undertaken by the refiner–marketers (see table 3.11). Other wholesalers, including Liberty, United, Gull and Neumann, have a limited presence: 6 per cent market share in 2008–09. This has risen slightly since 2005–06, while the shares of the refiner–marketers were either unchanged or marginally lower.

Table 3.11 Share of volume of wholesale petrol sales: 2005–06 to 2008–09

	2005–06 %	2006–07 %	2007–08 %	2008–09 %
BP	17	17	17	17
Caltex	36	36	36	36
Mobil	14	15	15	13
Shell	29	27	27	28
Independent wholesalers	4	4	5	6

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

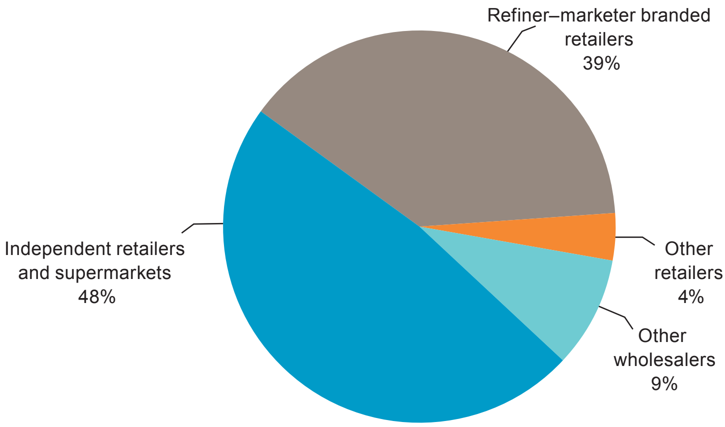
Note: Petrol is sometimes sold more than once at the wholesale level. For example a refiner–marketer may sell to an independent wholesaler before the petrol is sold to a retailer or end user.

While each refiner–marketer operates as a petrol wholesaler in most of Australia, each has a refinery in only one or two states. Consequently, each needs a source of supply in states where it would not be financially viable to transport petrol from one of its own refineries. Under buy–sell agreements, refiner–marketers trade products between themselves at a pre-wholesale (supply) level.

3.7.2 Types of wholesale sales

Virtually all wholesale sales are made by refiner–marketers. Broadly, they have four types of customers (see chart 3.16). The largest category of customer in 2007–08 was independent retailers and supermarkets (48 per cent). The next largest category of customer was refiner–marketer branded retailers (39 per cent), followed by other wholesalers (9 per cent), who then sold the product as a secondary wholesaler or through their branded retail outlets.

Chart 3.16 Refiner–marketers' wholesale petrol sales by type of customer: 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

3.8 Retailing

Compared to the refining and wholesale sectors, the retail sector of Australia's petroleum industry is less concentrated. However, the sector continues to be impacted by the rationalisation of service stations, and the move to higher volume centralised highway outlets with more non-fuel products.

3.8.1 Retail market share

From 2002–03 to 2008–09, the most significant changes in market shares of retail sales by brand have been the increased market shares of the supermarkets (see table 3.12). Mobil experienced a general decline, while BP was relatively steady. Caltex's share fell, though it has been steady over the past four years. Shell's dropped dramatically as a result of its alliance with Coles Express, and it now has minimal retail presence.

Table 3.12 Share of volume of retail petrol sales by brand: 2002–03 to 2008–09

	2002–03 %	2003–04 %	2004–05 %	2005–06 %	2006–07 %	2007–08 %	2008–09 %
BP	20	20	18	19	19	20	19
Caltex	24	22	18	16	16	17	16
Coles Express / Shell	0	16	25	25	22	20	22
Mobil	19	17	12	11	11	11	11
Shell	20	3	3	3	3	2	2
Woolworths/ Caltex	10	14	18	20	22	22	23
Other retailer chains	6	7	6	6	7	8	9

Source: ACCC 2007 petrol inquiry report and ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: These market shares relate to the brand on the retail site. Businesses trading under the brand may be owned and operated independently from the brand.

3.8.2 Retail business operators

While the refiner–marketers' brand names appear on the majority of petrol retail sites, it is important to note that mostly the businesses are actually owned and/or operated by supermarkets, independent retailers, franchisees, or commission agents (see table 3.13). In addition, the owner of the site does not necessarily have an interest in operating the business. For example, the site owner may be an independent investor.

In general, petrol retailers in Australia can be separated into five broad types, categorised by operator of the business on the site:

- refiner–marketer
- supermarket
- independent retailer (including businesses operated by distributors, independent retail chains and other independents)[23]
- franchisee[24]
- commission agent.[25]

Table 3.13 Percentage of retail sites by brand and business operator:[a] 2009

Brand	Business operated by[b]					
	Refiner–marketer %	Supermarket %	Independent retailer[c] %	Franchisee[d] %	Commission agent[d] %	Total %
BP	3.7	0.0	19.4	0.1	0.1	**23.2**
Caltex	1.0	0.0	17.4	3.5	2.7	**24.6**
Woolworths/Caltex (co-branded)	0.0	9.3	0.0	0.0	0.0	**9.3**
Mobil	0.0	0.0	5.8	0.0	0.0	**5.8**
Mobil/Quix (co-branded)[e]	0.0	0.0	2.6	2.5	0.0	**5.0**
Shell	0.1	0.0	4.2	0.0	0.0	**4.3**
Coles Express / Shell (co-branded)	0.0	10.8	0.0	0.0	0.0	**10.8**
Independent retailers[c]	0.0	0.0	8.0	0.0	9.0	**17.0**
Total	**4.7**	**20.1**	**57.4**	**6.1**	**11.8**	**100**

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Notes: a Data is only for monitored companies, so it underestimates the total number of retail sites in Australia.
b Sites are categorised by the operator of the business on the site, regardless of branding.
c Includes businesses operated by distributors, independent retail chains and other independents.
d Excludes supermarkets.
e These sites are operated by Mobil's single multi-site franchisee, Strasburger Enterprises (Properties) Pty Ltd, in which Mobil has a 50 per cent share.

Figures may not add up to totals, due to rounding.

23 Owners choose wholesale suppliers and set retail prices. They may agree to align their site with a particular wholesaler and receive fuel supplies and branding. For a further description of retail industry structure, see ACCC 2007 petrol inquiry report, pp. 71–80, 134–37.

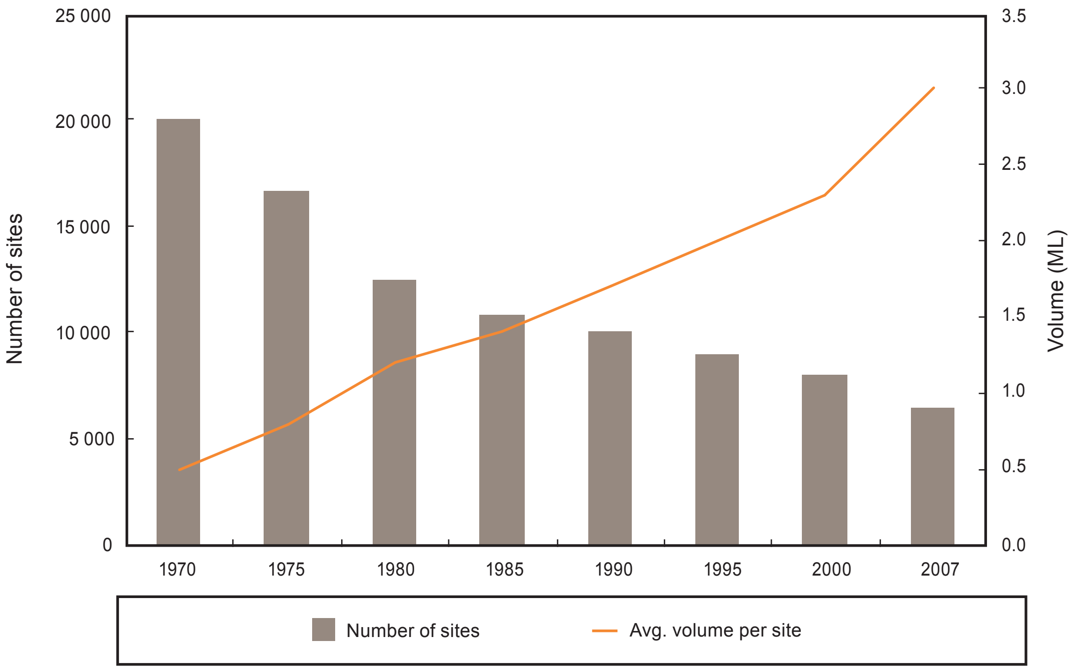
24 Franchises are a specific type of agreement whereby the franchisor grants the franchisee the right to run a business for a specific period. The agreement usually makes provision for supply, branding and support.

25 Commission agents sell petroleum products on behalf of another company (usually a wholesaler) and are compensated with a commission.

3.8.3 Retail site numbers

The number of retail sites in Australia has decreased significantly over the past 40 years, with a consequent rise in the volume sold per site (see chart 3.17). The 1976 report of the Royal Commission on Petroleum found that there had been 'considerable overbuilding of service stations in Australia'.[26] According to the Royal Commission, this had led to under-utilisation of assets. It called for rationalisation of site numbers, with the aim of closing unprofitable sites and significantly improving the standard of those remaining.[27]

Chart 3.17 Number of retail sites and average annual volume per site: 1970 to 2007



Source: Reports of the Royal Commission on Petroleum (1976), the Prices Surveillance Authority (1990) and the ACCC (1996 and 2007), combined with data from RET and the Bureau of Infrastructure, Transport and Regional Economics.

26 *The Marketing and Pricing of Petroleum Products in Australia*, fourth report of the Royal Commission on Petroleum, 1976, p. 251.

27 *The Marketing and Pricing of Petroleum Products in Australia*, pp. 273–80.

4 Import infrastructure

4.1 Terminals

4.1.1 Overview and definitions

Terminals are large storage facilities from which fuel is distributed to retailers, wholesalers, distributors and end users.[1] This report focuses on major terminals, which are defined as those connected to a port or refinery by one or more pipelines. Small terminals such as depots are excluded.

The ACCC's 2008 petrol monitoring report defined all major terminals as import terminals. By contrast, this report distinguishes between import and refinery–pipeline terminals to allow an increased focus on import terminals.

Import terminals have a direct pipeline connection to a port and in most cases receive all their fuel from ships.

Refinery–pipeline terminals have a direct or indirect pipeline connection to a refinery which, when operating normally, is the source of all or most of their fuel. These terminals are mostly adjacent to the refinery or in the same city. The only exceptions are the Melbourne terminals (which have pipelines from the Geelong refinery as well as being connected to Melbourne's Altona refinery), and the Newcastle terminals (with pipelines from the Sydney refineries).

A small number of terminals have pipeline connections to both a port and a refinery and hence could fit into either category. This report defines these terminals according to the source of the majority of their fuel in 2008–09.

As in the 2008 monitoring report, analysis of major terminals in this chapter is state/territory focused, reflecting the regional nature of the Australian petroleum industry.[2] The distribution areas serviced by these terminals generally align with state borders. The key exception is New South Wales: parts of the north are served by Queensland terminals, and some of the fuel sold in the south comes from Victorian terminals.

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1 See ACCC, *Monitoring of the Australian petroleum industry: report of the ACCC into the prices, costs and profits of unleaded petrol in Australia*, December 2008, p. 23, for more information about terminals' physical characteristics. A terminal is a group of tanks able to receive, store and distribute petroleum products. Each tank holds only one type of product at a time. Tanks can be converted to hold another product, but in most cases this is expensive and difficult and hence is generally a long-term proposition.

2 In this chapter, 'states' includes the Northern Territory but excludes the Australian Capital Territory (which has no major terminals).

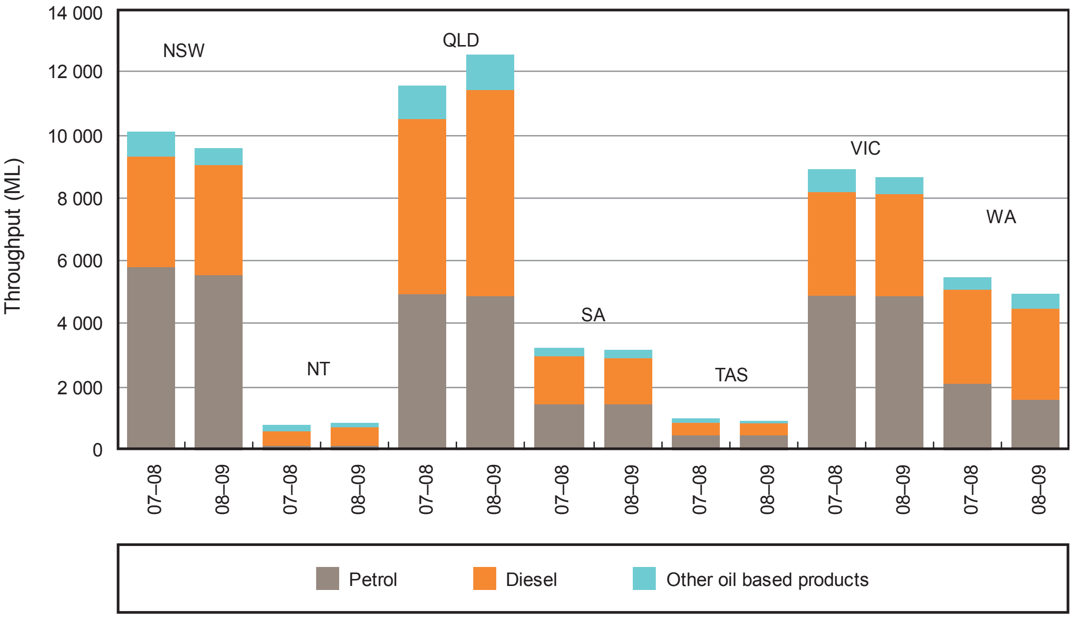
4.1.2 Terminal throughput 2007–08 to 2008–09[3]

Petroleum products

In 2008–09 Queensland's terminals had by far the highest throughput of petroleum products, followed by New South Wales, Victoria and Western Australia (chart 4.1). Queensland and Western Australia had greater volumes of diesel than petrol, reflecting their high levels of diesel-using primary industries. This was also the case in the Northern Territory, though it had a low volume of petrol throughput.

There was a 0.8 per cent decline in throughput of petroleum products in Australia in 2008–09 compared to 2007–08. Petrol throughput fell in every state, reflecting a national fall of 4.7 per cent. By contrast, diesel throughput increased in every state except New South Wales and Victoria. Nationally, diesel throughput rose by 5.8 per cent.

Chart 4.1 Petroleum products throughput by state: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Data for 2007–08 may vary slightly from that presented in the 2008 monitoring report, due to revised data obtained from the monitored firms.

Ethanol

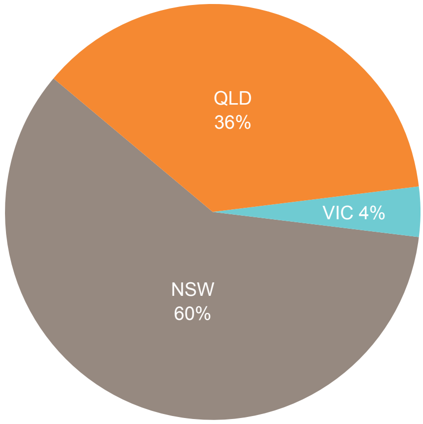
The only states with significant ethanol throughputs in 2008–09 were those with existing (New South Wales) or proposed (Queensland) mandates (chart 4.2). New South Wales accounted for a significant majority (60 per cent) of throughput in 2008–09. This state's ethanol production plant had a capacity of 100 megalitres (ML) until the second half of 2008–09, when it expanded to 150 ML.[4]

3 Terminal throughput is defined as the annual volume of product that goes out through the terminal's truck or rail gantry.

4 See table 3.8. Source: APAC Biofuel Consultants, *Australian Biofuels 2009*, August 2009, pp. 36–37.

Queensland accounted for 36 per cent of ethanol throughput in 2008–09. In the first half of the year, Queensland had an ethanol production capacity of just 30 ML, which subsequently expanded to 150 ML. Note that ethanol produced in one state may be put through a terminal in another state (see figures 4.2 to 4.4 at the end of this chapter).

Chart 4.2 Ethanol terminal throughput by state: 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: New South Wales, Queensland and Victoria were the only states with ethanol throughput in 2008–09.

Ethanol volumes are growing rapidly, from a small base. Comparing 2008–09 with 2007–08, throughput was greater by 1.8 times in New South Wales and by 0.5 times in Queensland. Nationally, ethanol throughput more than doubled over the period.

4.1.3 Major terminals by state 2008–09

This section updates the information in section 3.3 of the 2008 ACCC petrol monitoring report.

There are three main types of arrangements by which a company can put fuel through another company's terminal:

- Joint terminal arrangement (JTA) (evergreen agreement)—the non-owner has the same access to the terminal as the owner(s), retains title in the fuel and contributes to operating costs. Neither company has reserved capacity and fuel is co-mingled.
- Hosting—the non-owner (guest) retains title in the fuel, which is co-mingled in the host's tanks. The guest and its customers take delivery as required. The latter remain customers of the guest company, even though they are taking fuel from the host's terminal. The guest pays a hosting fee and does not contribute to operating costs.
- Leasing—the lessee may have sole access to specific tanks or the fuel may be co-mingled. The lessee pays a lease fee and does not contribute to operating costs.

New South Wales

Of the 10 major terminals in New South Wales, five are capable of receiving direct imports of petroleum products (see table 4.1). Two are currently used to import petrol: Vopak Botany and BP Newcastle.

Vopak has significantly increased capacity in recent years. In 2007 it increased capacity by 58.2 ML (46 per cent), and in 2008 it added a further 82.7 ML (45 per cent).

Mobil has completed a pipeline from Vopak's terminal to the Caltex/Mobil jointly owned Sydney Metropolitan Pipeline, which gives access to the Silverwater terminal, and hence all Newcastle terminals.

BP Newcastle was connected to the port in April 2009 but continues to receive most of its petrol through the pipeline from Sydney, which is approaching capacity. BP has expanded its terminal by 30 ML, which doubled its capacity.

Table 4.1 Major terminals: New South Wales[5]

Location	Owner(s)	Operator	User(s) (type of arrangement)	Import access
Banksmeadow (Sydney)	Caltex	Caltex	Caltex	Indirect through Kurnell refinery or Vopak Botany by pipeline.
Parramatta (Sydney)	Shell	Shell	Shell BP (JTA)	Indirect via Gore Bay terminal, which connects by pipeline to Clyde refinery. Terminal is a gantry at the refinery.
Silverwater (Sydney)	Caltex/Mobil (SMP)[6]	Mobil	Caltex Mobil	Indirect through Kurnell refinery or Vopak Botany then via pipeline.
Botany (Sydney)	Mobil	Mobil	BP (JTA)	Direct from Port Botany. Used solely for aviation fuel.
Botany (Sydney)	Vopak	Vopak	BP, Mobil and Shell (co-mingled leases); Shell and Kuwait Petroleum (leases)	Direct from Port Botany.
Botany (Sydney)	Terminals Pty Ltd	Terminals Pty Ltd	Independent wholesaler (lease)	Direct from Port Botany. No petrol throughput, primarily diesel.
Newcastle	BP	BP	BP Mobil (E10 only)	Direct from Port of Newcastle. Indirect through Sydney terminals and/or refineries.
Newcastle	Caltex	Caltex	Caltex	Indirect through Sydney terminals and/or refineries.
Newcastle	Shell	Shell	Shell Mobil (JTA)	Indirect through Sydney terminals and/or refineries.
Port Kembla	Manildra Park	Manildra Park	Manildra Park	Direct from Port Kembla. Could be used to import petrol, though currently only bunker fuel.

5 Unless otherwise stated, the source for tables in this chapter is ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

6 Sydney Metropolitan Pipeline (SMP) is a Caltex/Mobil (60/40) joint venture which also owns the pipeline from Banksmeadow terminal to Silverwater terminal.

Planned expansion

Vopak is planning further expansion, with another 75.2 ML due to be available in January 2010. This represents a 28 per cent increase in capacity and is the final stage of the expansion referred to in the 2008 ACCC petrol monitoring report.

Marstel is close to completing plans for a 60 ML diesel terminal in Newcastle with direct port access. Construction is expected to commence in 2010. Caltex is planning to reconfigure tanks at Banksmeadow and Newcastle to increase ethanol capacity.

Northern Territory

The Northern Territory's only major petrol import terminal is owned and operated by Vopak in Darwin (see table 4.2). All four refiner–marketers have long-term leases and are the only users.

There are three other major terminals in the Northern Territory: Gove, Groote Eylandt and McArthur River. These are primarily used to import diesel for local mines and communities. They are owned and operated by mining companies.

Table 4.2 Major terminals: Northern Territory

Location	Owner(s)	Operator	User(s) (type of arrangement)	Import access
Darwin	Vopak	Vopak	BP, Caltex, Mobil and Shell (co-mingled leases)	Direct from Port Darwin.
Gove	Rio Tinto / Alcan	Rio Tinto / Alcan	Rio Tinto / Alcan	Direct from port. Serves local mines; primarily diesel throughput.
Groote Eylandt	BHP Billiton	BHP Billiton	BHP Billiton	Direct from port. Serves local mines; primarily diesel throughput.
McArthur River	Xstrata	McArthur River Mine	McArthur River Mine	Direct from port. Serves local mines; primarily diesel throughput.

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process; and *Petroleum Infrastructure in Australia*, ACIL Tasman for the Department of Resources, Energy and Tourism (RET), 2009, pp. 11, 90–92.

Planned expansion

Vopak plans to marginally increase capacity by 2010.

Queensland

Queensland currently has 16 major terminals, with another one being refurbished (see table 4.3). Of the currently operating terminals 13 have direct import access. Two of these are in Brisbane and also have direct pipeline access to both the refineries. The remainder are along the coast and can only be serviced by port. In Townsville there is an unused terminal, owned by Caltex, connected by pipeline to a shipping berth that is being decommissioned.[7] Marstel's refurbishment of the former Mobil terminal at Port Alma was completed in November 2009.

Table 4.3 Major terminals: Queensland

Location	Owner(s)	Operator	User(s) (type of arrangement)	Import access
Lytton (Brisbane)	Caltex	Caltex	Caltex	Indirect through Lytton refinery
Pinkenba (Brisbane)	Shell	Shell	Shell	Direct from own port. Indirect through both Brisbane refineries.
Whinstanes (Brisbane)	BP	BP	BP Caltex Mobil (JTA)	Indirect through Bulwer Island refinery.
Eagle Farm (Brisbane)	Neumann	Neumann	Neumann Independent wholesalers (hosted)	Direct from own port. Indirect through both Brisbane refineries. Planning deeper water port to enhance import capacity.
Bundaberg	Marstel	Marstel	Under refurbishment	Will have direct port access
Cairns	BP	BP	BP Mobil (hosted)	Direct from port
Cairns	Caltex	Caltex	Caltex	Direct from port
Cairns	Shell	Shell	Shell	Direct from port
Gladstone	BP/Shell	BP	BP Shell	Direct from port
Gladstone	Caltex/Mobil	Caltex	Caltex Mobil	Direct from port
Mackay	BP	BP	BP Mobil (hosted)	Direct from port
Mackay	Caltex	Caltex	Caltex	Direct from port
Mackay	Shell	Shell	Shell	Direct from port
Port Alma	Marstel	Marstel	Independent wholesaler	Direct from port
Townsville	BP	BP	BP Mobil (hosted)	Direct from port
Townsville	Caltex/Shell	Shell	Caltex Shell	Direct from port
Weipa	Rio Tinto	BP	BP	Direct from port. Serves local mines, primarily diesel throughput.

7 ACIL Tasman for RET, *Petroleum infrastructure in Australia*, 2009, pp. 55–6.

Planned expansion

In Brisbane, Shell is undertaking expansion of its Pinkenba terminal to increase capacity by 11 ML. Neumann plans to increase the capacity of its Eagle Farm terminal by 15 ML. Importantly, it intends to build a pipeline to a deeper-water port to give itself greater flexibility in receiving imports.

In Bundaberg, Marstel's refurbishment of the former Mobil terminals is due for completion in 2010.

Caltex is planning to increase both diesel and ethanol capacity at Mackay. The terminal is due to expand by 24 ML by 2012.

South Australia

As the state lacks a refinery, all five of South Australia's major terminals have direct import access. There has been no significant change to South Australia's import capacity since the 2008 monitoring report. The site of the former Port Stanvac refinery does have the ability to accept imports; however, Mobil plans to demolish the facility.

Table 4.4 Major terminals: South Australia

Location	Owner(s)	Operator	User(s) (type of arrangement)	Import access
Birkenhead (Adelaide)	Caltex	Caltex	Caltex	Direct from port
Birkenhead (Adelaide)	Mobil	Mobil	Mobil Caltex Shell (JTA)	Direct from port
Largs North (Adelaide)	BP	BP	BP Caltex	Direct from port
Port Lincoln	Caltex	Caltex	Caltex	Direct from port
Port Lincoln	Shell	Shell	Shell Caltex Mobil (hosted)	Direct from port

Planned expansion

In Adelaide, both BP and Caltex are considering expansion of their terminals. Caltex's plans are subject to board approval. In Port Bonython, Stuart Petroleum has lodged an application to construct a 110 ML diesel terminal and diesel distillation facility to serve the mining industry in South Australia.[8] This would be the state's only major terminal not owned by a refiner–marketer.

8 Stuart Petroleum Ltd, *Annual Review 2009*, p. 7.

Tasmania

Tasmania's five major terminals all have direct import access. There has been no significant change to this state's import capacity since the 2008 monitoring report.

Table 4.5 Major terminals: Tasmania

Location	Owner(s)	Operator	User(s) (type of arrangement)	Import access
Hobart	BP	BP	BP Mobil (hosted)	Direct from port
Hobart	Caltex	Caltex	Caltex Shell (hosted)	Direct from port
Bell Bay	Marstel	Marstel	Independent wholesalers (leases)	Direct from port
Burnie	BP	BP	BP Caltex (hosted) Mobil	Direct from port
Devonport	Shell	Shell	Shell Caltex (hosted)	Direct from port

Planned expansion

There is no planned expansion in Tasmania.

Victoria

Victoria has five major terminals with direct import access. The one owned by Terminals Pty Ltd at Coode Island is very small and, while it has by far the largest ethanol capacity of all Australia's major terminals (6 ML), it does not have petrol throughput. All the other Melbourne terminals have pipeline access to both the Geelong and Altona refineries. The state's sixth terminal, Shell Corio, is a gantry connected to the Geelong refinery, so it has indirect import access. This leaves United Hastings as Victoria's only major import terminal.

Table 4.6 Major terminals: Victoria

Location	Owner(s)	Operator	User(s) (type of arrangement)	Import access
Newport (Melbourne)	Caltex	Caltex	Caltex	Direct from Holden Dock
Newport (Melbourne)	Shell	Shell	Shell	Direct from Holden Dock
Yarraville (Melbourne)	Mobil	Mobil	Mobil BP (JTA)	Direct from Holden Dock
Coode Island (Melbourne)	Terminals Pty Ltd	Terminals Pty Ltd	Third party (lease)	Direct from port. No petrol throughput; has ethanol capacity.
Corio (Geelong)	Shell	Shell	Shell Caltex	Indirect through refinery. Terminal is truck gantry at Geelong refinery.
Hastings	United	United	United	Direct from port

Planned expansion

The only expansion planned in Victoria is United's construction of ethanol blending capacity at its Hastings terminal, which it anticipates completing in 2009.

Western Australia

Of Western Australia's 16 major terminals, 13 have direct import access. While work on major increases in capacity commenced, none was completed during 2008–09.

Table 4.7 Major terminals: Western Australia

Location	Owner(s)	Operator	User(s) (type of arrangement)	Import access
Fremantle (Perth)	Shell/Caltex	Shell	Caltex Shell	Indirect through Kwinana refinery
Kewdale (Perth)	BP	BP	BP Mobil and Caltex (hosted)	Indirect through Kwinana refinery
North Fremantle (Perth)	BP	BP	BP	Indirect through Kwinana refinery. Minimal petrol throughput.
Kwinana (Perth)	Coogee	Coogee	Caltex Mobil (hosted)	Direct from port
Kwinana (Perth)	Gull	Terminals West	Gull	Direct from port
Albany	Caltex	Caltex	Caltex	Direct from port
Broome	BP	BP	BP	Direct from port
Broome	Shell	Shell	Shell	Direct from port
Cape Lambert	Rio Tinto	BP	BP	Direct from port. Serves local mines, primarily diesel throughput.
Dampier	Rio Tinto	BP	BP	Direct from port. Serves local mines, primarily diesel throughput.
Esperance	BP	BP	BP	Direct from port
Esperance	Shell	Shell	Shell Caltex (hosted)	Direct from port
Geraldton	BP	BP	BP Caltex (hosted)	Direct from port
Geraldton	Shell	Shell	Shell	Direct from port
Port Hedland	BP	BP	BP Caltex Mobil (hosted)	Direct from port
Port Hedland	Caltex	Caltex	Caltex	Direct from port. Currently no petrol throughput.

Planned expansion

In the Perth area, the only planned or current expansion is by Coogee, which is undertaking significant expansion to double its capacity, from 24 ML to 48 ML, at its Kwinana terminal.

In Port Hedland, BP is building 25 ML of diesel storage, which is now due for completion by July 2010. This is part of an overall 75 per cent increase in capacity to be completed in 2011.[9] Caltex is considering expanding its diesel capacity at Port Hedland, subject to board approval. BP is planning to recommission a storage tank in Geraldton, which would add 9 ML of capacity.

4.1.4 Identifying import terminals with spare capacity

To determine the extent to which Australia's import terminals provide opportunities for independent wholesalers and retailers to increase competition, it is important to identify any spare capacity.

The capacity of a terminal can be defined as the amount of fuel that it could receive and distribute over a specific time period. This is the maximum theoretical throughput capacity. For an import terminal it depends on a wide range of factors, including:

- physical capacity of tanks
- shipping schedules
- berthing capacity and availability
- pipeline size
- truck gantry capability
- demand for terminal products.

This large number of variable and unpredictable factors makes it almost impossible to precisely calculate maximum theoretical throughput capacity.

The one factor that is easily measured and relatively constant is physical capacity. This is the amount of fuel (usually measured in ML) the terminal can hold in its tanks at any given point in time. Expressing this in terms of the actual throughput during a specific period gives a terminal's turnover.

Turnover refers to the number of times the terminal is effectively filled and emptied during the year. It shows throughput relative to capacity (that is, annual throughput divided by physical capacity). Turnover may be used as an indicator that import terminals have spare capacity by comparison with the national average.

4.1.5 Import terminals with possible spare capacity 2008–09

Import terminals have significantly lower annual turnover than terminals connected to a refinery. In most cases import terminals receive all their fuel from ships; consequently, shipping turnaround is the key factor in the throughput they are able to achieve. By contrast, refinery–pipeline terminals receive most or all of their fuel from the refinery (when it is operating normally). This supply is generally more reliable and easier to manage than shipping, so refinery–pipeline terminals can achieve significantly higher turnover than import terminals.

In 2008–09 Australian import terminals averaged a turnover of 8.3 times, compared to 31.2 times for refinery–pipeline terminals (see table 4.8). Of the states, South Australia had by far the highest

9 ACIL Tasman for RET, *Petroleum infrastructure in Australia*, p. 82.

import terminal turnover (14.6 times), reflecting its lack of refining capacity. There are plans for significant increases in petrol storage capacity in this state. Queensland (11.4 times) was the only other state with turnover above the national average. This suggests that spare capacity may be available at import terminals in the other states.

Table 4.8 Petrol turnover by type of terminal: 2008–09

Import terminals			Refinery–pipeline terminals		
Capacity (ML)	Throughput (ML)	Turnover (times)	Capacity (ML)	Throughput (ML)	Turnover (times)
527.8	4 403.4	8.3	467.9	14 575.9	31.2

Note: Excludes Corio and Parramatta refinery–pipeline terminals (which are directly attached to refinery storage tanks and have no stand-alone storage capacity), and import terminals which primarily service local mines.

Independently owned import terminals had significantly lower turnover (5.3 times) in 2008–09 than those owned by refiner–marketers (11.1 times) (see table 4.9). This suggests that some independently owned terminals may have had spare capacity. As the planned expansion outlined above occurs, spare capacity will continue to increase, providing storage opportunities for additional imports by independent wholesalers or retailers.

Table 4.9 Import terminal petrol turnover by type of ownership: 2008–09

	Capacity (ML)	Throughput (ML)	Turnover (times)
Independently owned	249.3	1319.7	5.3
Refiner–marketer owned	278.5	3083.8	11.1
Australia	527.8	4403.4	8.3

Note: Excludes throughput for terminals which primarily service local mines.

4.2 Constraints at ports

In its 2007 petrol inquiry report the ACCC recommended a comprehensive audit be undertaken of terminals suitable for importing refined petrol into Australia.[10] The audit was commissioned by RET, prepared by ACIL Tasman and released in August 2009. One of the areas it covered was constraints placed on petroleum product imports by port facilities in each state.[11]

4.2.1 New South Wales

Port Botany is the berth for petrol imported for Sydney's terminals.[12] It has one bulk liquids berth, and the audit found severe capacity constraints. This was considered one of the major impediments to increasing throughput in Sydney. An in-principle decision had been made by Sydney Ports to construct a second bulk liquids terminal at the port.

10 ACCC, *Petrol prices and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol*, December 2007, p. 220.
11 ACIL Tasman for RET, *Petroleum infrastructure in Australia*. This section summarises information from this audit.
12 Parramatta terminal is the only exception. It is supplied from Gore Bay, which is used exclusively by Shell.

The audit considered BP's construction of a pipeline connection to Newcastle Port to be beneficial in freeing up capacity at Port Botany. Previously the only option for Newcastle was to receive by pipeline from a Sydney refinery or Port Botany.

4.2.2 Northern Territory

The audit did not note any port constraints in the Northern Territory.

4.2.3 Queensland

In Brisbane the terminals are supplied by refined product berths along the river. The audit found that the biggest impediment to importing was rocks which limit the size of ships able to go down the river to use the berths. Neumann's new pipeline will allow it to use a berth further downstream in deeper water. While still upstream of the rocks, the berth will be able to receive larger ships than those currently operating.

The audit also reported port constraints at some of the terminals in Gladstone, Townsville and Mackay.

4.2.4 South Australia

The audit reported little spare capacity at Port Adelaide and Port Lincoln. It stated that any growth in diesel capacity may have to be at regional ports, given the berth constraints in Adelaide.

4.2.5 Tasmania

The audit found that shipping frequency was the only cause of constraints at Tasmanian ports. It noted spare capacity at Bell Bay.

4.2.6 Victoria

Holden Dock at Yarraville is the berth for petrol imported for Melbourne's terminals. The audit did not identify any serious bottlenecks for importing petrol. It stated that Holden Dock is at about 80 per cent of capacity.

4.2.7 Western Australia

The audit indicated there are no capacity constraints at the Port of Fremantle, which supplies Perth's terminals. Ports with capacity restrictions were Broome, Dampier and Esperance, and there were emerging constraints at Port Hedland.

4.2.8 Conclusion

The audit's conclusion focused on the role of governments in facilitating port improvements and expansions. It found that government processes had both impeded and assisted companies' investment in port facilities. It recommended that the Commonwealth government, in consultation with state and territory governments, ensure timely decisions regarding port planning and development approvals.

4.3 Access to spare capacity by independent importers

The data provided to the ACCC indicates that in 2007–08 and 2008–09, independent importers only used their own terminals or those owned by an independent owner. There is considerable spare capacity in some of the independently owned import terminals around Australia, with more capacity likely to become available in the future. Independent importers could make use of this spare capacity.

As noted in the 2007 ACCC petrol inquiry report, an option for independent importers might be to consider use of the collective bargaining process. However competitors that act collectively in negotiations on price and other terms and conditions may be at risk of breaching the competition provisions of the Act.

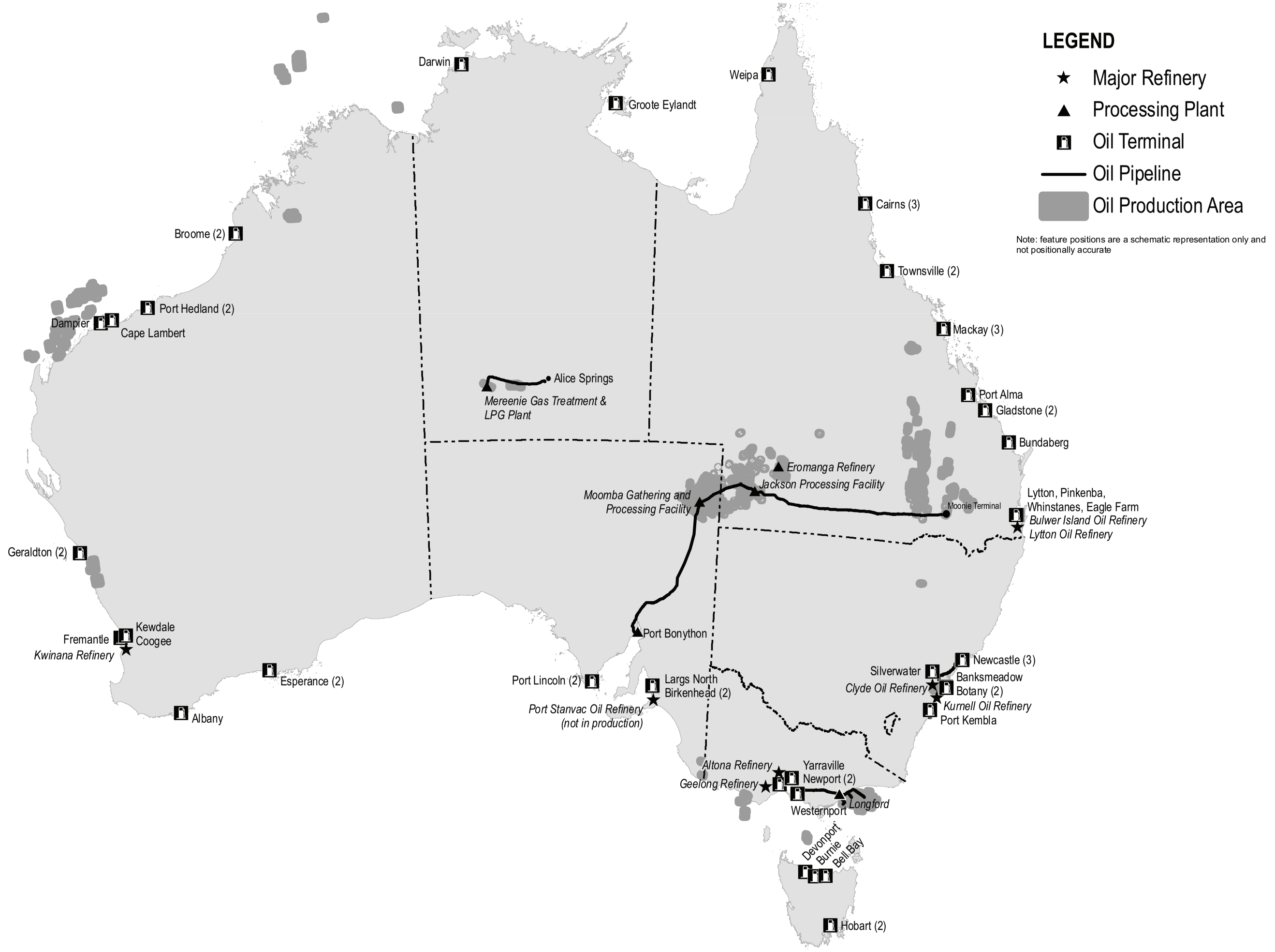
Accordingly, before undertaking collective bargaining, companies may need to apply to the ACCC for authorisation to engage in the proposed conduct. Protection for collective bargaining is available under the Act where the ACCC determines that the public benefits from the collective arrangements outweigh any public detriments.

Further information about collective bargaining can be found on the ACCC website or by contacting the ACCC Infocentre.

4.4 Map and schematics of major oil infrastructure and flows

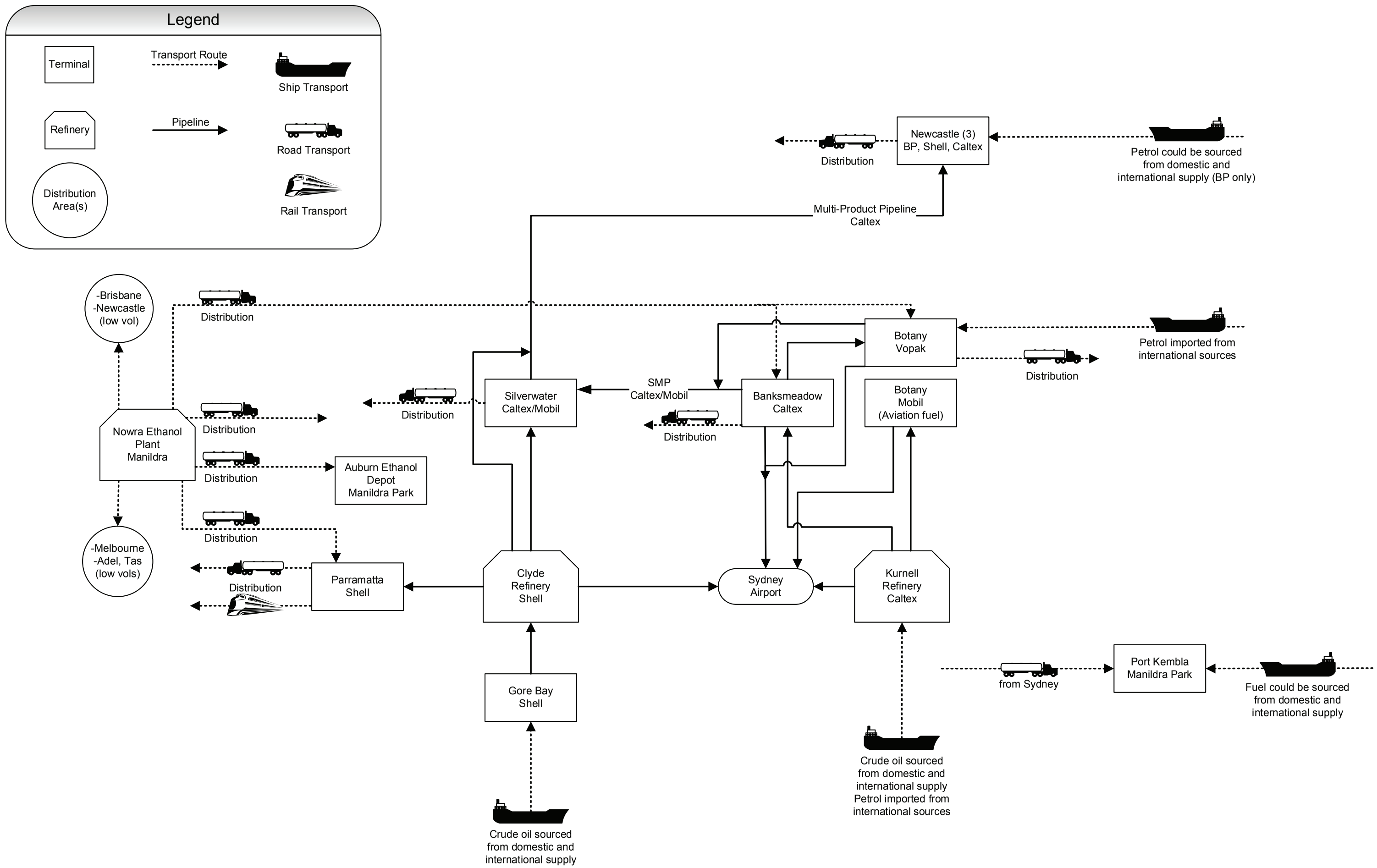
Each state's import terminals, along with other major terminals, refineries and other key infrastructure, are set out in the following schematics of petroleum product flows (figures 4.1 to 4.5).

Figure 4.1 Australian major oil infrastructure



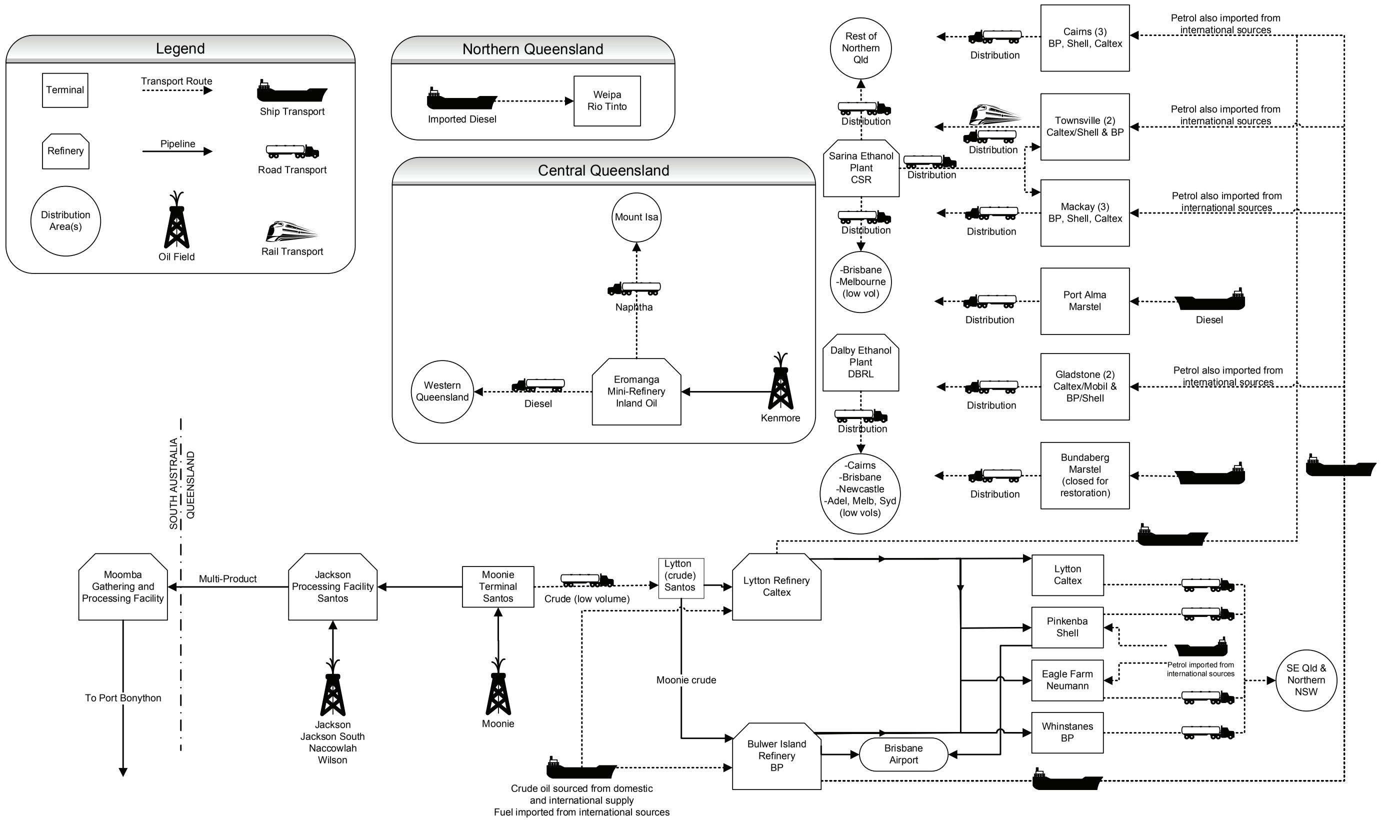
Source: Prepared by RLMS Pty Ltd for the ACCC.

Figure 4.2 New South Wales oil flow schematic



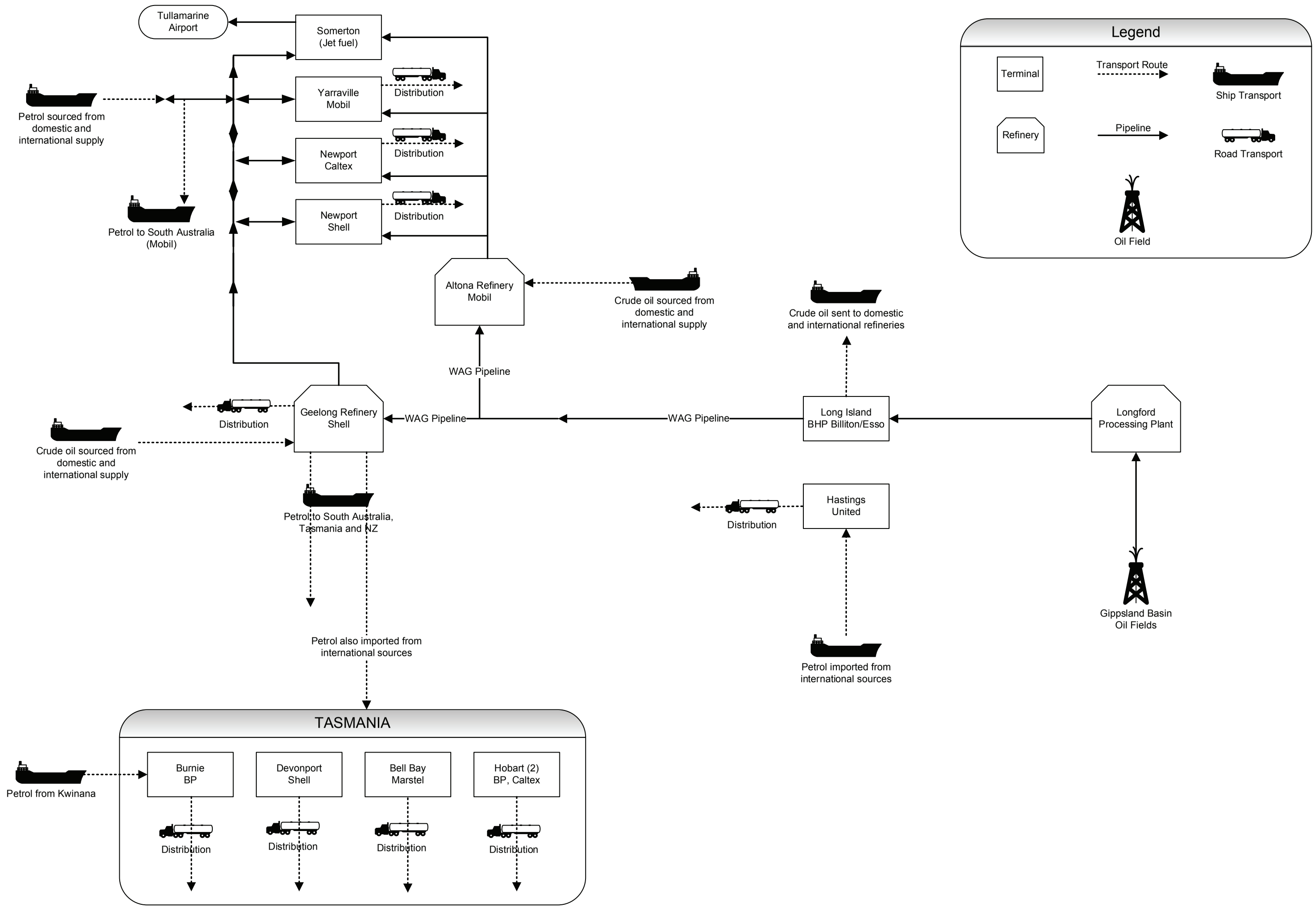
Source: Prepared by the ACCC and RLMS Pty Ltd.

Figure 4.3 Queensland oil flow schematic



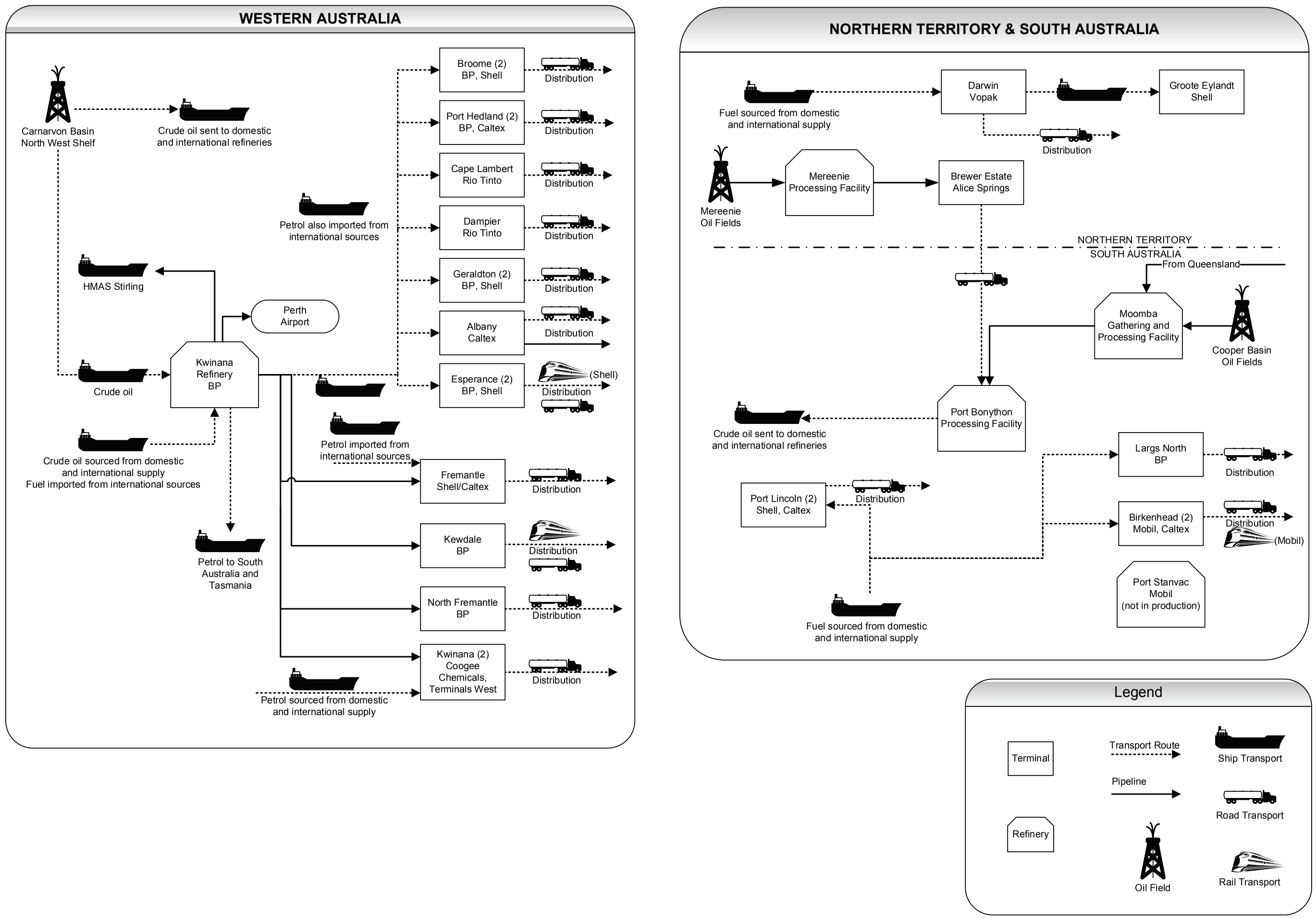
Source: Prepared by the ACCC and RLMS Pty Ltd; ethanol flows source *Australian Biofuels 2009*, APAC Biofuel Consultants, August 2009.

Figure 4.4 Victoria and Tasmania oil flow schematic



Source: Prepared by the ACCC and RLMS Pty Ltd.

Figure 4.5 Western Australia, Northern Territory and South Australia oil flow schematic



Source: Prepared by the ACCC and RLMS Pty Ltd.

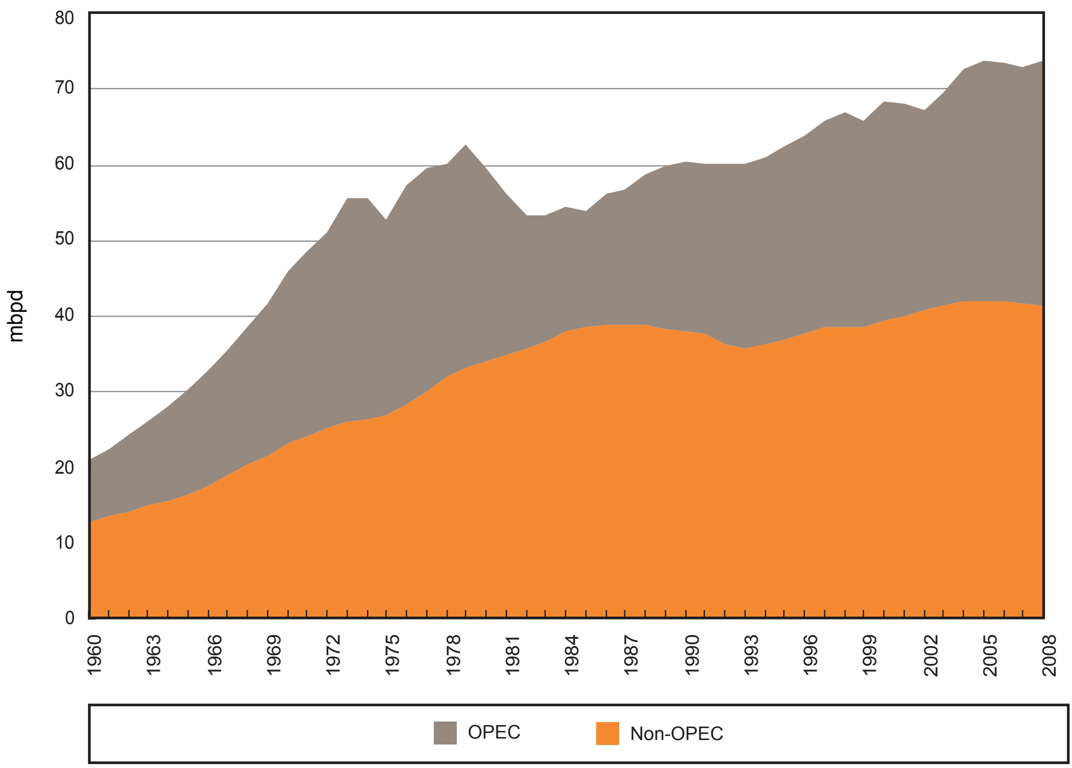
5. International context

Australia is a relatively small player in the global oil and refined petrol supply chain. As a price taker, Australia's prices are largely determined by international forces. This chapter discusses the international context of crude oil supply and the related global refining industry, explaining some recent international trends that have affected Australian petroleum producers and consumers.

5.1 Global crude oil supply

Global and regional market forces of supply and demand determine the price of crude oil. Global crude oil production (supply) can be divided into Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC production. According to the United States Energy Information Administration (US EIA), as at June quarter 2009 annualised global crude oil production was 83.7 million barrels per day (mbpd), of which OPEC production was 33.7 mbpd (40 per cent) and non-OPEC production was 50.0 mbpd (60 per cent).[1]

Chart 5.1 Global crude oil production, OPEC and non-OPEC: 1960 to 2008



Source: US EIA, 'World crude oil production, 1960–2008', *Annual Energy Review 2008*, July 2009, table 11.5.

1 US EIA, *International Petroleum Monthly*, 'World oil balance, 2005–2009', November 2009.

From 1984 to 2008, non-OPEC production grew by only 9 per cent (equivalent to a compounded annual growth rate over the 24 years of 0.3 per cent), while OPEC production grew by 97 per cent (equivalent to a compounded annual growth rate over the 24 years of 2.9 per cent).[2]

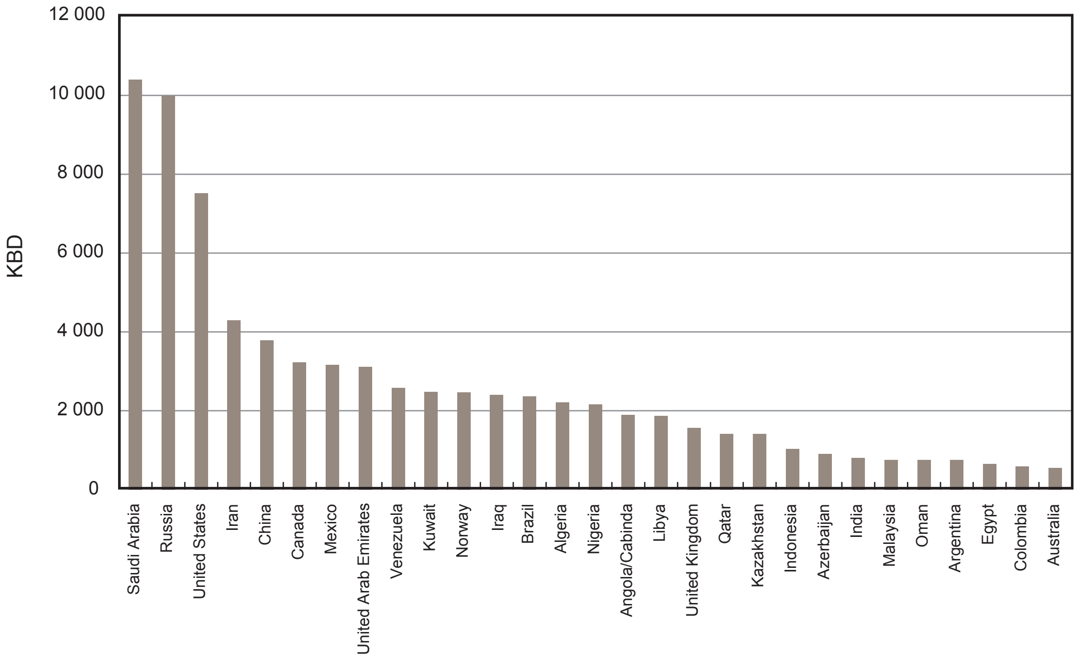
OPEC is an intergovernmental cartel of some of the largest producers of crude oil in the world. Its stated objective is to 'coordinate and unify the petroleum policies of Member Countries and ensure the stabilization of oil markets in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers and a fair return on capital to those investing in the petroleum industry'.[3]

As can be seen in chart 5.1, OPEC is generally the world's variable crude producer. OPEC members—in particular its largest producing nation, Saudi Arabia—have historically varied their output to meet market conditions and OPEC volume quotas.

The 12 OPEC members are Saudi Arabia, Iran, Kuwait, the United Arab Emirates, Venezuela, Iraq, Nigeria, Angola, Libya, Algeria, Qatar and Ecuador. As shown in chart 5.2, OPEC members are some of the largest producers of crude oil in the world.

Some of the significant non-OPEC crude oil producing regions are North America (the US, Canada and Mexico), the former Soviet Union (FSU),[4] the North Sea (Norway and the UK), China and Brazil. In 2008, according to the International Energy Agency (IEA) these producing regions accounted for approximately three-quarters of non-OPEC global production.

Chart 5.2 Global crude oil production by country: 2008



Source: ACCC using data sourced from IEA. Data copyright OECD/IEA 2009.

2 US EIA, *Annual Energy Review 2008*, 'World crude oil production, 1960–2008', July 2009, p. 315.

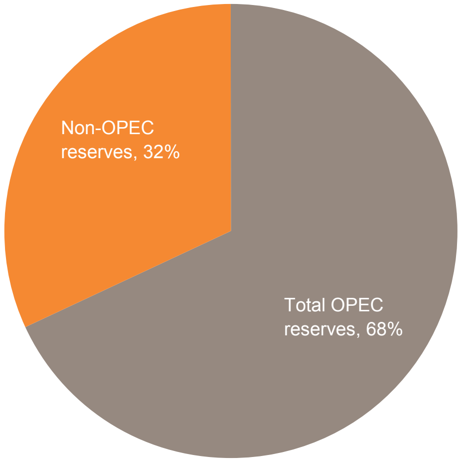
3 OPEC mission statement, www.opec.org.

4 The FSU includes Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Of these the major crude oil producers are Russia, Kazakhstan and Azerbaijan.

In 2008 Australia's crude oil production was 0.5 mbpd, approximately 0.7 per cent of world crude oil production.

Based on Central Intelligence Agency (CIA) estimates, most of the world's proven conventional crude oil reserves are held by the 12 members of OPEC (see chart 5.3). This suggests that global oil production and exports will increasingly be dominated by OPEC as non-OPEC sources decline.[5]

Chart 5.3 OPEC and non-OPEC shares of global crude oil proved reserves: 2008



Source: CIA *World Factbook*.

Note: Proved reserves are those quantities of petroleum which, by analysis of geological and engineering data, can be estimated with a high degree of confidence to be commercially recoverable from a given date forward, from known reservoirs and under current economic conditions.

5 CIA, *The World Factbook*, 2008, www.cia.gov/library/publications/the-world-factbook/rankorder/2178rank.html.

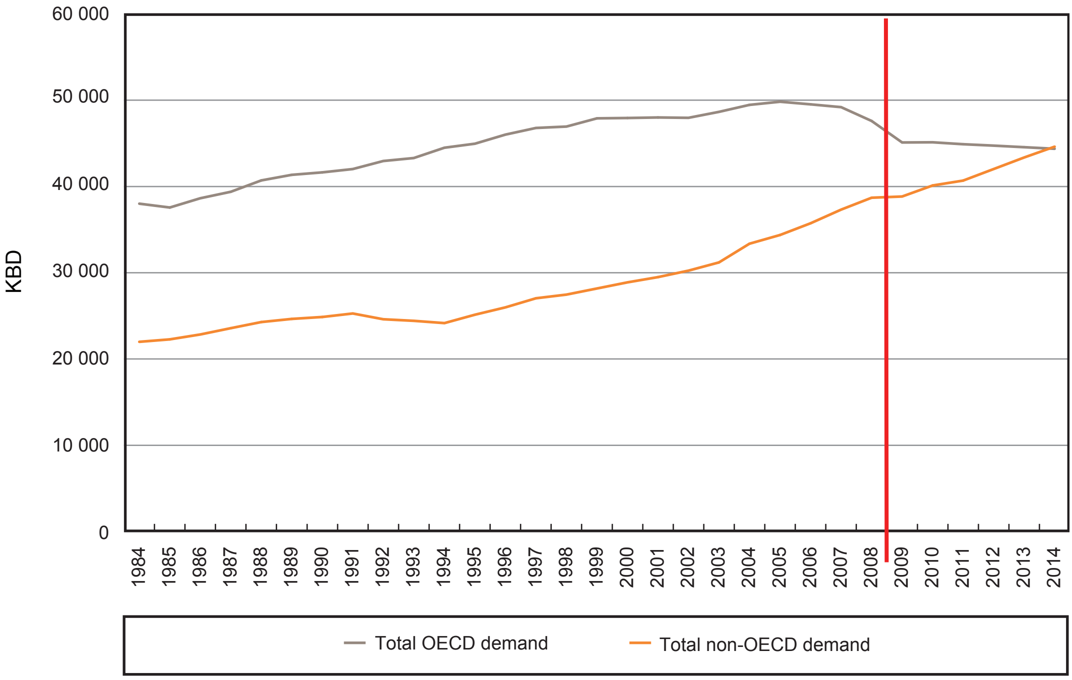
5.2 Global crude oil demand

Since 1984 world demand for oil-based products has grown by 1.4 per cent per annum (on average). However, this high-level statistic masks some large divergences. Growth in demand in non-OECD countries has been much stronger than in OECD countries, averaging 2.4 per cent per annum since 1984. Total demand in OECD countries fell in 2008 in response to the global financial crisis and is forecast by the IEA to fall again in 2009 (see chart 5.4). Based on IEA projections, at some point in the next few years demand in non-OECD countries is likely to outstrip demand in OECD countries.

Crude oil consumption in the Asia-Pacific region has accelerated since 2003 at a faster rate than in other regions, mainly due to Chinese and Indian consumption growth.

Together, China and India account for 30 per cent of non-OECD demand. Since 2000, annual growth in demand in China and India has averaged 6.4 per cent and 3.7 per cent respectively.

Chart 5.4 Demand for oil-based products in OECD and non-OECD countries: 1984 to 2014



Source: ACCC using data sourced from IEA. Data copyright OECD/IEA 2009.

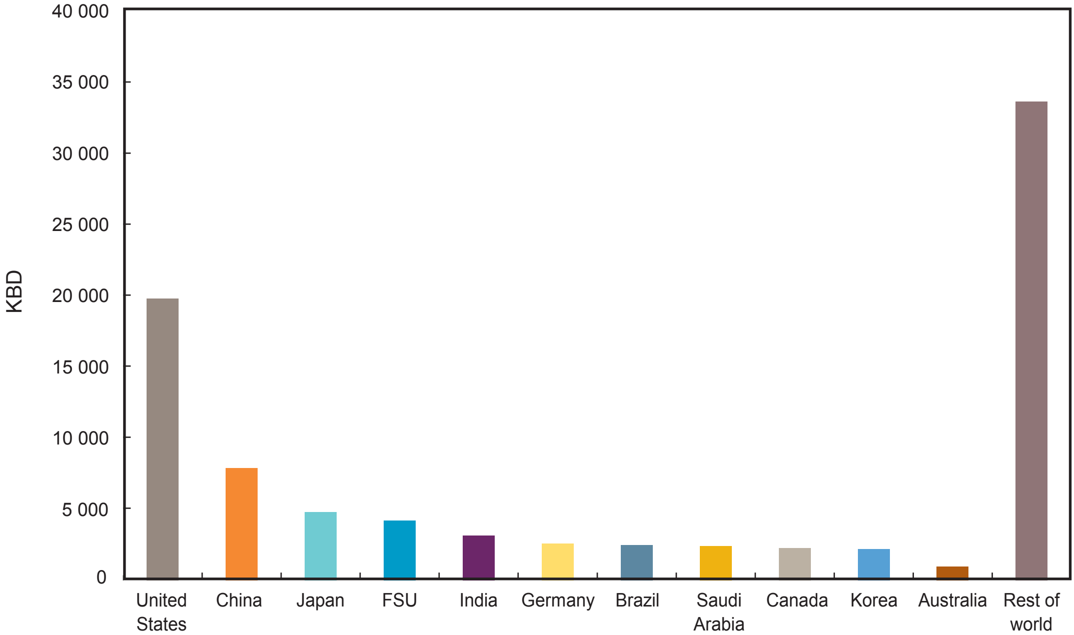
Note: 2009 to 2014 figures are IEA forecasts.

Crude oil consumption growth has a close correlation to gross domestic product (GDP) growth. Many OECD economies were in recession during 2008 and the first half of 2009, which resulted in global crude oil consumption declining by 0.6 per cent from 2007. This was the first global crude oil consumption decline since 1993, and the largest contraction in oil demand in 25 years.

In 2008, OECD crude oil consumption fell by 3.2 per cent. The USA and Japan experienced declines of 6.4 per cent and 3.5 per cent respectively from 2007. By contrast, China (up 3.3 per cent), India (up 4.8 per cent), the FSU (up 3.1 per cent), Brazil (up 5.3 per cent) and Saudi Arabia (up 8.1 per cent) all had increasing oil consumption growth in 2008 compared to 2007.

The world's 12 largest crude oil consumers account for approximately 70 per cent of global crude demand. The USA alone accounted for one-fifth of global crude oil consumption. China, the world's second largest consumer, has almost doubled its consumption in the past 10 years.[6]

Chart 5.5 Demand for oil-based products by country: 2008



Source: ACCC using data sourced from IEA. Data copyright OECD/IEA 2009.

Australia's crude oil consumption has been steadily growing over the past 10 years, due to sustained strong economic growth. Increased mining activity and transport demand has resulted in increased demand for diesel fuel. Australia is a net importer of diesel, as local refining supply of diesel is insufficient to meet local demand.

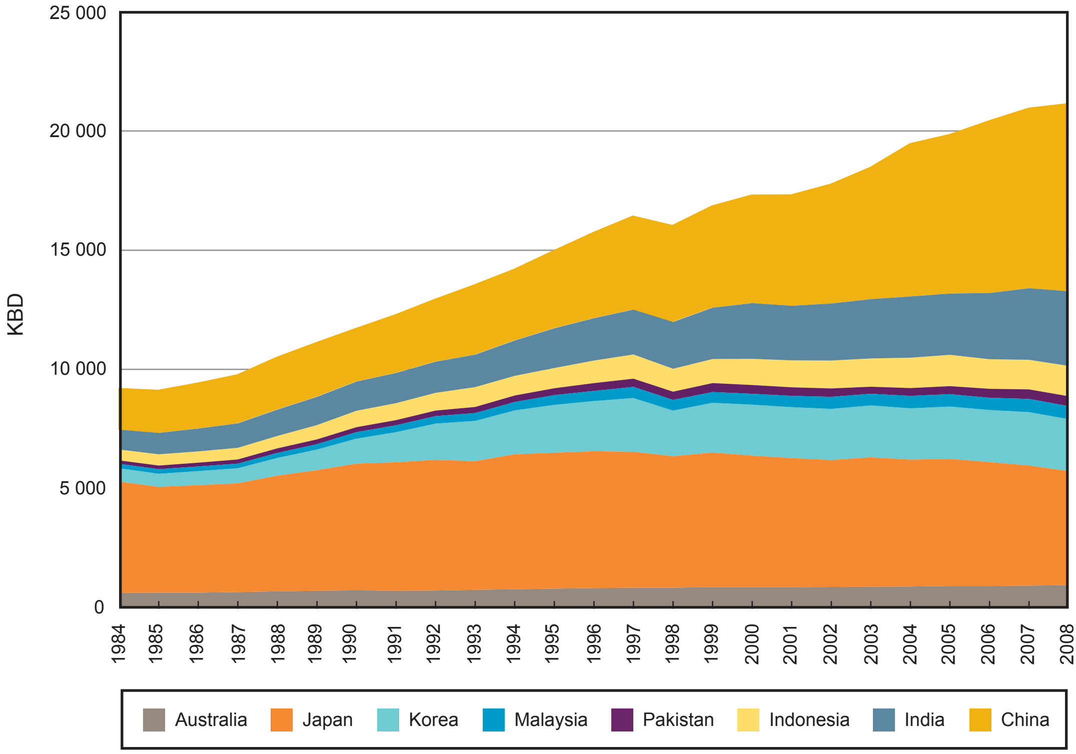
In 2008 Australia's crude oil consumption was around 0.9 mbpd, approximately 1 per cent of world crude oil consumption.

6 BP, *Statistical Review of World Energy*, June 2009, p. 11.

5.3 Asia-Pacific crude oil supply and demand

Based on IEA figures, less than 10 per cent of global crude oil production in 2008 was sourced in the Asia-Pacific region, while approximately 30 per cent of global crude oil consumption occurred in the region. As chart 5.6 indicates, consumption in this region is growing rapidly.

Chart 5.6 Oil consumption in selected Asia-Pacific economies: 1984 to 2008



Source: ACCC using data sourced from IEA. Data copyright OECD/IEA 2009.

The Asia-Pacific region in 2008 was short (that is, it lacked sufficient local production) by approximately 17.4 mbpd (or 69 per cent of consumption) of crude oil. The shortfall was satisfied by crude imported into the region. Approximately 75 per cent of crude imported into the Asia-Pacific region was from the Middle East. The Asia-Pacific region is more dependent on imported crude oil than any other region in the world.

At the end of 2008 the Asia-Pacific region held only 3.3 per cent of the global crude oil proved reserves. By comparison, the Middle East held around 60 per cent of global crude oil proved reserves.[7]

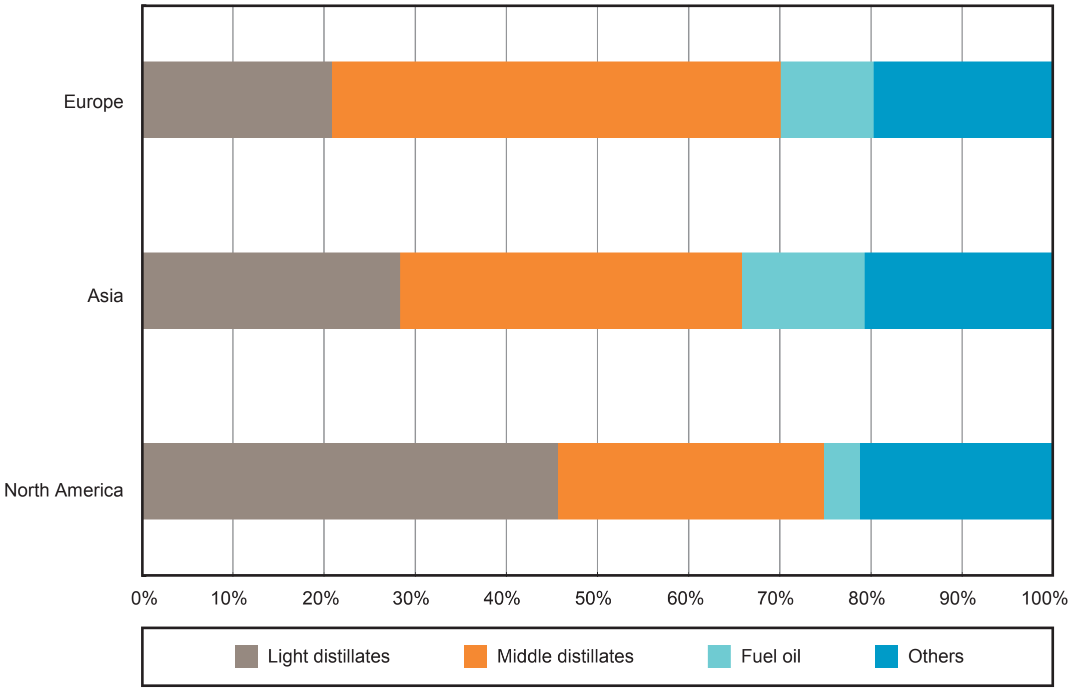
Asia-Pacific crude oil production is forecast to decline over the next 10 to 15 years. However, Asia-Pacific crude oil consumption is forecast to grow as demand for crude oil in India and China increases through economic growth, improved living standards and further industrialisation. This will inevitably lead to increased crude oil imports into the Asia-Pacific region. As a matter of supply security, the largest consumers in the Asia-Pacific region have attempted to diversify away from

7 BP *Statistical Review*, p. 6.

their heavy reliance on Middle East crude oil. The FSU, Africa and South America are becoming larger suppliers of crude oil to the Asia-Pacific.

Chart 5.7 shows that consumption in the Asia-Pacific region is weighted more heavily towards middle rather than lighter distillate consumption (there is relatively more demand for diesel than petrol). In 2008, middle distillate consumption was 37 per cent of the total, and light distillate consumption was 28 per cent of the total.[8] Over the past 10 years the proportions of middle distillate and light distillate consumed in the Asia-Pacific region have been reasonably constant, while their absolute levels have risen significantly.

Chart 5.7 Consumption by product type by region: 2008



Source: BP *Statistical Review*.

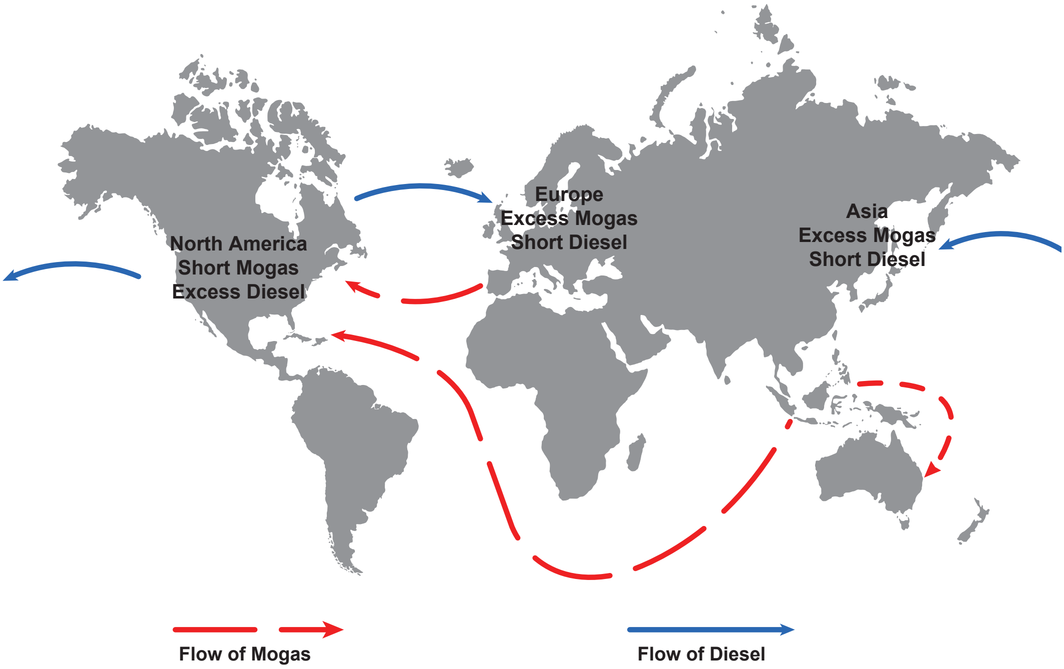
By contrast, US consumption is skewed towards light distillates (petrol). In 2008, US light distillate consumption was 46 per cent of the total, compared to 29 per cent for middle distillate consumption.

In Europe in 2008 middle distillate consumption was 49 per cent of the total, compared to 21 per cent for light distillate consumption.

The lower demand for Mogas (petrol) relative to diesel in Europe and the Asia-Pacific region leads to flows of Mogas from these regions to regions such as North America that are short of Mogas, as shown in figure 5.1. Flows of diesel occur in the other direction.

8 BP *Statistical Review*, p. 14.

Figure 5.1 Indication of net movement of Mogas and diesel across major regions



Source: ACCC analysis of IEA and BP data.

5.4 Global crude oil refining capacity

According to BP, global refining capacity, as measured by distillation capacity, was 88.6 mbpd at the end of 2008, up 0.9 per cent (0.8 mbpd) from 2007.

In 2008 North America had 24 per cent of global refining capacity, and the USA had 20 per cent of global refining capacity. The region's share of global refining capacity has been steady over the past 10 years.

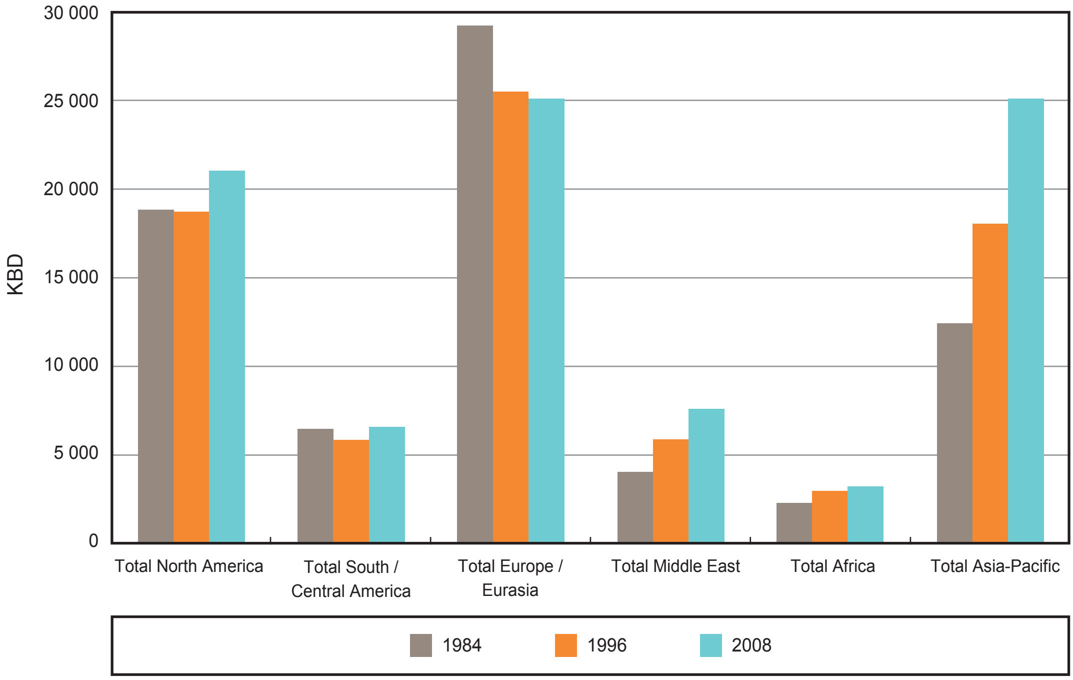
Europe, including the FSU, had 28 per cent of global refining capacity. Its share of global refining capacity has fallen over the past 10 years from 32 per cent in 1998 to 28 per cent in 2008.

The Middle East had 9 per cent of global refining capacity, and its share of capacity over the past 10 years has been steady. [9]

In 2008 the Asia-Pacific region had 28 per cent of global refining capacity. Its share of global refining capacity has increased over the past 10 years from 25 per cent in 1998. It is expected that most future refining capacity additions will be in the Asia-Pacific region, as this is where demand for refined product is likely to grow.

9 BP *Statistical Review*, p. 18.

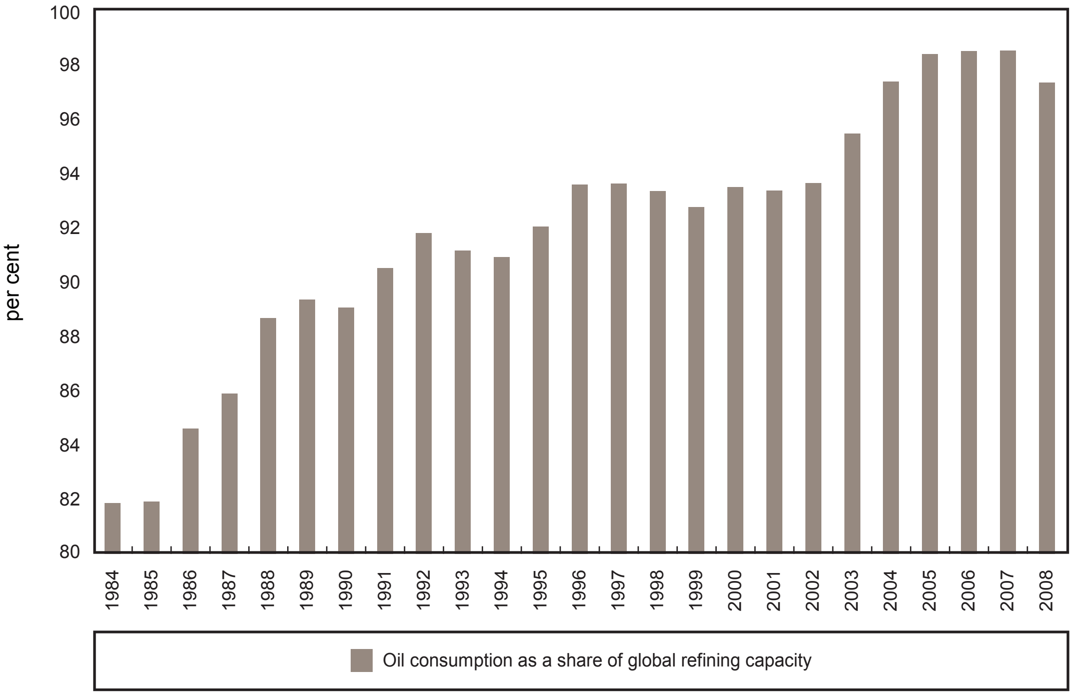
Chart 5.8 Regional share of global refining capacity: 1984 to 2008



Source: BP *Statistical Review*.

As shown in chart 5.9, global refinery utilisation rates increased during 2004–07 as a result of global demand increasing at a faster rate than global refining additions. Utilisation rates went to record highs of around 95 per cent. With limited available capacity, any further increase in demand or disruption to supply (such as unplanned refinery outage) could result in price spikes.

Chart 5.9 Global crude oil consumption as a percentage of global refining capacity: 1984 to 2008



Source: ACCC construction based on data from BP *Statistical Review*.

5.5 Asia-Pacific refining capacity

In 2008 more than half of the additional global refining capacity was added in the Asia-Pacific region. Of the additions in the Asia-Pacific region, half were in China—approximately 0.22 mbpd. There was also significant growth in refining capacity in India.

Some of the largest refineries in the world are in the Asia-Pacific region. There are eight refineries in the region that have distillation capacity over 0.4 mbpd (in Singapore, South Korea, Taiwan and India). The largest Asia-Pacific refinery is the Jamnagar complex in India, with 1.2 mbpd capacity.[10]

In Australia there are seven oil refineries operating, with a total capacity of 0.75 mbpd. Australian refineries are relatively small by world standards. Australia's demand for petroleum products is greater than domestic refinery supply; therefore the local oil refineries generally run at maximum capacity.

A significant proportion of OECD refining investment in the past 10 years has been directed towards meeting increasingly tight environmental specifications, especially reduction in sulphur content. The investment has been to maintain rather than increase refining capacity.

By contrast, investment in the Asia-Pacific region has been to expand refining capacity. In the past five years, more than two-thirds of global refining capacity additions have been in the Asia-Pacific region, mainly in China and India.[11]

10 *Oil and Gas Journal*, 'Worldwide refining capacity growth rises again in 2008', 22 December 2008.

11 BP *Statistical Review*, p. 18.

5.6 Recent oil price history

In December 1998, world oil prices were at a low of around $US10 per barrel (/bl). In the late 1990s and early 2000s relatively low global economic growth resulted in low oil demand growth and therefore low oil prices. The US, the world's largest oil consumer, was in recession during the early 2000s. Japan, then the world's second-largest oil consumer, spent much of the 1990s in recession. The oil demand growth driven by emerging economies in the Asia-Pacific was stunted by the Asian financial crisis in 1997–98.

From 2003, global economic growth rebounded strongly with synchronised global growth and increased global oil demand from emerging economies in the Asia-Pacific region, Brazil, the FSU and the Middle East. This led to a strong increase in demand for oil.[12]

On the supply side, low investment in exploration, extraction and refining of crude oil during the years when prices were low constrained the ability of supply (of both crude oil and refined petrol) to rapidly expand.

With strong growth in demand and constrained supply growth, stocks were drawn down to historically low levels and prices rose. As crude oil is generally priced in US dollars, the declining value of the US dollar also contributed to rising nominal prices.

From 2003, oil traded higher each year, peaking in July 2008 at an historic high for West Texas Intermediate (WTI) crude oil on the New York Mercantile Exchange[13] of almost $US147/bl. The spot price for Malaysian Tapis crude, generally used as a reference in Australia, peaked at just under $US152/bl.[14]

After the price peaked in July 2008 the deepening global recession dramatically decreased predicted oil demand and market sentiment turned rapidly against commodities such as oil. The price of crude collapsed to a low for WTI of $US32.40/bl on 19 December 2008.

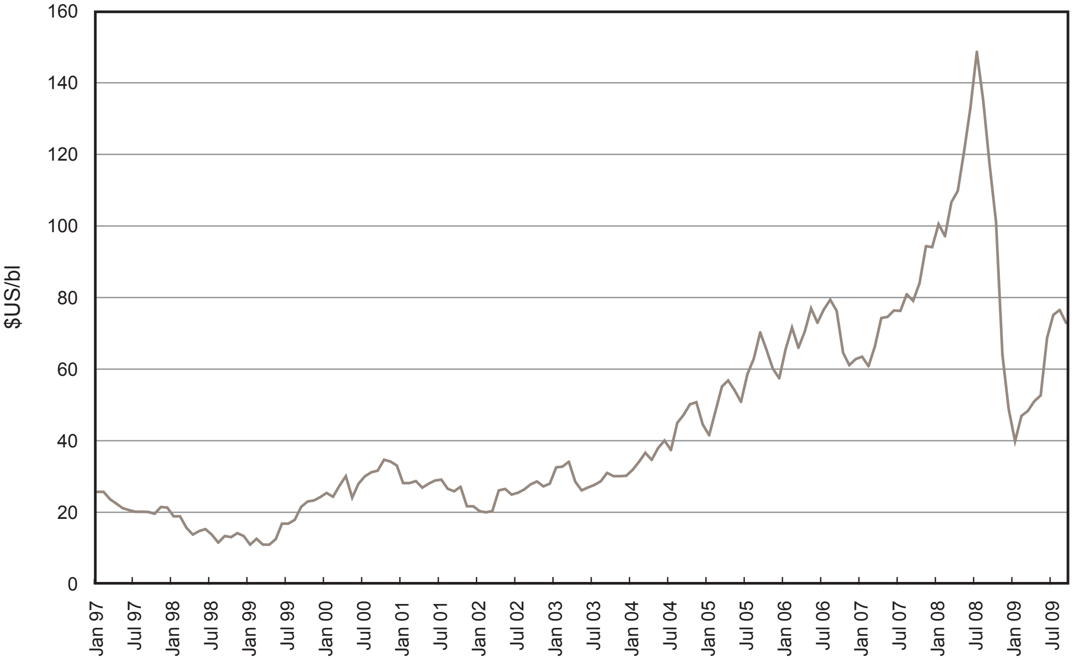
Since reaching its low near the end of 2008 the price of crude oil has approximately doubled as economic growth in Asia has continued, and broader market sentiment has indicated that many believe the worst of the global financial crisis is over. These price trends are shown in chart 5.10.

12 According to BP *Statistical Review*, in the four years from 2002 to 2006 global oil consumption increased from 76.7 million barrels per year (mbpy) to 83.8 mbpy (an increase of 9.3 per cent); and in the four years from 1998 to 2002 global consumption increased from 73.6 mbpy to 76.7 mbpy (an increase of 4.1 per cent). BP *Statistical Review*, p. 11.

13 WTI is the most quoted crude index in the world.

14 US EIA, 'World Crude Oil Prices', released 11 April 2009.

Chart 5.10 Malaysian Tapis crude oil spot price: January 1997 to July 2009

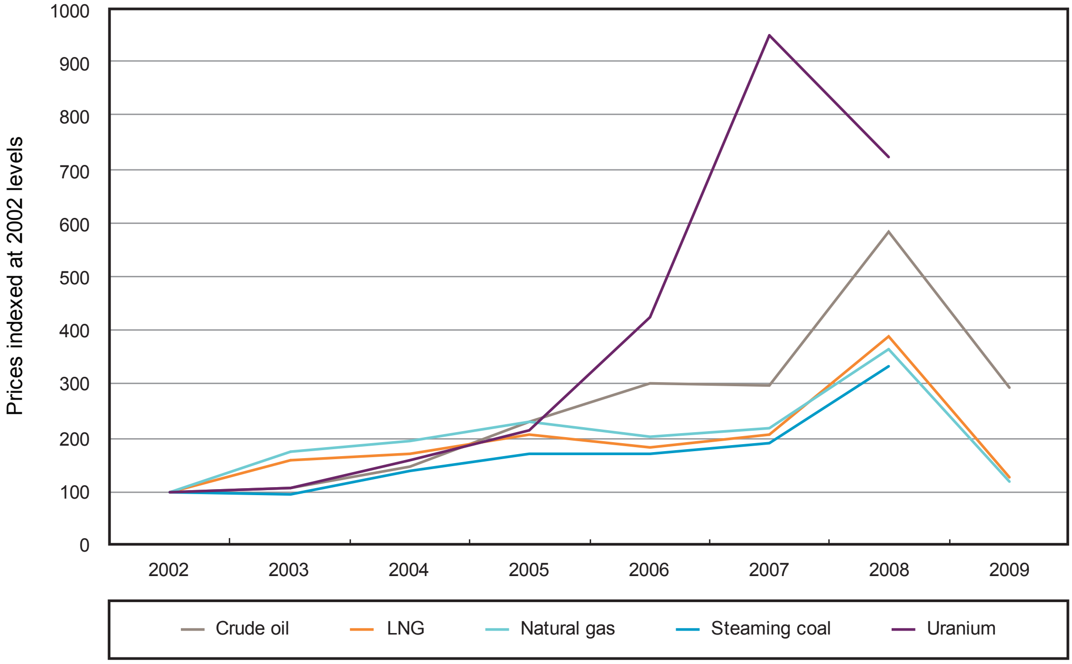


Source: US EIA, Weekly Malaysia Tapis Blend Spot Price free on board.

The recent increase in the price of oil, while steep, was not unique to oil and reflected a broader trend in the price of energy commodities.

As shown in chart 5.11, the prices of other energy commodities increased from 2002. Like oil, other energy commodities have since come off their peaks as world economic growth stalled.

Chart 5.11 Movements in the international prices of energy commodities: 2002 to 2009



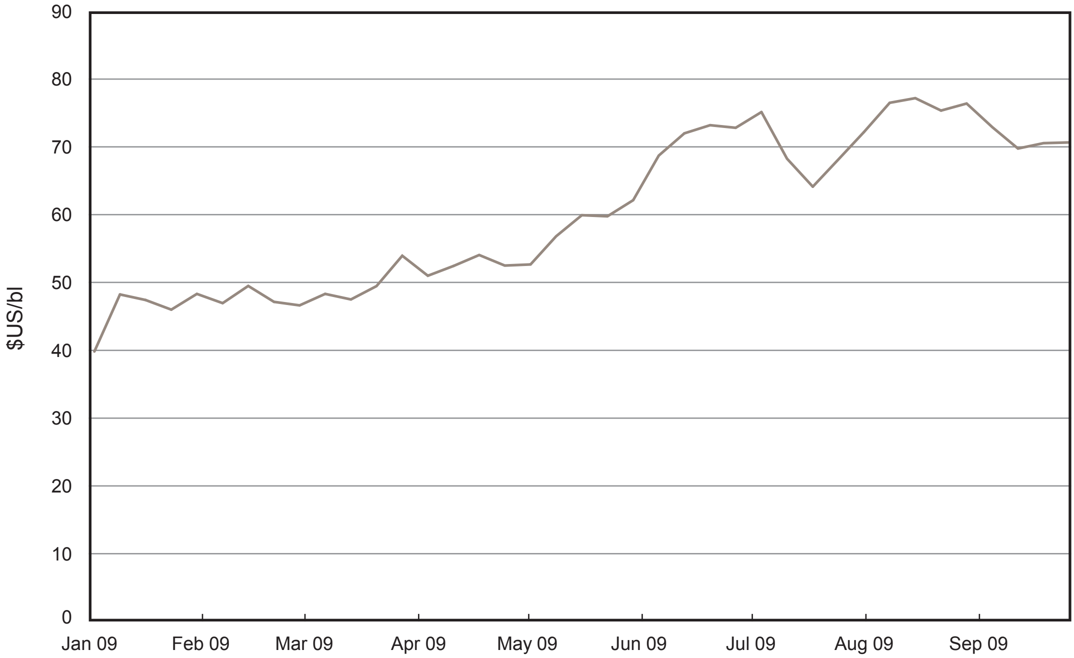
Source: US EIA and BP *Statistical Review* 2009.

5.7 Short-term oil price outlook

As shown in chart 5.12, in 2009 there has been a fairly consistent increase in crude oil prices from the very low prices at the end of 2008.

Causes of the increase in the US dollar price of crude oil include stronger than expected Asian economic growth, OPEC cuts to production, a weaker US dollar, and a general increase in economic confidence.

Chart 5.12 Malaysian Tapis crude oil spot price: June to September 2009



Source: US EIA, Weekly Malaysia Tapis Blend Spot Price free on board.

Given all the factors affecting the international price of crude oil it is impossible to accurately predict short-term oil prices.

However, some factors affecting prices can be identified. In the short term, crude oil price weakness has been a result of weakness in oil demand, due predominantly to the global recession. On the supply side, crude oil prices have been lifted by OPEC's production cuts—but, as prices rise, the incentive for OPEC producers to produce over quota is increased.

The IEA has recently increased its forecast for global oil demand in response to the International Monetary Fund releasing better than expected growth forecasts for Asia and North America.[15]

Crude oil prices should be less volatile than they were in 2008, due to increased stocks providing some buffer in the supply chain.[16] It is possible that prices will trade sideways (that is, show no pronounced upward or downward trend) while the global recession keeps demand flat.

15 IEA, *Oil Market Report*, October 2009, p. 4.

16 According to the IEA, OECD stocks in July 2009 were 4.6 per cent above those when the price of crude peaked in July 2008. IEA, *Oil Market Report*, 'Highlights', September 2009, p. 29. Copyright OECD/IEA 2009.

Once global economic recovery begins, the supply chain should be better equipped to handle increased product demand as new refining additions have begun operating. In the short term there is refining capacity overhang, especially in the Asia-Pacific region. It is likely to take a couple of years for demand to soak up the surplus capacity. Until that occurs, refining margins will be under pressure.

It is possible that price spikes will occur due to temporary disruptions to supply, geopolitical issues and spikes in demand; however, barring a major crisis, it is unlikely that an extremely high oil price similar to July 2008 levels will be sustainable in the next few years.

In its June 2009 medium-term oil market report, the IEA acknowledged the difficulty of forecasting prices given widespread uncertainty about the recovery from the global economic slowdown. It based its scenarios on a nominal crude oil price of $US70/bl out to 2014. In the IEA's October 2009 report the forecast oil price for 2010 was increased from $US70/bl to $US75/bl on the basis of better than expected GDP growth, particularly in energy-intensive developing countries.[17]

5.8 Longer term oil price outlook

A major global challenge in the energy market—not just in the crude oil market—is to secure the supply of reliable and affordable energy in the long term while moving to a sustainable low-carbon economy. Many of the broader longer term issues, including the use of alternative energy sources, are discussed in chapter 15. This section concentrates on oil-based fuels.

5.8.1 Supply

Investment in non-OPEC crude oil production has been rising but this is mainly due to the increasing costs of developing reserves. Some analysts believe that oil production in non-OPEC countries will peak in the next five to 10 years and that the big, low-cost, easily accessible oil reserves have already been discovered.[18]

Future discoveries and production will assist in arresting the rate of decline in non-OPEC crude oil production but are unlikely to increase production. The new sources of production are likely to be smaller, higher cost and more technically difficult to deliver—such as in deeper water or more difficult geological structures. Therefore higher oil prices will be necessary to continue to reward upstream exploration and production. The risk for future non-OPEC conventional oil production in the longer term is that decline rates (the rates at which wells are exhausted) in mature fields could accelerate faster than forecast.

OPEC dominates access to large, low-cost oil reserves yet to be exploited. It is possible that OPEC will continue to limit access to development. Its proportion of global supply will probably rise as non-OPEC supply declines.

17 IEA, *Oil Market Report*, October 2009, p. 4.

18 The IEA forecasts OECD crude oil production to decrease from 19.1 mbpd in 2009 to 18.9 mbpd in 2010. IEA, *Oil Market Report*, October 2009, p. 24. Copyright OECD/IEA 2009.

5.8.2 Non-conventional oil supply

This includes more challenging (and more expensive to extract) oil or tar sands such as those in Canada, ultra-heavy oil in Venezuela, oil shales, coal to liquids and gas to liquids. All require significant long-term investment and sustained higher oil prices to encourage the investment. They also raise significant environmental concerns. The production of non-conventional oil may assist in keeping non-OPEC production levels from declining over the next 10 to 15 years.

These assumptions are based on current technology available. On balance, higher oil prices will be necessary to sustain non-OPEC conventional and non-conventional oil exploration and production.

5.8.3 Demand

There are a range of factors that are likely to impact on demand for oil based products.

Global oil demand will be increased by:

- population growth and economic growth, especially in emerging economies[19]
- growth in demand for cars (which has been rapid in emerging economies).

This increase will be moderated by a number of factors, including:

- technological advances and government requirements to improve fuel efficiency of vehicles
- legislation requiring use of biofuels and renewable sources of energy
- reduced energy intensity and increased efficiency of petrochemical-reliant industries
- reduction in oil price subsidies, especially in the Asia-Pacific region.

As shown in chart 5.4, the IEA forecasts an overall decrease in OECD demand for crude oil—from 47.6 million barrels in 2009 to 44.4 million barrels in 2014. However, this reduction in demand will be swamped by the growth in non-OECD demand, which the IEA predicts will increase from 38.7 million barrels to 44.6 million barrels during the same period.

5.8.4 Refining capacity

Global refining capacity is likely to continue to be a significant capacity constraint in the supply chain in the longer term. As global demand picks up after the economic slump, new refining additions will struggle to keep pace. In the short term, global refining overcapacity and pressure on refining margins will make it difficult to justify investing in additional refining capacity for the next upward cycle.

By the time demand has increased enough to soak up the existing overcapacity, refining margins will improve as refining becomes the supply chain constraint. New investment will be justified on improved refining margins, but because of lead times it will take two to five years for new capacity to become available. During this time, refining margins could expand.

In the longer term, the marginal barrel of crude oil produced will probably be from OPEC sources—probably a heavy, sour (high in sulphur) crude. Greater desulphurisation capacity and upgrading capacity will be required to produce clean specification light and middle distillates from heavy, sour crudes. Higher prices and higher refining margins will be required to encourage future investment in sophisticated upgrading of refining capacity.

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19 According to the IEA, oil demand is more responsive to economic growth in emerging countries than in the OECD. IEA, *Oil Market Report*, October 2009, p. 6.

On balance, in the longer term there is a significant chance of oil prices rising unless and until global demand growth can be sustainably reduced.

5.9 Observations

As recognised by the IEA, the outlook for oil prices and refined products will be affected by various factors, including the cost of exploration and extraction of crude oil, the levels of stocks throughout the supply chain and the costs of refining. Most experts expect prices to rise as the world recovers from the economic downturn.

The outlook for prices also depends on policy settings, including global and local measures to reduce carbon emissions as well as decisions on taxation levels and coverage.

6 Import parity prices

The import parity price (IPP) plays a central role in determining pricing outcomes in Australia. The IPP forms the basis for prices charged by refiner–marketers to each other through buy–sell agreements and for prices charged to third parties (other wholesalers, distributors and retailers). Consequently, changes in the IPP flow through to changes in wholesale and retail prices.

The IPP for regular unleaded petrol (RULP)[1] in Australia includes the benchmark price of refined petrol, plus a component reflecting the difference between the benchmark price and the price of fuel refined to Australian fuel standards and all costs associated with transporting the petrol into the relevant Australian refinery, terminal or storage facility.

The formula used by refiner–marketers for the IPP for refined RULP can be expressed as:

IPP = benchmark refinery price (e.g. MOPS[2] 95) + quality premium + freight + wharfage + insurance and loss

The ACCC noted in the 2008 ACCC petrol monitoring report that the principle and practice of IPP has been long established and widely used in Australia.[3] The refiner–marketers have been setting fuel prices in Australia on the basis of IPP since about 1990, and the Prices Surveillance Authority used an IPP approach to regulate maximum wholesale prices.

Because of the central role of the IPP in setting petrol prices, the ACCC has been interested in determining whether the IPP benchmark and its components based on the Singapore market remain appropriate as the basis for determining the prices for petrol sold in the Australian market. To this end, in January 2009 the ACCC commissioned McLennan, Magasanik and Associates to undertake such a review for petrol and diesel. At the same time it commissioned the Allen Consulting Group to review the appropriateness of the current automotive liquefied petroleum gas (LPG) international benchmark in the setting of domestic automotive LPG prices. A summary of the reports by the consultants is provided at appendix B and the full reports are available on the ACCC website. The ACCC welcomes comments on the two reports.

6.1 Relevance of IPP

Prices in competitive markets are driven towards the marginal costs of supply. Prices that reflect efficient marginal costs promote efficient consumption and production decisions. In markets where refinery output is insufficient to meet demand, imports represent the best alternative source of supply and the marginal cost of imports becomes the basis for setting prices.

In Australia, 15 to 20 per cent of refined petrol supplies have been imported to supplement local refinery output and ensure adequacy of supplies. As such, imports represent the marginal source of supply and domestic prices ought to reflect the import price.

The IPP is not determined on the basis of refiner–marketers' costs. It can be seen as a measure of the costs that would be incurred by an importer in purchasing petrol overseas and transporting it to a specific location in Australia.

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1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

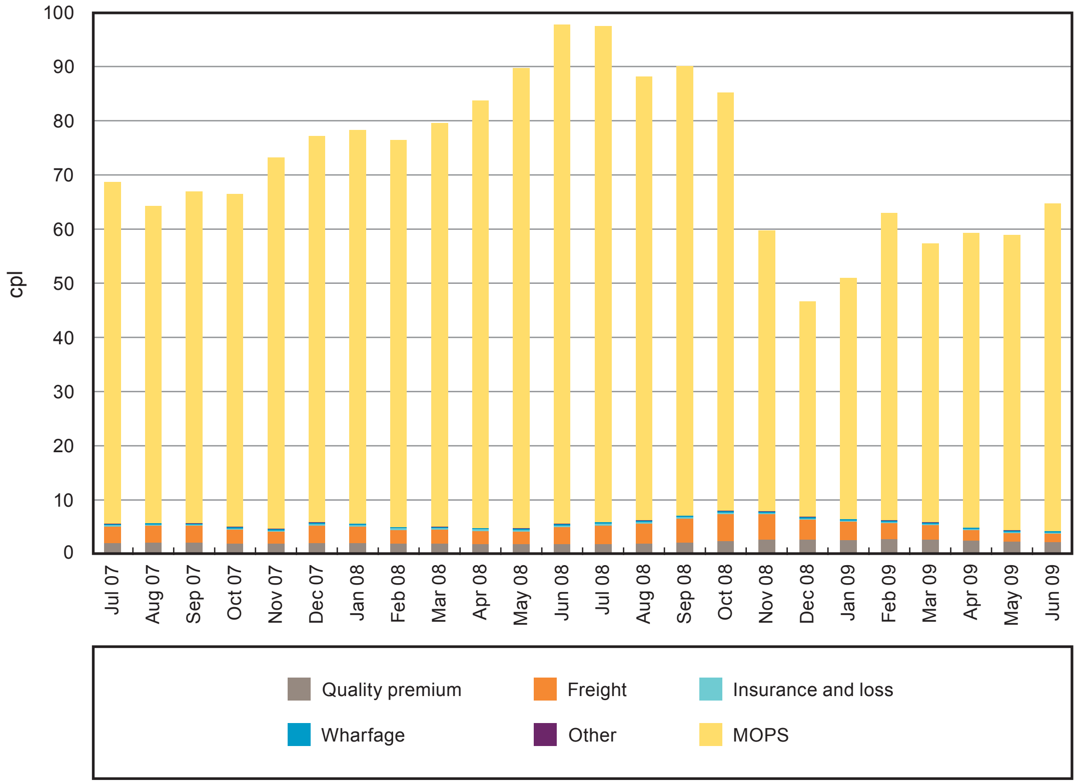
2 Mean of Platts Singapore.

3 ACCC, *Monitoring of the Australian petroleum industry: report of the ACCC into the prices, costs and profits of unleaded petrol in Australia*, December 2008, p. 44.

6.2 Components of IPP

Refiner–marketers calculate an IPP for each major location in which they operate. The components of the IPP capture the indicative costs associated with purchasing refined petrol in Singapore at Australian standards and transporting it to terminals in each relevant market. By far the most important component of the IPP is the benchmark price for refined Singapore fuel. Chart 6.1 depicts the components of the IPP on a monthly basis for 2007–08 and 2008–09 in the five largest cities.

Chart 6.1 Components of average monthly IPP for RULP in the five largest cities for the four refiner–marketers: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Items reported to the ACCC in the 'other' category vary across refiner–marketers. They include pipeline and terminal fees as well as other residual adjustments.

It is evident from chart 6.1 that changes in the MOPS benchmark price have been the key driver of changes in the IPP. This is further demonstrated in the data in table 6.1 setting out monthly average IPP components for the 12 months to June 2009.

Table 6.1 Components of average monthly IPP for RULP in the five largest cities for the four refiner–marketers: 2008–09

	Exchange rate $US1=$A	MOPS cpl	Quality premium cpl	Freight cpl	Insurance and loss cpl	Wharfage cpl	Other cpl	IPP cpl
Jul 08	0.96	91.52	1.85	3.38	0.40	0.20	0.09	97.45
Aug 08	0.90	81.78	1.98	3.65	0.36	0.22	0.09	88.08
Sep 08	0.82	82.97	2.15	4.34	0.37	0.22	0.10	90.15
Oct 08	0.73	77.10	2.45	4.93	0.35	0.22	0.10	85.15
Nov 08	0.65	51.82	2.75	4.64	0.24	0.22	0.10	59.77
Dec 08	0.66	39.69	2.74	3.68	0.19	0.22	0.09	46.60
Jan 09	0.68	44.53	2.64	3.33	0.21	0.22	0.10	51.03
Feb 09	0.65	56.72	2.76	2.92	0.26	0.22	0.10	62.98
Mar 09	0.65	51.37	2.73	2.63	0.23	0.22	0.10	57.28
Apr 09	0.71	54.33	2.50	1.89	0.24	0.22	0.10	59.28
May 09	0.74	54.46	2.36	1.51	0.24	0.22	0.10	58.89
Jun 09	0.79	60.39	2.22	1.55	0.26	0.22	0.10	64.74

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: In this report, cpl means Australian cents per litre.

Apart from the MOPS benchmark price, freight costs and the quality premium are the next largest components of the IPP. Data in table 6.2 shows annual averages for each IPP component in US dollars per barrel ($US/bl) and Australian cents per litre (cpl) as well as their percentage contributions to the IPP for 2007–08 and 2008–09.

Table 6.2 Annual averages of daily components of net IPP for RULP in the five largest cities for the four refiner–marketers: 2007–08 and 2008–09

	2007–08			2008–09		
	$US/bl	cpl	%	$US/bl	cpl	%
MOPS	101.87	71.47	93.05	76.77	62.59	90.91
Quality premium	2.84	2.01	2.61	2.83	2.42	3.52
Total freight	3.84	2.72	3.54	3.85	3.24	4.71
Insurance and loss	0.45	0.31	0.41	0.34	0.28	0.41
Wharfage	0.28	0.20	0.26	0.26	0.22	0.32
Other	0.13	0.10	0.12	0.11	0.10	0.14
IPP	109.41	76.81	100.00	84.17	68.85	100.00
Exchange rate $US1=$A		0.89			0.75	

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Minor differences from data in last year's monitoring report are due to slightly different calculation methodologies. Figures may not add up to total, due to rounding.

The contributions of each component to the IPP expressed in cpl typically vary depending on changes in the absolute size of each component and changes in the exchange rate.

Each component of the IPP is considered in the sections that follow.

6.2.1 MOPS benchmark price

The benchmark price used in the IPP formula by the refiner–marketers is the Platts Singapore quote for refined unleaded fuel of RON[4] 95, referred to as MOPS 95 (mean of Platts Singapore for Mogas 95).

The MOPS price generally accounts for around 90–94 per cent of the IPP. During 2008–09 there were significant fluctuations in the MOPS price. The daily average MOPS price ranged from a low of 35.00 cpl to a high of 96.89 cpl during 2008–09. Data in table 6.2 shows that, on average, the MOPS price was 62.59 cpl and the average IPP was 68.85 cpl. The MOPS price as a proportion of the total IPP decreased from 93.05 per cent in 2007–08 to 90.91 per cent in 2008–09, due primarily to lower prices for refined petrol in Singapore. The average MOPS price for 2008–09 was $US76.77/bl compared with $US101.87/bl in 2007–08.

6.2.2 Fuel quality premium

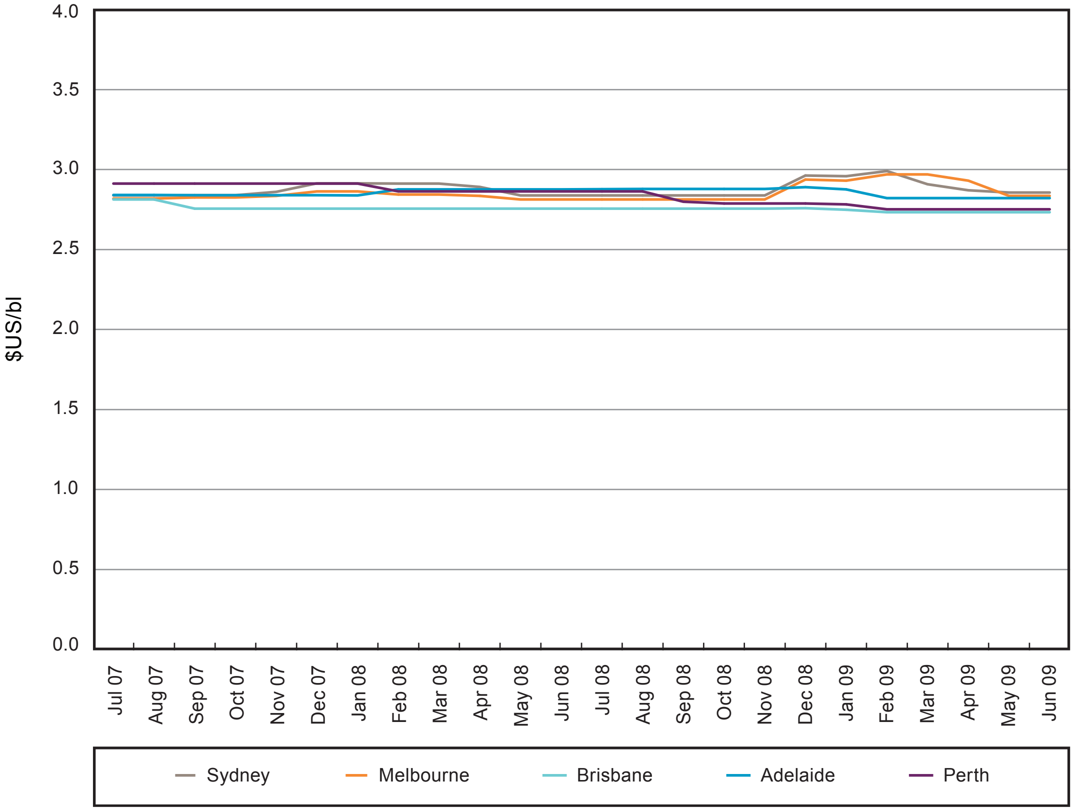
Commonwealth and state regulations set fuel standards in Australia. The tighter Australian specifications generally mean that it is more expensive to refine and/or buy Australian-grade petrol relative to the Platts Singapore benchmark price.

In principle, the fuel quality component of the IPP formula for RULP is intended to reflect the difference between the benchmark price and the price of fuel refined to Australian standards. In 2008–09, the average fuel quality premium across the five largest cities was 2.4 cpl (see table 6.2).

The fuel quality premiums, expressed in $US/bl, were comparatively stable during 2008–09. Chart 6.2 shows average quality premiums in $US/bl in the five largest cities for 2007–08 and 2008–09.

4 Research octane number.

Chart 6.2 Weekly average quality premium for RULP in the five largest cities for the four refiner–marketers: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Due to a weaker US currency, the premiums for fuel quality differentials rose in cpl over the course of 2008–09. This can be seen in the data in table 6.3 showing average annual quality premiums for each capital city for 2007–08 and 2008–09.

Table 6.3 Annual averages of daily fuel quality premium for RULP in seven capital cities for the four refiner–marketers: 2007–08 and 2008–09

Average daily fuel quality premium	Sydney cpl	Melbourne cpl	Brisbane cpl	Adelaide cpl	Perth cpl	Hobart cpl	Darwin cpl
2007–08	2.03	2.00	1.95	2.02	2.04	2.52	2.67
2008–09	2.48	2.47	2.35	2.44	2.38	2.88	2.98

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Fuel quality premiums differ across capital cities. This partly reflects the fact that some states have different regulations covering fuel standards. The diversity of quality premiums reported to the ACCC by the refiner–marketers also tends to support the notion that they are determined by negotiation.

6.2.3 Freight

The formula for the IPP includes a component for freight, reflecting the fact that the MOPS benchmark is a free-on-board price.

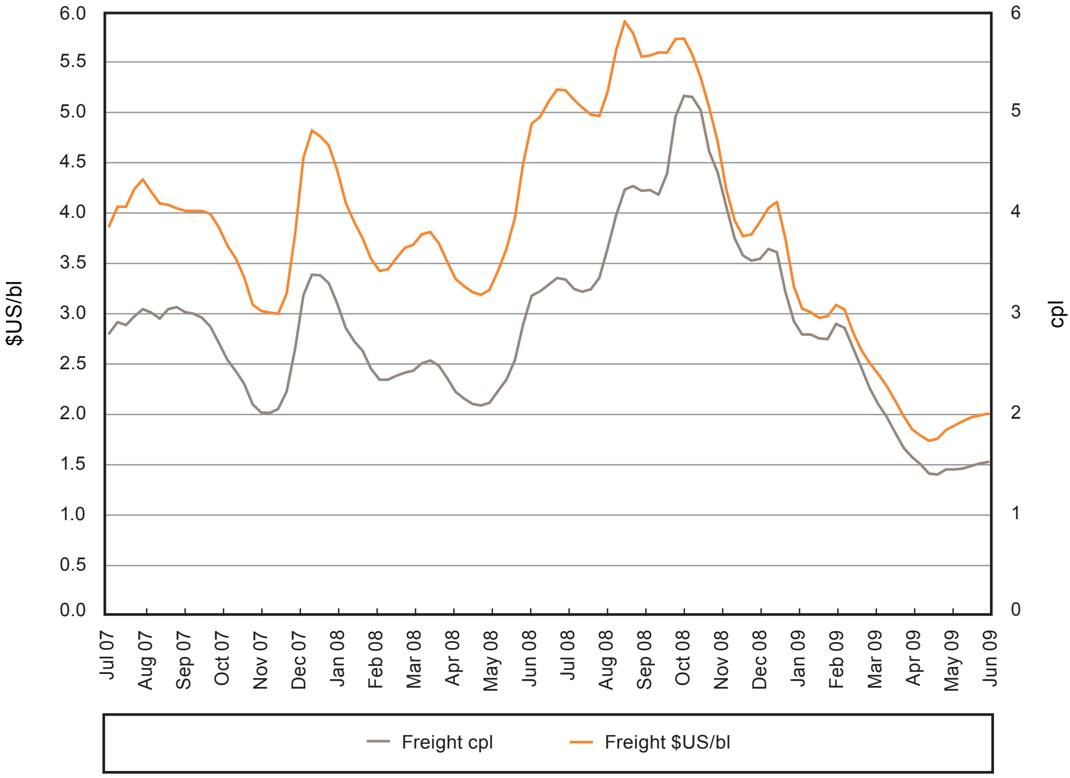
Freight assessments included in the IPP are calculated by reference to international indexes of freight rates. The refiner–marketers use broadly the same methodology: the Worldscale Flat Rate and the Singapore-Australia Clean Rate Freight Index published by Platts. The Worldscale Flat Rate is a benchmark shipping rate set annually based on a standard ship size and contractual conditions for a specified voyage. The Platts Singapore-Australia Clean Rate Freight Index is published daily and reflects current freight assessments associated with a voyage from Singapore to eastern Australian ports on a 30 000 tonne ship.

Freight varies with the freight rates published by Worldscale and Platts. These will generally reflect global economic conditions and the general state of the shipping industry and of individual trade routes.

As freight assessments are quoted in US dollars, the Australian cpl freight component will be influenced by movements in the $US/$A exchange rate as well as changes in freight rates. On average, freight costs were 3.24 cpl across the five largest cities in 2008–09 (see table 6.2).

Chart 6.3 shows freight rates from Singapore to Australian ports in $US/bl as well as cpl. Chart 6.3 shows that freight rates have been volatile in 2007–08 and 2008–09. Freight rates fell markedly in the second half of 2008–09, and in June 2009 were slightly lower than at any stage during the past two years.

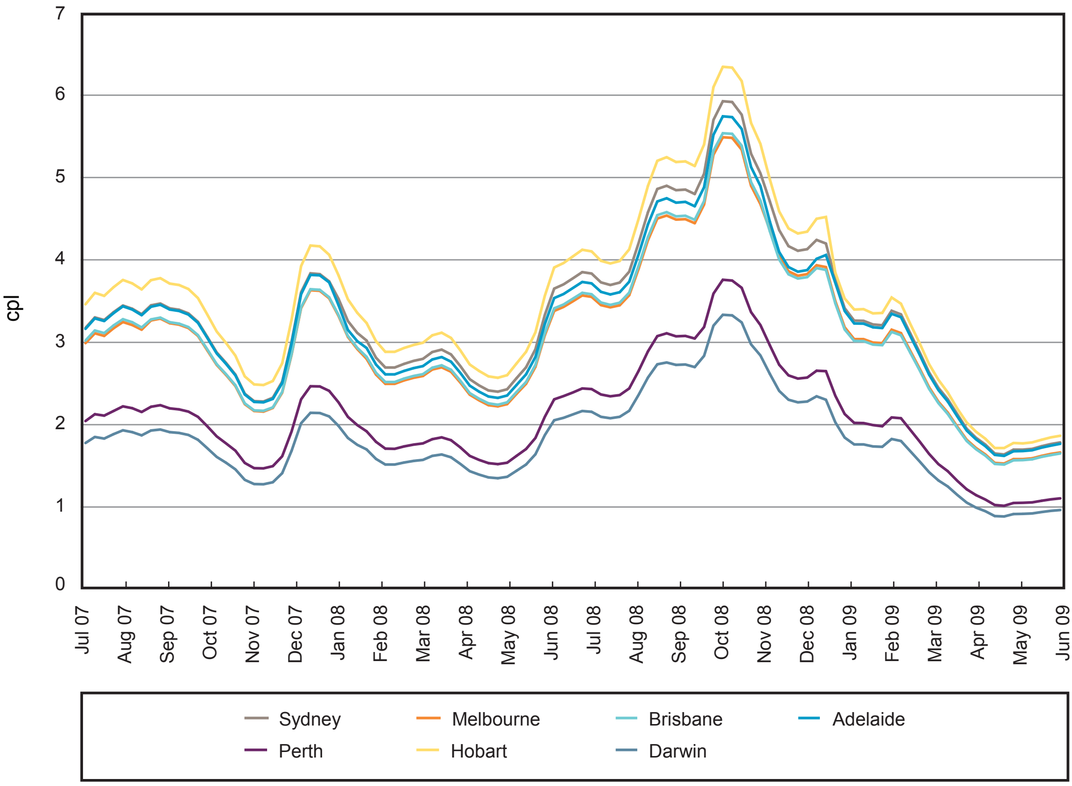
Chart 6.3 Weekly average freight rates in seven capital cities for the four refiner–marketers: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Freight costs vary across capital cities depending on their proximity to Singapore and the characteristics of respective ports. Chart 6.4 shows movements in weekly average freight rates for seven capital cities during 2007–08 and 2008–09.

Chart 6.4 Weekly average freight rates in seven capital cities for the four refiner–marketers: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Average freight assessments associated with dispatches to ports closer to Singapore, such as Darwin and Perth, are generally lower than for other capital cities. Hobart is the most costly destination for refined petrol in Australia.

While freight rates fell in the second half of 2008–09, on average they were higher for the entire 2008–09 period than in the previous 12 months. Annual average daily freight rates for each state capital and Darwin for 2007–08 and 2008–09 are set out in table 6.4.

Table 6.4 Annual average daily freight rates in seven capital cities for the four refiner–marketers: 2007–08 and 2008–09

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin
Average daily freight rates	cpl	cpl	cpl	cpl	cpl	cpl	cpl
2007–08	3.02	2.83	2.85	2.97	1.93	3.26	1.69
2008–09	3.64	3.37	3.38	3.53	2.28	4.02	2.01

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

It is likely that the deterioration in the exchange rate limited the flow-through of lower freight rates in the second half of 2008–09 and contributed to higher domestic freight costs compared with 2007–08.

6.2.4 Insurance and loss, wharfage and other charges

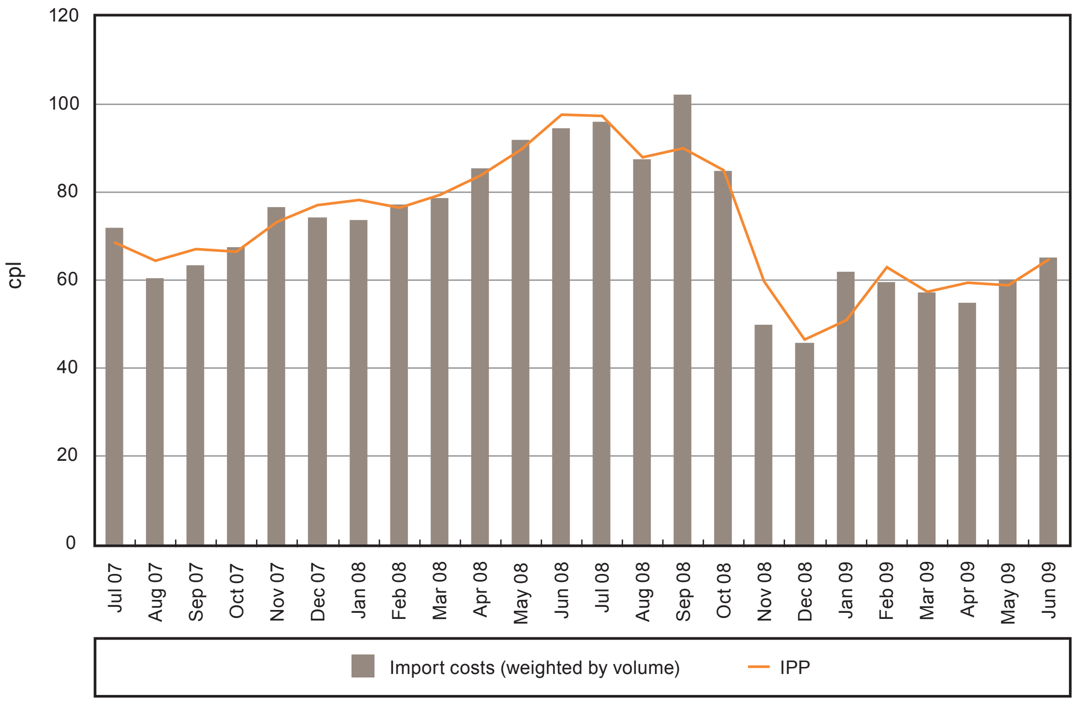
Insurance and loss, wharfage and other charges made relatively minor contributions to the IPP—their total share of daily average IPP across the five largest cities in 2008–09 was on average less than 1.0 cpl (about 1 per cent).

6.3 The IPP and import costs

Ultimately the relevance of the IPP as a benchmark for petrol pricing in Australia is that it provides a measure of import costs. The ACCC therefore considers it pertinent to consider the IPP in the context of actual import costs faced by refiner–marketers and independents.

Chart 6.5 tracks average import costs reported to the ACCC by refiner–marketers and independent importers and average IPP for the five largest cities during 2007–08 and 2008–09. The charts show that, in general, import costs appear to be broadly similar to, and move approximately in line with, IPP.

Chart 6.5 Monthly average import costs and IPP for RULP in the five largest cities: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Over the two-year period import costs generally ranged within +0.5 cpl and –0.5 cpl of IPP. The chart shows, however, occasional periods when import costs deviated from IPP. In September 2008, for example, import costs were higher than IPP. The ACCC understands from discussions with refiner–marketers that the significant volatility in exchange rates in late 2008, coupled with lags in the payment for import cargoes, largely contributed to such divergences on a monthly basis.

6.4 Observations on IPP

All refiner–marketers use the IPP as the basis for determining wholesale prices of refined petrol. Therefore, the IPP exerts a strong influence on retail prices in Australia.

The IPP can be regarded as a measure of the cost of importing fuel refined to Australian standards into various locations in Australia. The main determinant of changes in the IPP is the Singapore benchmark price for refined petrol. So long as imports form the marginal source of supply of refined petrol in Australia, the use of IPP-based pricing in Australia is appropriate.

7 Buy–sell arrangements

Companies operating in the petrol industry obtain the petrol they trade in the wholesale and retail sectors from three main sources:

- refineries they operate
- imports
- refineries operated by other companies.

In locations where they operate a refinery, refiner–marketers produce their own petrol and usually have excess petrol to sell to others or transport to other locations. In locations where a refiner–marketer does not operate a refinery, it may source fuel from imports and/or from other refiner–marketers with refineries in that location, or it may transport fuel from one of its own refineries elsewhere.

Transactions between refiner–marketers for substantial and regular supplies of fuel are referred to as buy and sell or 'buy–sell' transactions.

The refiner–marketers state that such arrangements are effectively large-volume purchase agreements and that nothing in the express terms of the contracts makes one refiner–marketer's buy contract dependent on its having a sell contract with the other contracting party.

In 2008–09, around 40 per cent of regular unleaded petrol (RULP)[1] sold into the wholesale market was obtained through buy–sell transactions. As a result, the buy–sell arrangements, and the prices at which they operate, play a significant role in the allocation and pricing of petrol in the Australian wholesale market.

The 2007 petrol inquiry report[2] raised concerns that buy–sell arrangements may have had the effect of lessening competition in wholesale petrol markets, and recommended a more detailed examination. The Australian Government responded to the report by requesting the ACCC to undertake this monitoring process, focusing on the parts of the industry where the 2007 report found competition to be less than fully effective. The ACCC has since undertaken a detailed examination and will continue to monitor the operation of the buy–sell arrangements on an ongoing basis.

This chapter explores the buy–sell arrangements, the impacts they may have on petrol prices in Australia, and the findings of the ACCC's latest review of the arrangements.

7.1 Purpose and operation of the buy–sell arrangements

The stated purpose of buy–sell arrangements is to ensure efficient, reliable supplies of refined fuel for refiner–marketers in locations where they do not have a refining presence. The refiner–marketers have stated that the arrangements are also part of their supply security strategy in locations where they do operate a refinery, by providing back-up supplies in the event of unexpected demand or unplanned refinery shutdowns or interruptions.

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1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

2 ACCC, *Petrol prices and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol*, December 2007.

The refiner–marketers state that a number of economic benefits arise from the buy–sell arrangements, including:

- Australia has many relatively small petrol markets distributed over very large distances, meaning that no single refining company can justify having refineries in every large city.
- Refineries must operate as close to full capacity as possible to maximise their production efficiency. As a result, refineries tend to produce more petrol than their marketing arms can sell within a particular geographical market.
- Instead of transporting (at significant cost and environmental risk) surplus petrol to locations where they do not have a refinery, it is more efficient to sell the surplus petrol to other petrol retailers in the local area.

However, in the 2007 petrol inquiry report, the ACCC expressed the view that the arrangements may have had the effect of lessening competition in the wholesale petrol markets.[3] This chapter reviews the operation of the arrangements in more detail.

7.1.1 Buyers and sellers

Traditionally the four refiner–marketers have been the only companies that operate under the buy–sell arrangements. These four companies are able to buy and sell substantial volumes of petrol across most of Australia and transport that fuel to their terminals by pipeline or ship.

The refiner–marketers have stated that under buy–sell arrangements there is no legal requirement for the purchase of petrol by one company to be reciprocated by an equivalent sale of petrol to the counterparty in another location. However, other operators may not be able to trade petrol on the same terms as the refiner–marketers because:

- buy–sell transactions typically involve very large volumes
- delivery takes place via ship or via pipeline (delivery is efficient and delivery charges are typically low)
- no other services (such as branding and price support) are provided under the buy–sell agreements.

As a result, buy–sell prices are typically lower than the prices of other wholesale transactions. Often other resellers are unable to acquire fuel on the same terms—for example, they may be purchasing smaller volumes, require a more expensive form of delivery, or require additional services to be provided.

Although buy–sell arrangements are only in place between the four refiner–marketers, other operators may be able to obtain prices similar to those in the buy–sell arrangements. The price data obtained by the ACCC showed that at times some wholesalers were able to obtain supplies at prices that were comparable to prices under the buy–sell arrangements. However, the prices available to wholesalers varied according to the volumes they purchased and their alternative supply arrangements.

In 2008–09 each of the four refiner–marketers conducted petrol sales and purchases with every other refiner–marketer under buy–sell arrangements. However, these arrangements were not entirely balanced—BP and Mobil were the net sellers of petrol and Shell and Caltex were the net buyers across Australia.

3 ACCC, *Petrol prices and Australian consumers*, p. 200.

Table 7.1 shows the net buyers and sellers of petrol in each state capital and Darwin.

Table 7.1 Net buyers and sellers of petrol under buy–sell arrangements: 2008–09

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin
Net sellers	Caltex Shell	Mobil Shell	BP Caltex	BP Mobil	BP	Shell	Shell
Net buyers	BP Mobil	BP Caltex	Mobil Shell	Caltex Shell	Caltex Mobil Shell	BP Caltex Mobil	BP Caltex Mobil

Source: ACCC calculations based on data provided by refiner–marketers.

As expected, table 7.1 shows that companies that operate a local refinery were net sellers of petrol in that location, and that companies that do not operate local refineries were net buyers in that location.

It should also be noted that, at times, in order to satisfy demand, a refiner–marketer may actually buy petrol from another refiner–marketer that does not produce in that location. The second refiner–marketer will obtain petrol from its refinery in another state or import the additional fuel. However—with the exception of South Australia and Tasmania, where there is no operating refinery—these are usually irregular transactions. They are generally conducted to satisfy unexpected peaks in demand or the need for a particular grade of fuel that is not refined, at least in sufficient quantities, in that location.

7.1.2 Buy–sell transactions

Buy–sell transactions take place according to predetermined contracts between refiner–marketers, usually with a duration of six months.

The prices of buy–sell transactions are based on the import parity price (IPP). In the 2007 petrol inquiry the ACCC observed that buy–sell prices are constrained by the cost of imports and are based on the notional cost of imported equivalent product rather than the actual cost of domestic refining.[4]

A buyer would be unwilling to pay more for the local product than it would cost them to import the equivalent product. The seller has a choice between selling domestically refined product into the domestic market or exporting the product and receiving the export parity price (EPP). However, as local demand exceeds the output of the domestic refineries, and imports form the marginal source of supply, a seller does not need to—and in practice would not—sell significantly below the import price.

There are some minor differences in the way individual refiner–marketers calculate buy–sell prices, but all refiner–marketers set buy–sell prices on the basis of the same basic IPP pricing formulation:

Singapore benchmark price + quality premium + freight + wharfage + insurance and loss

4 ACCC, *Petrol prices and Australian consumers*, p. 98.

Other wholesale prices, such as transfer prices paid by the wholesale business of a refiner–marketer to the refinery business and prices paid by other wholesalers to a refiner–marketer, are based on buy–sell prices. Thus it can be said that buy–sell prices establish a floor or starting point for the build-up of wholesale prices.

7.1.3 History of buy–sell arrangements

Buy–sell arrangements have been in operation since July 2002. Before that, petrol was sold between refiner–marketers under arrangements known as refinery exchange agreements. Buy–sell arrangements differ from the previous refinery exchange agreements in that under refinery exchange, refiner–marketers swapped volumes of petrol in one location for equivalent volumes in another location.[5] The shift in the industry from refinery exchange to buy–sell arrangements is said to have taken place because:

- some products being swapped differed in quality according to local specifications
- there was no reference to a market price under refinery exchange
- reciprocal arrangements to swap equivalent volumes of petrol were not always the most efficient way to source products.

7.2 Potential concerns

Since the use of buy–sell arrangements began, it has been suggested that the arrangements have the potential to lessen competition in the wholesale markets for petrol. The nature and operation of buy–sell arrangements indicate that they may create commercial dependencies between the refiner–marketers and could be or act as facilitating practices which could lead to implicit or explicit collusion. Further, in practice most other wholesalers and resellers in the Australian market do not purchase fuel under the same terms.

Given these potential concerns, the ACCC has examined the arrangements carefully to assess their potential impact on competition.

This section outlines the key potential issues of concern as well as the economic benefits of having buy–sell arrangements operating in Australia.

During the 2007 ACCC petrol inquiry the ACCC considered the operation of buy–sell arrangements to ascertain whether they complied with the *Trade Practices Act 1974*. The petrol inquiry report noted that the buy–sell arrangements 'exhibit features which may inhibit competition in wholesale petrol markets'.[6] A number of specific features of the arrangements were identified as areas of concern, including:

- the impact on incentives for refiners to vigorously compete with each other or seek alternative sources of supply (such as imports)
- the potential for refiners to set and sustain uniform prices for their refinery output
- the potential to set and sustain a wholesale price floor
- the arrangements only being available to the four refiners of petrol in Australia and not to companies that do not operate a refinery
- the potential reduction of large-scale importing as a competitive threat.

5 ACCC, *Petrol prices and Australian consumers*, p. 112.

6 ACCC, *Petrol prices and Australian consumers*, p. 206.

Since the 2007 ACCC petrol inquiry report was published the ACCC has continued to monitor and examine the buy–sell arrangements. The ACCC examined a number of ways in which buy–sell agreements may inhibit competition.

Four overlapping theories of competitive harm which could arise from buy–sell arrangements were considered:

- potential notional cost inflation
- IPP versus EPP
- inhibiting price cuts to non-refiner–marketers
- potential exclusionary instruments and/or restriction of supply.

These theories of competitive harm are discussed below.

7.2.1 Potential notional cost inflation

While buy–sell prices are based on IPP, refiner–marketers do not actually incur those exact costs. If the actual costs incurred by refiner–marketers were less than the IPP, the refiner could earn excess profits. This could give rise to an incentive for refiner–marketers to artificially inflate the components that make up the buy–sell price above actual cost—even if only by a small amount.

Although most of the components of the IPP formula are based on observable benchmarks (including the Mean of Platts Singapore (MOPS) price, freight rates and wharfage), the 'quality premium' element of the buy–sell price is the subject of commercial negotiations.

Analysis suggests that an incentive may exist for refiner–marketers to increase the buy–sell price by increasing the quality premium element, but in order for such an incentive to exist a number of conditions would need to be met, including:

- importation by independent resellers would not pose a competitive threat to refiner–marketers
- integration upstream by downstream customers (such as the supermarkets) would be considered unlikely
- any additional downstream margin earned by net purchasers would outweigh the additional net costs incurred under the buy–sell arrangements
- the prospect of systematic notional cost inflation being detected would be considered remote.

However, the ACCC notes that inflating notional components of the standard IPP formula (for instance the quality premium) increases the likelihood of independents importing instead of purchasing fuel from the refiner–marketers. This risk is heightened by the presence of spare import capacity for some of the larger independents (see chapter 4, which discusses import infrastructure). In practice, some independents are currently importing or have imported in the past.

7.2.2 IPP versus EPP

In principle, the range of potential buy–sell prices is likely to be constrained—at least in the longer term—by the IPP and the EPP, as follows.

- The maximum price a wholesale customer should be prepared to pay to a domestic refiner–marketer is the cost of importing product to that location (this may differ from customer to customer). This price is represented by the relevant IPP.
  - If domestic prices are higher than the IPP, customers will have an incentive to import the product.
  - If demand in any location exceeds the supply capacity in that market, the alternative supply will be imports; thus the IPP will be the appropriate benchmark price.
- The minimum price a seller (domestic refiner) should be prepared to accept is equal to that which it could expect to receive if it exported its product from that location, incurring transport costs in the process. This price is represented by the relevant EPP.
  - If domestic prices are less than the EPP, producers will have an incentive to withdraw supply from the domestic market and export instead.
  - If capacity in any location exceeds demand in that location, the alternative market will be the export market; thus the EPP could be the appropriate benchmark price.

In other words, the range of potential buy–sell prices lies between an EPP price floor and an IPP price ceiling. One would expect to observe negotiated outcomes falling between these two limits.

IPP would be the expected pricing benchmark in:

- regions where there is only one refinery or where transport from another state is not possible or is more expensive than the IPP. The refiner–marketer could be expected to negotiate a buy–sell price equal to the IPP, since that represents the opportunity cost to its customers and so their maximum willingness to pay.
- regions where domestic refineries are consistently unable to produce sufficient petrol to supply retailers in that geographic area. One would expect the buy–sell price to be equal to the IPP, since imports represent the marginal source of supply.

EPP would be the expected benchmark in:

- locations where there are competing refineries and those refineries produce more than enough petrol to supply the region. In this case the highest cost refinery in that region, rather than imports, becomes the marginal source of supply. The two refineries might be expected to compete with one another to secure customers by reducing their prices until an EPP is reached, provided refining costs are covered.

The ACCC has found that when markets are considered on a regional basis rather than strictly on a state basis[7] there has not been excess domestic supply of petrol in any of the major locations with multiple refineries (Sydney, Melbourne and Brisbane).

During 2008–09 large volumes of petrol were imported into Sydney. This was largely due to the temporary shutdown of the Clyde refinery in Sydney for more than half the year. Significant volumes of petrol were also imported into Melbourne and Brisbane. Thus, the marginal supplier of petrol is imports, and it would appear that pricing with reference to EPP is only likely to arise in specific circumstances.

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7 Petrol supply markets in Australia cross state boundaries—for example, Tasmanian fuel often comes from Victoria, and South Australian fuel is often supplied from Victoria or Western Australia.

7.2.3 Inhibiting price cuts to non-refiner–marketers

Concerns have been expressed that the current buy–sell arrangements could make it easier for refiner–marketers to tacitly agree to price floors for non-refiner–marketer wholesalers.

In particular, the respective incentives of the refiner–marketers might be expected to be such that, on occasion, it is in the interest of at least one of those businesses to reduce its wholesale price. For example, there will presumably be times when a refiner will have surplus product to dispose of, even after accounting for its own needs and buy–sell obligations. In principle, this could give rise to an incentive for it to reduce its wholesale prices to independent resellers—at least in the short term—potentially to the buy–sell price or even below, particularly if:

- there is a second refinery in the state providing a competing source of supply
- the buy–sell price is greater than or equal to the EPP, so that it is at least as profitable to sell locally at (or below) the buy–sell price as it is to export the product.

Similarly, there will presumably be times when a refiner–marketer buyer does not need to draw on its entire entitlement under a buy–sell arrangement in order to supply its retail customers in a location. In principle, this would also appear to give rise to an incentive for it to reduce its wholesale prices. Specifically, the business could still draw on its entire pre-wholesale monthly entitlement and resell what it does not need to independent resellers at a price that exceeds the buy–sell price but is less than the reseller's alternative source of supply. Indeed, the fact that the refiner–marketer buyer faces the prospect of paying a penalty if its monthly uplift falls below the supply tolerance in its buy–sell contract would appear to reinforce the incentive to engage in this arbitrage activity.

However, the existence of buy–sell agreements might make price reductions less likely, as the buy–sell agreements potentially enable explicit or implicit coordination that might not otherwise occur. In this respect, the improved transparency provided by buy–sell arrangements (in comparison to the old refinery exchange agreements) could make short-term wholesale price reductions easier to detect, and provoke retaliation by the other refiner–marketers across multiple markets.

However, as demand exceeds domestic supply of petrol in Australia (and on a regional basis) it is in any case unlikely that any refiner–marketer would need to discount below the buy–sell price to independents for a sustained period of time. Furthermore the ACCC has found that, based on transaction data, at times some resellers that purchase large volumes of petrol have been able to obtain prices that are comparable to the buy–sell prices received by refiner–marketers.

Thus, in practice, buy–sell arrangements in their current form may not be of themselves an impediment to price-cutting in sales to non-refiner–marketers.

7.2.4 Potential exclusionary instruments and/or restriction of supply

A fourth potential detriment arising from the buy–sell arrangements is that they may restrict the supply of petrol into the Australian market. A consequence of buy–sell agreements could be to tie up the majority of refining output—and potentially also terminal storage capacity—under contractual arrangements, rendering it unavailable to independent resellers.

However, as discussed in chapter 4, some import capacity is available to independents and some independents are able to obtain prices in line with or close to buy–sell prices. This suggests that buy–sell agreements are not being used to restrict supply to independents.

7.3 The counterfactual

As well as identifying potential concerns about the buy–sell arrangements, it is important to consider the alternative arrangements that might arise in the absence of buy–sell arrangements. Considering what the state of the market would be if buy–sell agreements did not exist, or the counterfactual, is central to determining whether the agreements are anti-competitive, what remedies the ACCC should seek and the likely result of ACCC intervention.

In an Australian market where buy–sell arrangements and other types of refinery exchange agreements did not exist, it is unlikely that a refiner–marketer could justify a refinery in every major city. Thus, for refiner–marketers to compete in locations where they do not operate a refinery, they would need to source their petrol from either:

- direct imports to that location
- trans-shipping from another domestic location where they do operate a refinery.

Either of these options would have negative impacts on security of supply and trans-shipping from another domestic location would incur additional costs, which would most likely be passed on to consumers and result in higher retail prices. They could also lead to refineries operating at significantly less than optimal capacity, adding to costs and affecting the viability of domestic refining.

It would seem clear that some form of arrangement whereby refiners are able to buy and sell, swap or exchange petrol in locations where they face shortages or surpluses of local refinery production is of benefit to consumers as well as to refiner–marketers.

The 2007 ACCC petrol inquiry report noted that the buy–sell arrangements exhibit clear benefits and that the participants may seek an authorisation of the arrangements on the public benefit grounds under section 90 of the Act.[8]

Since that time, however, none of the refiner–marketers have applied to the ACCC for authorisation. Outside the authorisation process, many of the potential public benefits of buy–sell arrangements cannot be taken into account by the ACCC or the courts in determining whether the arrangements contravene the Act.

7.4 Buy–sell prices and IPP

The relationship between actual buy–sell prices and IPP is an important issue in assessing the reasonableness of buy–sell prices, bearing in mind the observations made in chapter 6 regarding the use of IPP as an appropriate benchmark for setting prices in Australia.

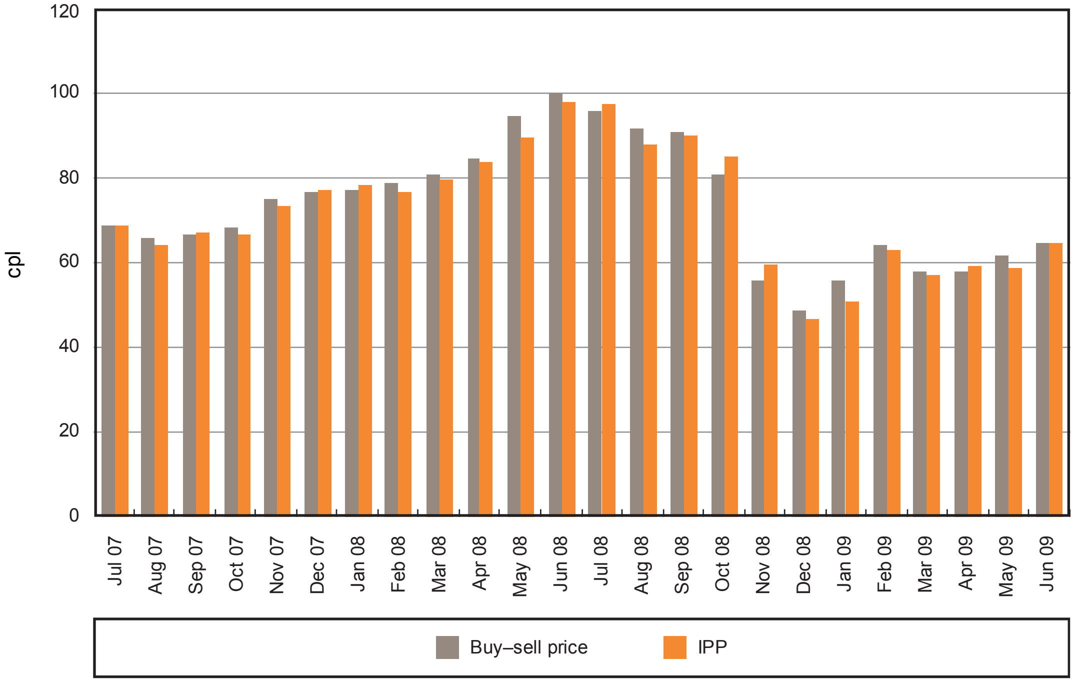
In principle, if buy–sell prices were consistently higher than a fairly determined IPP, the threat from imports may be insufficient to maintain competitive wholesale prices. This could also indicate that competition in the retail market may be too weak to constrain prices up the supply chain.

Chart 7.1 shows monthly average buy–sell prices and IPP for RULP in the five largest cities for the two years to June 2009. The chart shows that the level of and movements in buy–sell prices closely tracked IPP in the five cities during 2007–08 and 2008–09.

8 ACCC, *Petrol prices and Australian consumers*, p. 201.

Although there are small divergences between IPP and buy–sell prices over this period there does not appear to be a regular and significant mismatch. Differences in the timing of IPP and buy–sell prices contribute to the slight divergences between the two as buy–sell prices are determined monthly in arrears whereas IPP is determined on a daily basis.[9]

Chart 7.1 Monthly average buy–sell prices and IPP for RULP in the five largest cities: July 2007 to June 2009



Source: ACCC calculations based on information provided by the refiner–marketers.

In other words, buy–sell and IPP prices appear sufficiently close to suggest that prices negotiated by the refiner–marketers under buy–sell arrangements bear a reasonably close relationship to notional import costs.

7.5 Conclusion

The ACCC has closely considered the information on the buy–sell arrangements collected for the 2007 ACCC petrol inquiry report and the 2008 and 2009 monitoring reports.

Based on the material before it, the ACCC formed the view that there was insufficient evidence to support a conclusion that the arrangements contravened the Act.

However, markets are dynamic and there remains a risk that buy–sell arrangements may lessen competition or facilitate collusion in the future. If the ACCC receives complaints or identifies information through its existing price monitoring functions which indicates that any collusion or anti-competitive conduct has occurred, it will not hesitate to investigate the conduct and take appropriate action.

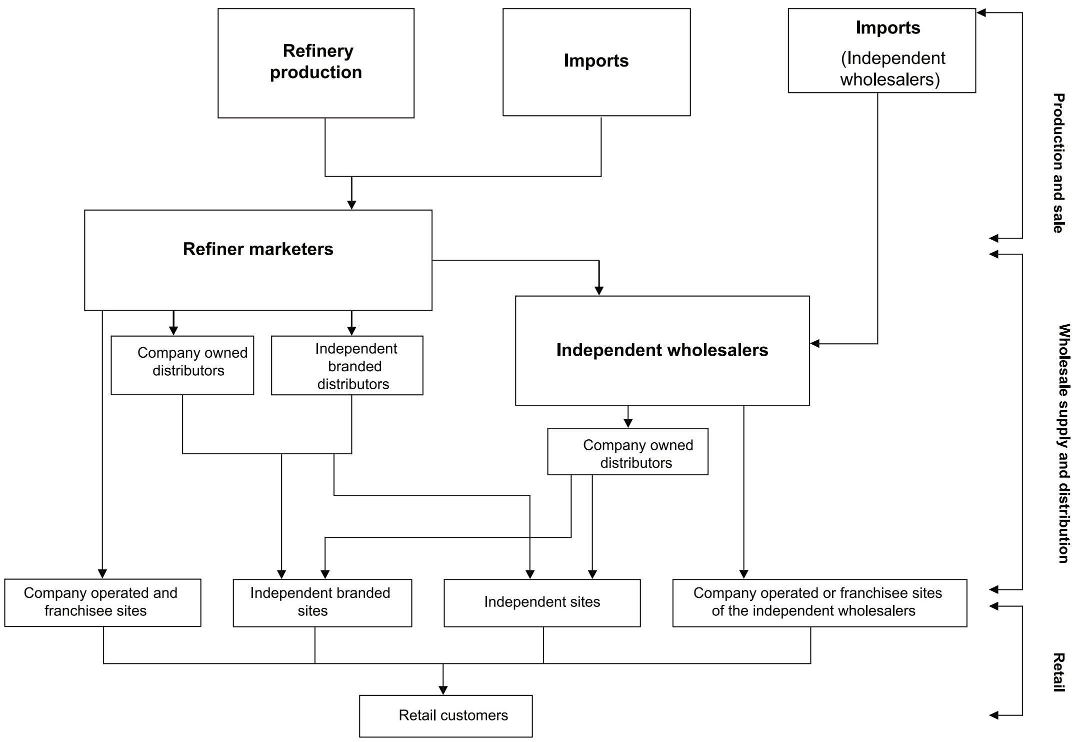
9 Differences in average monthly buy–sell prices and IPPs may also arise from the method used in aggregating the data. Buy–sell prices refer to actual prices in each month as sourced from the companies. The formulas for IPPs used by the companies vary slightly and the monthly averages are derived using daily IPPs.

8 Wholesale prices

To understand price setting in the wholesale petroleum market, it is necessary to understand the way refined product is supplied into the sector. There are four main sources of supply into the wholesale market:

- product acquired by the wholesaling business of a refiner–marketer from its refining business and/or imports
- product acquired by refiner–marketers from other refiner–marketers through buy–sell arrangements
- product acquired by independent wholesalers from refiner–marketers
- product acquired by independent wholesalers through directly importing.

Figure 8.1 Key elements of the Australian petroleum industry



Source: ACCC analysis of market structure.

The wholesale petroleum sector is dominated by the four vertically integrated refiner–marketers—BP, Caltex, Mobil and Shell—which account for around 94 per cent of total fuel sales (see table 3.11).

Most of the fuel sold by independent wholesalers is obtained from the refiner–marketers—only a small proportion of the fuel sold by independent wholesalers is imported directly from overseas suppliers.

8.1 Determination of wholesale prices

Wholesale prices are determined in a fairly similar way across the refiner–marketers. The primary building block of all wholesale prices is the import parity price (IPP). The IPP methodology is used by the refiner–marketers to buy and sell refined fuel under the buy–sell agreements. Buy–sell prices or IPP-derived wholesale prices are also used by the refiner–marketers to sell fuel to independent wholesalers and to their retail customers, including their own retail businesses.

The prices at which refiner–marketers sell to other wholesalers depend on the nature of the transaction. As with most goods, generally the larger the volume sold, the lower the price will be. Also long-term supply agreements will generally have lower prices than one-off purchases.

Pursuant to the provisions of the Oilcode, wholesale suppliers of refined fuel are required to publish terminal gate prices (TGPs). These are prices charged by wholesale suppliers for spot market purchases at their terminals.

Three of the refiner–marketers also set wholesale reference prices: list prices that are typically higher than TGPs and generally include a charge for delivery and other services.

8.2 Terminal gate prices

Refiner–marketers’ TGPs are built up from the IPP. A TGP is the price at which fuel can be purchased at a wholesaler’s terminal on a truck-by-truck basis. TGPs are only for fuel—the customer bears the cost of transport and the seller makes the fuel available without add-ons for additional services such as branding and advertising.

It appears that few transactions take place at the spot TGP. Most customers have established contractual arrangements with the refiner–marketers under which prices are negotiated, sometimes below TGP. However, by virtue of its transparency and the fact that it represents a fuel-only charge, TGP is a useful benchmark for analysing wholesale prices.

8.2.1 Components of TGP

Most wholesalers build TGPs on the basis of the same formula:

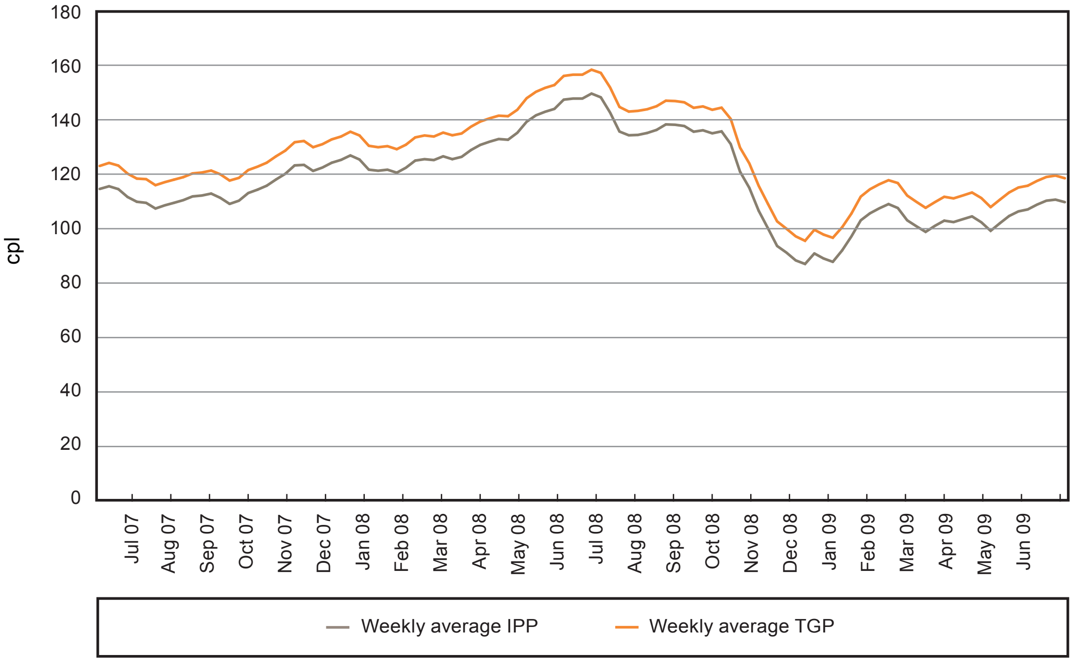
TGP = IPP + wholesale margin + other operating costs + excise + GST

The IPP, which includes the Singapore benchmark price, is generally the largest component of the TGP. Other components of the TGP are local costs, including terminal and gantry costs, other administration costs, and a wholesale margin, plus taxes (GST and excise). The number and size of components added to the supply cost vary among wholesalers and across locations, depending on the terminal and other local costs that the wholesaler needs to recover and the margin that it seeks to earn. The nature of the local competitive environment, including the bargaining strength of the customer, will also generally influence the mark-up added to supply costs.

8.2.2 TGPs 2007–08 and 2008–09

Charts 8.1 and 8.2 compare the average TGPs and IPPs during 2007–08 and 2008–09 for the five major capital cities and for Darwin and Hobart respectively. For ease of comparison with TGPs, notional IPPs were calculated inclusive of taxes. In both cases TGPs track IPPs closely. However, in Darwin and Hobart the average levels of TGP and IPP and the differential between them are slightly higher than the five major cities.

Chart 8.1 Average weekly gross TGP and IPP for regular unleaded petrol (RULP)[1] in the five largest cities: 2007–08 and 2008–09[2]



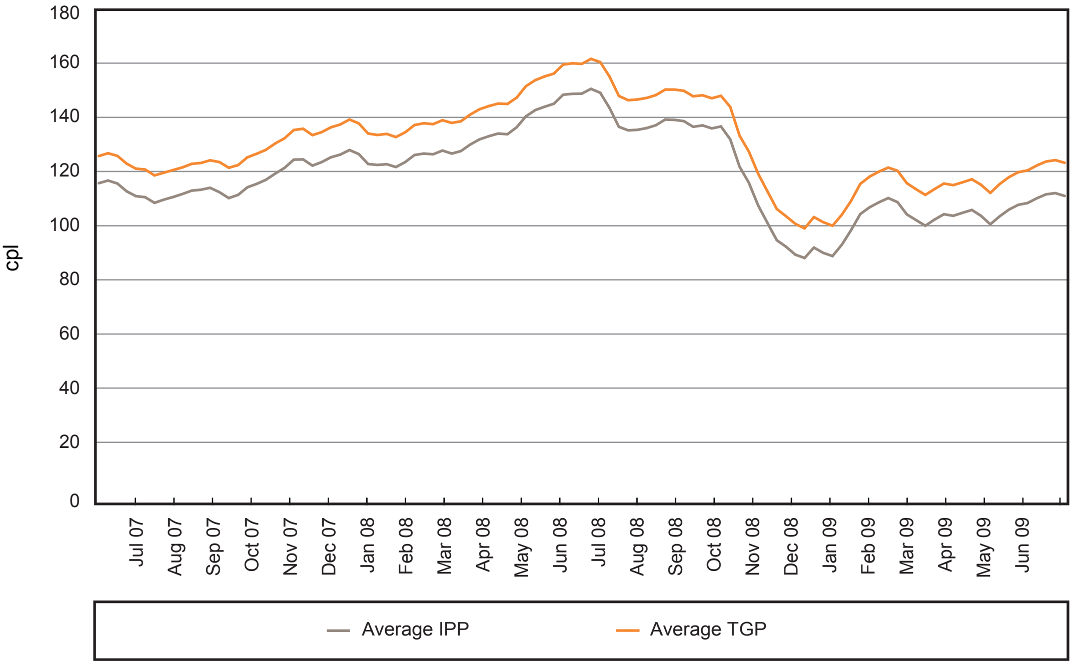
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: IPP measures the landed cost of imported fuel and is therefore calculated exclusive of GST and excise. However, as TGPs include GST and excise, IPP has been notionally adjusted for taxes to facilitate comparison between the two price series.

1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

2 All price averages in this chapter are for the four refiner–marketers.

Chart 8.2 Average weekly gross TGP and IPP for RULP in Darwin and Hobart: 2007–08 and 2008–09



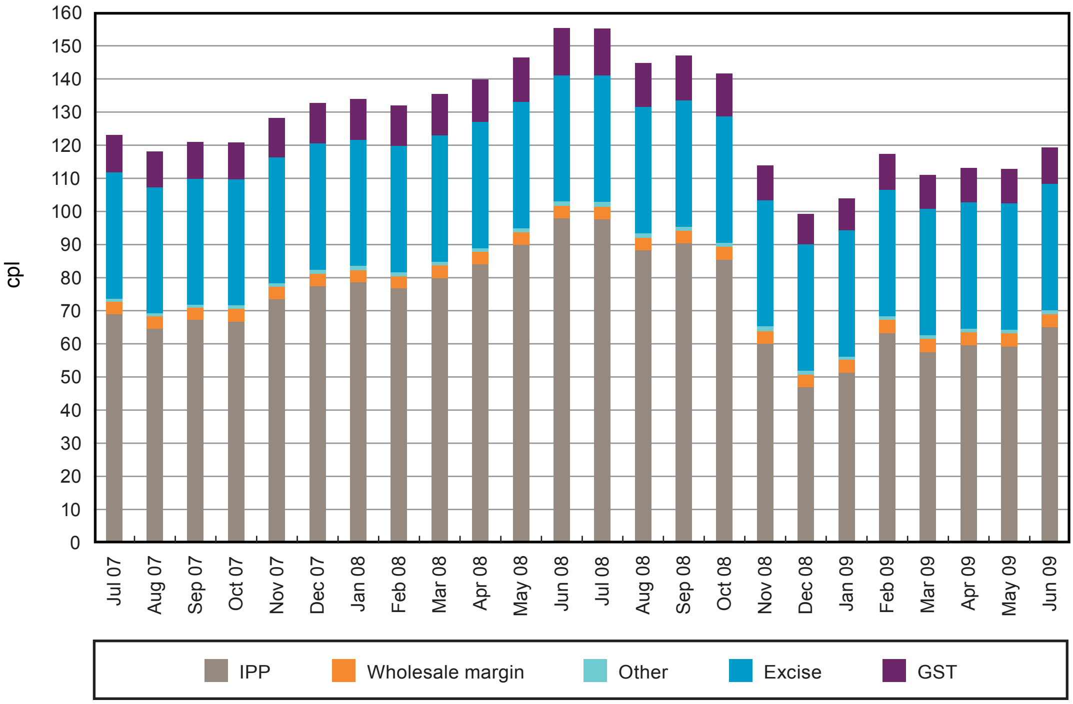
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: IPP measures the landed cost of imported fuel and is therefore calculated exclusive of GST and excise. However, as TGPs include GST and excise, IPP has been notionally adjusted for taxes to facilitate comparison between the two price series.

It can be seen from chart 8.2 that TGPs have generally been at a greater premium above IPPs in Hobart and Darwin in the last two years compared with the five largest cities. It is possible that the smaller size of these markets means that there are smaller volumes of fuel over which to spread local costs, resulting in higher unit costs.

Chart 8.3 depicts the average monthly TGP components of the refiner–marketers for 2007–08 and 2008–09. The major component of the TGP is the IPP, which (as observed in chapter 6) is primarily influenced by changes in the international benchmark fuel price of Mean of Platts Singapore (MOPS) 95. Excise and GST are the next most significant components of the TGP. Other costs and local wholesale margins are relatively small components of the TGP.

Chart 8.3 Average monthly TGP components for RULP in all capitals: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Items reported to the ACCC in the 'other' category vary across refiner–marketers. They include temperature and vapour pressure adjustments as well as other local costs and adjustments.

The IPP's contribution to the monthly average TGP mirrored the volatility of the MOPS benchmark price in 2008–09. The average contributions of each component to the overall TGP are presented in table 8.1. The monthly average IPP ranged from a low of 46.87 Australian cents per litre (cpl) to a high of 97.97 cpl. The combined contribution of excise and GST ranged from 47.23 cpl to 52.36 cpl. However, in December 2008 the combined excise and GST component was marginally greater than the IPP component, largely reflecting the relatively low price of MOPS 95. The wholesale margin added by the refiner–marketers was relatively stable. It ranged from 3.79 cpl to 4.04 cpl.

Table 8.1 Average monthly TGP components for RULP in all capitals: 2007–08 and 2008–09

	IPP	Wholesale margin	Other	Excise	GST	TGP
	cpl	cpl	cpl	cpl	cpl	cpl
Jul 07	68.95	3.84	0.80	38.14	11.27	123.00
Aug 07	64.55	3.80	0.83	38.14	10.83	118.15
Sep 07	67.25	3.79	0.73	38.14	11.10	121.01
Oct 07	66.78	3.82	1.03	38.14	11.08	120.86
Nov 07	73.50	3.81	1.02	38.14	11.75	128.21
Dec 07	77.41	3.81	1.15	38.14	12.15	132.65
Jan 08	78.52	3.80	1.23	38.14	12.26	133.94
Feb 08	76.76	3.79	1.08	38.14	12.08	131.85
Mar 08	79.84	3.81	1.20	38.14	12.39	135.38
Apr 08	84.02	3.81	1.05	38.14	12.81	139.84
May 08	89.97	3.81	1.09	38.14	13.41	146.42
Jun 08	97.97	3.81	1.24	38.14	14.22	155.38
Jul 08	97.68	3.80	1.41	38.14	14.19	155.21
Aug 08	88.32	3.81	1.21	38.14	13.24	144.73
Sep 08	90.38	3.80	1.23	38.14	13.45	146.99
Oct 08	85.37	3.86	1.35	38.14	12.95	141.67
Nov 08	60.00	3.86	1.48	38.14	10.41	113.90
Dec 08	46.87	3.88	1.15	38.14	9.09	99.13
Jan 09	51.28	4.00	0.87	38.14	9.53	103.82
Feb 09	63.25	4.00	1.13	38.14	10.74	117.27
Mar 09	57.56	4.01	1.10	38.14	10.17	110.97
Apr 09	59.59	3.98	1.03	38.14	10.37	113.11
May 09	59.21	4.04	1.07	38.14	10.34	112.81
Jun 09	65.04	3.98	1.18	38.14	10.93	119.28

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Items reported to the ACCC in the 'other' category vary across refiner–marketers. They include temperature and vapour pressure adjustments as well as other local costs and adjustments.

Table 8.2 shows the components of average TGP for 2007–08 and 2008–09. During 2008–09, the average contribution to the TGP by the IPP was 69.30 cpl (or 55.94 per cent of the TGP), while the wholesale margin contributed 3.91 cpl (or 3.16 per cent of the TGP). This compared with contributions in 2007–08 by the IPP of 77.09 cpl (58.32 per cent of the TGP) and by the wholesale margin of 3.81 cpl (2.88 per cent of the TGP).

Table 8.2 Annual average components of daily TGP for RULP in all capitals: 2007–08 and 2008–09

	IPP		Wholesale margin		Other		Excise		GST		TGP	
	cpl	%	cpl	%	cpl	%	cpl	%	cpl	%	cpl	%
2007–08	77.09	58.32	3.81	2.88	1.04	0.79	38.14	28.85	12.11	9.16	132.18	100
2008–09	69.30	55.94	3.91	3.16	1.19	0.96	38.14	30.79	11.34	9.16	123.89	100

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Notes: Items reported to the ACCC in the 'other' category vary across refiner–marketers. They include temperature and vapour pressure adjustments as well as other local costs and adjustments.

Figures may not add up to totals, due to rounding.

8.3 Wholesale prices

During 2008–09 the four refiner–marketers reported to the ACCC detailed information on more than one million transactions undertaken with other wholesalers, retailers, independent distributors and resellers, and with their own wholesalers, distributors, retailers and franchisees. The ACCC's database of wholesale transactions now includes details of around 2.5 million transactions undertaken by the refiner–marketers during 2007–08 and 2008–09. Information provided included volumes, invoice amounts, freight details, discounts and price support, excise and GST, and the location of the relevant discharge terminal. Where possible, the ACCC calculated average unit prices expressed in cents per litre for each transaction on a gross and net basis (that is, including and excluding excise, GST, freight, discounts and price support).[3] However, for some transactions it was not possible to unbundle prices to show the 'fuel only' price.

The general trend in the average price of wholesale transactions observed in 2008–09 is similar to the trends observed during 2007–08. That is, average wholesale prices track IPP, and therefore TGP, very closely.

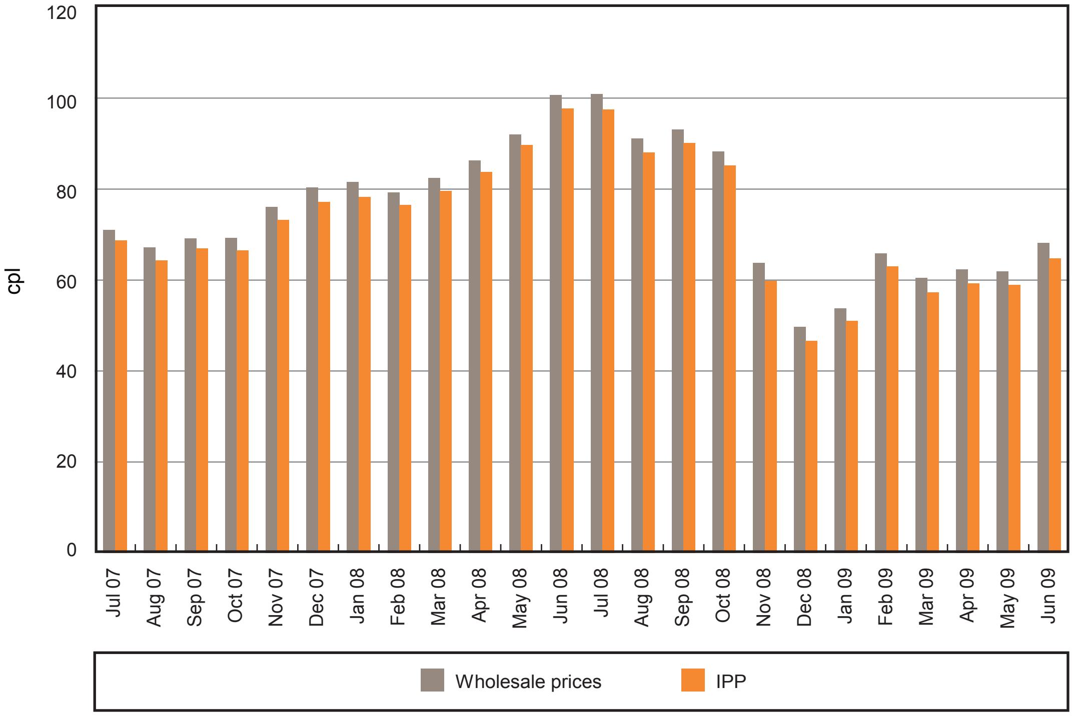
8.3.1 Wholesale prices and IPP

The IPP is the primary building block for wholesale prices. The IPP forms the basis for the prices at which the refiner–marketers sell refined fuel to each other through buy–sell agreements. Buy–sell prices in turn form the basis for the prices at which the refiner–marketers sell fuel to independent wholesalers and to their retail customers, including their own retail businesses. Wholesale prices should, in theory, closely mirror IPP.

3 Average wholesale price data presented in tables and charts in this chapter is not volume weighted.

Chart 8.4 depicts average wholesale prices and average IPP for the five largest cities. To facilitate comparison with the IPP, wholesale prices are presented net of excise and GST.

Chart 8.4 Monthly average net wholesale prices and IPP for RULP in the five largest cities: 2007–08 and 2008–09

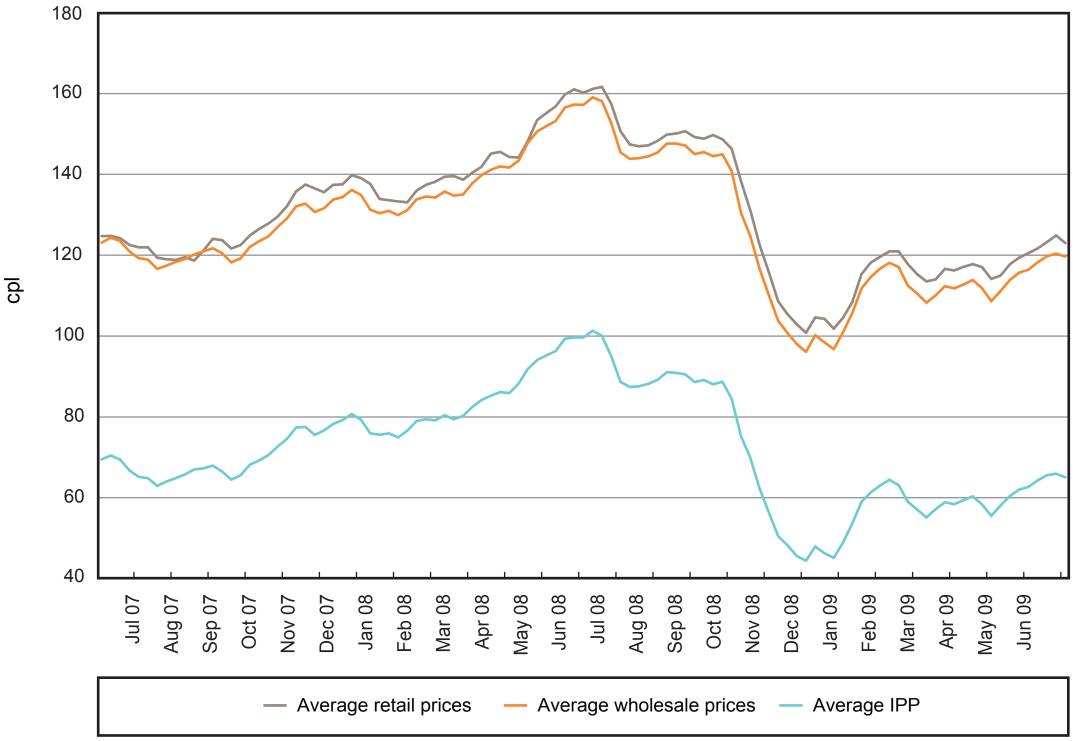


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 8.4 shows that changes in average monthly wholesale prices closely follow changes in the average monthly IPP.

Through its effect on wholesale prices, the IPP ultimately also influences retail prices. Chart 8.5 shows the relative movements in average weekly IPP and wholesale and retail prices for the two years to June 2009. Wholesale and retail prices include GST and excise.

Chart 8.5 Weekly average IPP and gross wholesale and retail prices for RULP in the five largest cities: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 8.5 shows that, on average, wholesale prices have a strong correlation with changes in IPP. It appears equally evident from this chart that retail prices also follow the same general trend as IPP.

The relationship between wholesale prices and IPPs varies across capital cities. The differential between wholesale prices and IPP appears largest in Brisbane and smallest in Adelaide. Table 8.3 presents data on average wholesale prices (exclusive of GST and excise) and IPP for the five largest cities.

Table 8.3 Annual average net wholesale prices and IPP for RULP in the five largest cities: 2008–09

	Net wholesale price cpl	IPP cpl	Difference cpl
Sydney	72.19	69.29	2.90
Melbourne	71.36	69.01	2.35
Brisbane	71.77	68.83	2.94
Adelaide	71.20	69.22	1.99
Perth	70.17	67.90	2.27

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Notes: Net wholesale prices have been calculated by deducting from gross wholesale prices GST, excise, freight and price support.

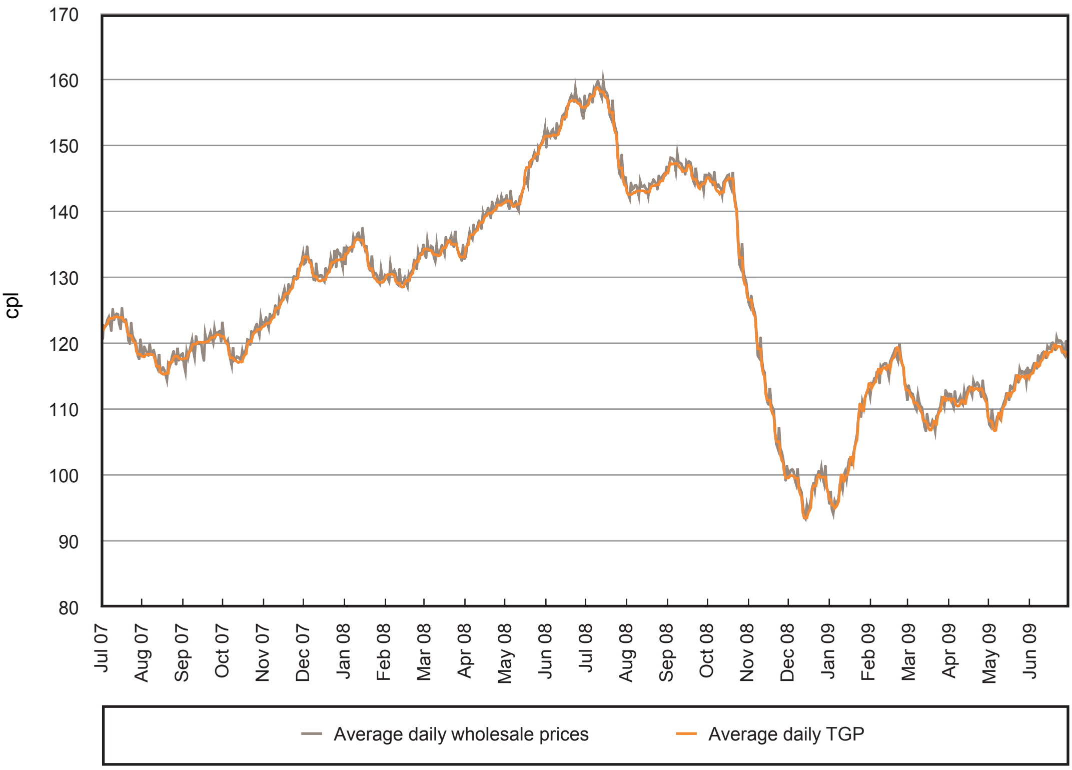
Data in table 8.3 may not be strictly comparable with similar data in the 2008 monitoring report, particularly table 5.3, due to the use of slightly different calculation methodologies.

8.3.2 Wholesale prices and TGPs

Analysis of wholesale prices charged by the refiner–marketers is complicated by the fact that some invoice amounts reported to the ACCC include charges for fuel as well as non-fuel services such as delivery, price support and the use of the supplier's brand name. Wholesale customers who purchase fuel under contractual arrangements which include provision of additional non-fuel services may pay a price higher than TGP, reflecting the value that the supplier places on these additional services. On the other hand, wholesale purchasers of fuel with no add-on services are able to negotiate prices which can be below the published TGP.

Chart 8.6 compares average TGPs with average wholesale prices across the five largest cities.

Chart 8.6 Daily average wholesale prices and TGPs in the five largest cities: 2007–08 and 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Prices include excise and GST.

Wholesale prices in 2008–09 were, on average, close to the TGPs in each capital city but transactions occurred at prices above and below TGPs. The volatility around the average TGP is a reflection of discounts negotiated or the extent to which wholesale prices may include components for other services, such as freight and branding.

From the information available to the ACCC, average wholesale prices appear to be higher than TGPs in Sydney, Melbourne and Brisbane and lower than TGPs in Adelaide and Perth. Table 8.4 shows average wholesale prices and TGPs for 2008–09.

Table 8.4 Annual average gross wholesale prices and TGPs for RULP in the five largest cities: 2008–09

	Gross wholesale price cpl	Gross TGP cpl	Difference cpl
Sydney	123.88	122.60	1.29
Melbourne	122.61	122.25	0.36
Brisbane	122.64	122.41	0.23
Adelaide	121.72	123.01	–1.29
Perth	121.93	123.18	–1.24

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Data in table 8.4 may not be strictly comparable with similar data in the 2008 monitoring report, particularly table 5.2, due to the use of slightly different calculation methodologies.

8.4 Observations on wholesale prices

The wholesale sector provides a bridge between supply (refining / importing / buy–sell transactions) and the retail markets.

The data presented in this chapter indicates that on average wholesale prices and TGPs generally moved in line with IPP during 2008–09.

9 Retail pricing

This chapter provides information on retail petrol prices for 2008–09 and comparisons with prices over the past seven years. It considers the prices of the major types of automotive fuels sold in Australia, including regular unleaded petrol (RULP), premium unleaded petrol (PULP), automotive liquefied petroleum gas (LPG), diesel and E10. The major factors that influence the level of prices are examined, in particular the effects of changes in international benchmark prices.

The analysis in this chapter focuses on retail pricing in the five largest cities (Sydney, Melbourne, Brisbane, Adelaide and Perth), which make up over 60 per cent of Australia's population. The three smaller capital cities (Canberra, Hobart and Darwin) are also considered. Retail pricing in regional centres and country towns is considered in detail in chapter 10.

The retail price of petrol is influenced by a number of factors which can vary between cities, suburbs and even local retail outlets. While wholesale prices usually form the basis for retail prices, other factors such as the location and the level of local competition also influence the price consumers pay for petrol.

9.1 Retail prices and the influence of international factors

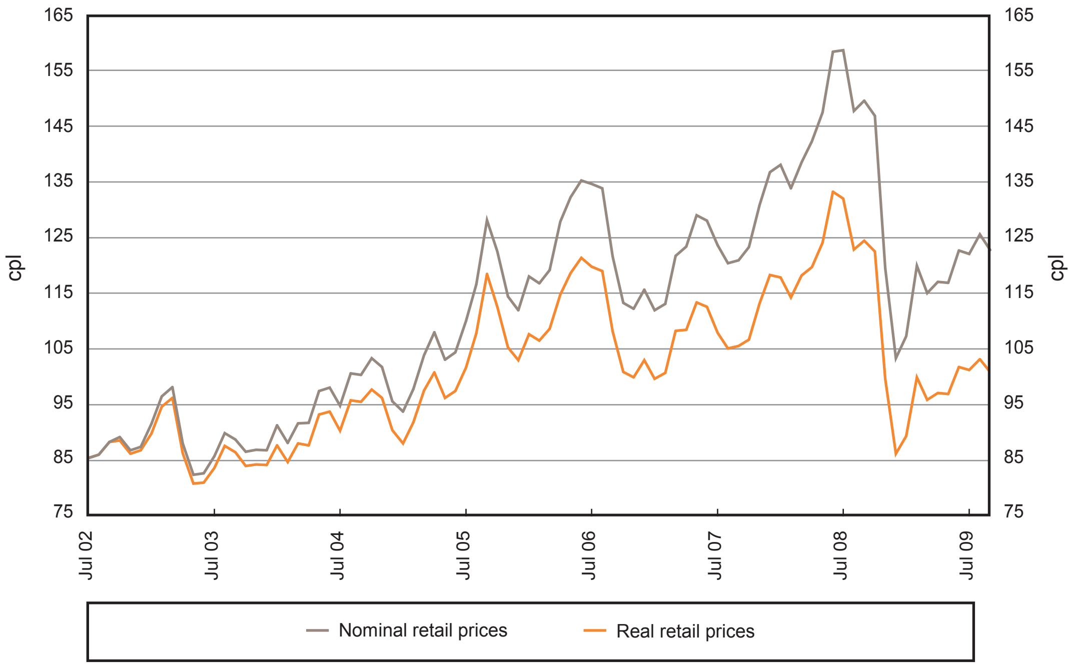
Petrol prices in the five largest cities have a direct impact on nearly two-thirds of Australian motorists. As part of its ongoing monitoring program the ACCC has reviewed prices in these cities, looking at four aspects of prices: long-term trends, short-term trends, margins and other costs and differentials between the cities.

Chart 9.1 shows monthly real and nominal prices of regular unleaded petrol in the five largest cities over the seven-year period from July 2002 to September 2009.[1]

Key observations include:

- Following the decline in prices in the second half of 2008, real retail petrol prices (that is, adjusted for inflation) in December 2008 were about the same as prices in July 2002.
- RULP prices have been highly volatile—average nominal prices increased 42 per cent from January 2007 to July 2008, then fell 32 per cent in the subsequent six months to January 2009. Between 1 January 2009 and 30 September 2009, prices increased by around 15 per cent.
- Prices decreased sharply from July 2008, in response to the deepening global financial crisis.

Chart 9.1 Average monthly RULP prices in the five largest cities: July 2002 to September 2009



Source: ACCC calculations based on Informed Sources and Australian Bureau of Statistics data.

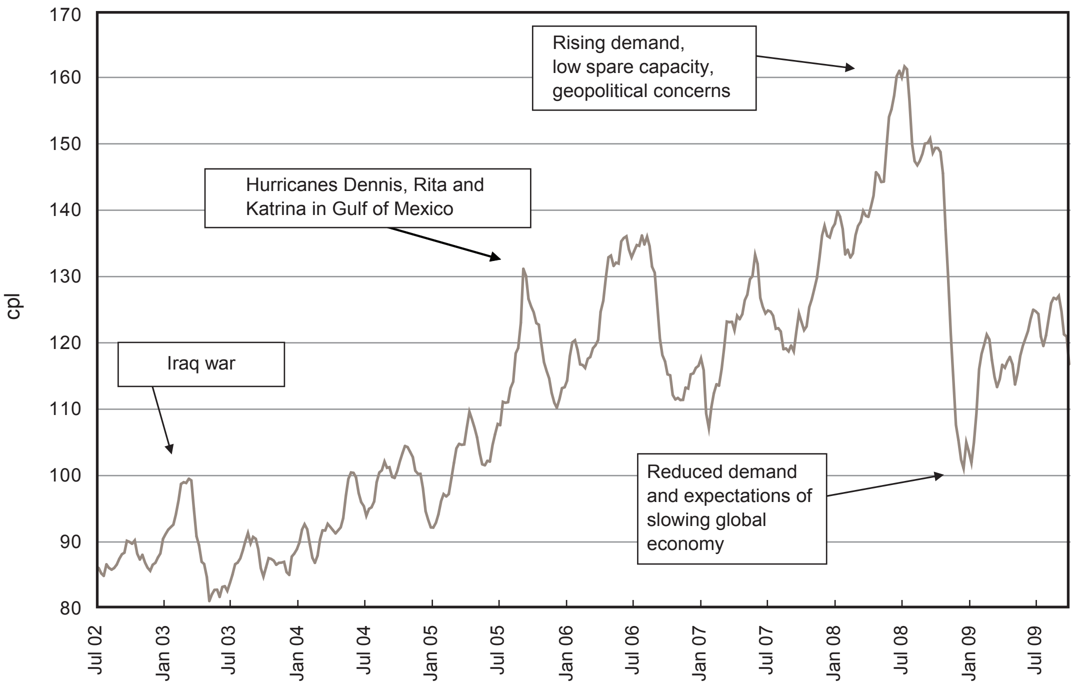
Australian Bureau of Statistics, 2009, Consumer Price Index, Australia, Tables 1 & 2. CPI: All Groups, Index Numbers and Percentage Changes, time series spreadsheet, Cat. no. 6401.0, viewed 28 October 2009, http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Sep%202009?OpenDocument

1 Real numbers based on July 2002.

9.1.1 Major events over the past seven years

Wholesale petrol prices in Australia are based on the regional benchmark price for the Asia-Pacific region—that is, the Singapore Mogas 95 unleaded price—and therefore retail prices are influenced by international supply and demand pressures. Chart 9.2 highlights major international factors which have affected the retail price of RULP over the past seven years. For a discussion of major factors influencing crude oil prices, see chapter 5.

Chart 9.2 Average weekly RULP prices in the five largest cities: July 2002 to September 2009



Source: ACCC calculations based on Informed Sources data.

9.1.2 Comparisons of domestic and international petrol prices

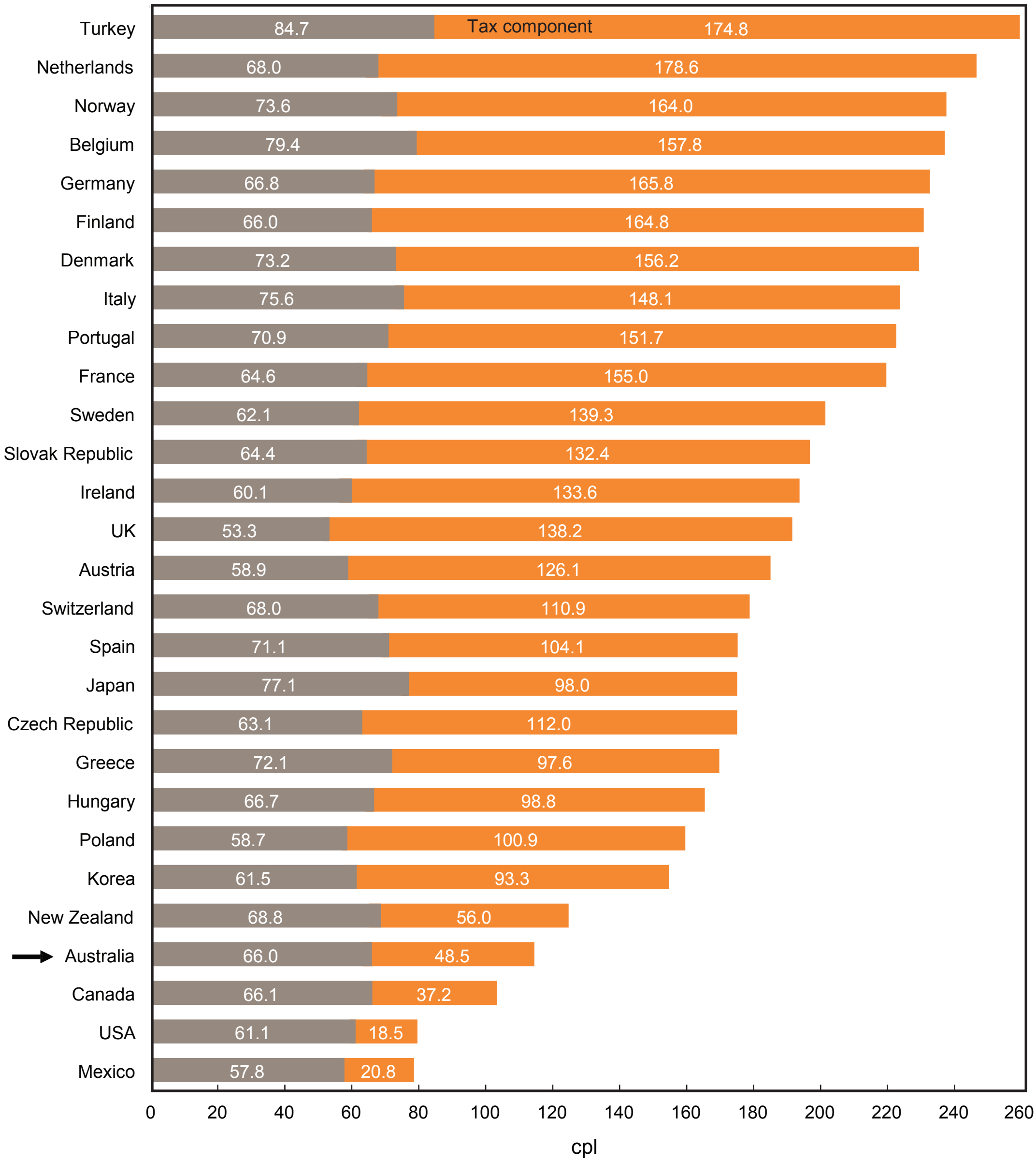
The Department of Resources, Energy and Tourism (RET) publishes data[2] (see chart 9.3) showing that Australian retail petrol prices were relatively low compared with prices in other OECD countries. In March 2009 Australia had the fourth-lowest retail petrol prices (after Mexico, the US and Canada) in the Organisation for Economic Co-operation and Development (OECD).

If the impact of taxation is removed, the underlying price of petrol in Australia has been around the median.

Even when Australian prices were at record highs (in July 2008) Australia still had lower retail prices than all but three members of the OECD.

2 The ACCC has previously commented on its methodological concerns about the usefulness of international price comparisons using OECD data. These include that petrol quality varies from country to country; data is based on metropolitan prices only; different sources are used for exchange rates; and government subsidy programs in some countries—and how they may affect the tax rate—are not considered. These issues were outlined in appendix J of the ACCC's 2001 report *Reducing fuel price variability*. Notwithstanding these issues, the data provides a reference by which Australian retail prices can be compared with other developed countries. Furthermore, it enables Australia's retail prices relative to other countries to be examined over time.

Chart 9.3 Petrol prices and taxes in OECD countries: March 2009 quarter



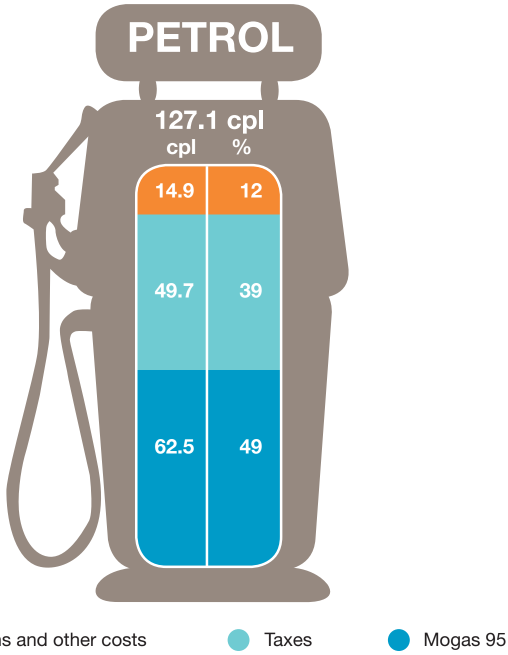
Source: *Australian Petroleum Statistics*, issue 155 (June 2009).

9.1.3 Components of retail RULP prices

In general, the major components of the Australian retail price of RULP are the internationally traded Singapore Mogas 95 price (the major component of the import parity price (IPP)), a wholesale margin, excise, GST and a retail margin.[3] Chart 9.4 shows that the Singapore Mogas 95 price is the largest component of the RULP price, followed by government taxes.

Movements in retail price levels in Australia are heavily influenced by movements in the international benchmark price.

Chart 9.4 Components of Australian retail RULP prices in the five largest cities: 2008–09



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

The components of Australian retail prices are shown in chart 9.5. Each bar represents the average annual retail price for unleaded petrol in the five largest cities, disaggregated by the following:

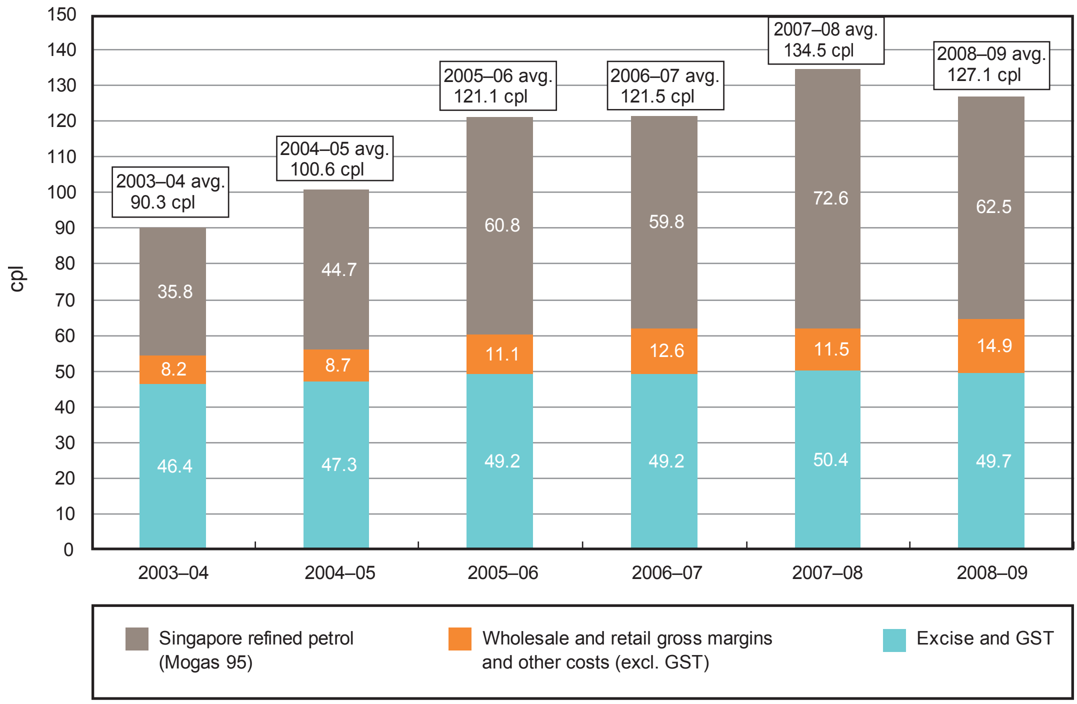
- Singapore Mogas 95, which is used in oil markets as the benchmark for unleaded petrol in the Asia-Pacific region, including Australia
- excise and GST
- wholesale and retail gross margins and other costs—this component involves all costs other than Mogas 95 and excise and taxes. In addition to wholesale and retail margins this component includes transport, insurance, a quality premium and any other costs.

3 When looking at these components, please note:
- The calculations are averages and do not represent actual costs or margins for any particular company.
- The wholesale and retail margins are gross margins only and take no account of operating and other costs incurred at the wholesale or retail level.
- In any one year, changes to individual components of the petrol price may not be equal to the overall change in the petrol price, due to rounding.
- In 2008–09, the difference between the IPP and the Mogas 95 price was 6.3 cpl (see table 6.2). This is included in 'Margins and other costs' in chart 9.4.

In summary, from chart 9.5 we can conclude:

- Since 2005–06, Singapore Mogas 95 has been the largest component in the retail price of petrol, followed by excise and GST.
- While retail and wholesale margins have fluctuated, with an upward trend over the period (rising by 6 cpl), Singapore Mogas 95 was the major driver of increased prices in the period.
- The excise and GST component of prices has remained relatively constant throughout the period (set at 38.14 cpl for excise and 10 per cent of retail price for GST).

Chart 9.5 Components of Australian retail RULP prices in the five largest cities: 2003–04 to 2008–09



Source: ACCC, Informed Sources, BP, Caltex, Mobil, Shell, Trafigura, Gull and Platts.

The effect of IPP on retail prices

The wholesale and retail margins and other costs mentioned in chart 9.5 are made up of three components: the costs associated with IPPs other than Mogas 95, wholesale costs and profits, and retail costs and profits.

The IPP is made up mainly of the Mogas 95 price, but other cost elements are important. As set out in table 6.2, those costs include the quality premium, freight, insurance, wharfage and other costs. The exchange rate can also have an impact on the IPP. Altogether, these costs (other than Mogas 95) made up 5 to 6 cpl of the IPP.

Wholesale margins

Wholesale margins are also an important part of the difference between retail prices and the benchmark price for Mogas 95.

Indicative wholesale margins are calculated in chapter 8 as the difference between IPP and the terminal gate price (TGP) (adjusted for excise and GST). Table 8.2 shows that wholesale margins and other costs account for around 5 cpl.

Gross indicative retail margins

In order to isolate retail margins the ACCC calculated and analysed gross indicative margins. The gross indicative retail margin is calculated by subtracting TGP from retail prices. The results are presented in table 9.1.

In nominal terms there has been an increase in gross indicative retail margins. However, in real terms and as a proportion of the petrol price there has not been a significant increase in gross indicative retail margins. This is consistent with the results reported in chapter 14. Chart 14.18 shows that retail gross and net profits have been relatively stable over the past four years.

Table 9.1 Average annual retail prices, average TGP and gross indicative retail margins in the five largest cities: 2002–03 to 2008–09

Financial year	Average retail (cpl) adjusted for inflation	Average retail (cpl)	Average TGP (cpl) adjusted for inflation	Average TGP (cpl)	Gross indicative retail margin (cpl) adjusted for inflation	Gross indicative retail margin	Margin as proportion of retail price adjusted for inflation
2002–03	87.6	88.6	82.6	83.6	5.0	5.0	5.7%
2003–04	87.1	90.3	83.0	86.0	4.1	4.3	4.7%
2004–05	94.9	100.6	91.4	96.9	3.5	3.7	3.7%
2005–06	110.5	121.1	106.8	117.0	3.8	4.1	3.4%
2006–07	107.8	121.5	103.5	116.7	4.3	4.9	4.0%
2007–08	115.4	134.5	111.0	129.4	4.4	5.1	3.8%
2008–09	**105.7**	**127.0**	**100.2**	**120.4**	**5.6**	**6.7**	**5.3%**

Source: ACCC calculations based on Informed Sources, AIP and ABS data.

Table 9.1 shows:

- In absolute terms, gross indicative retail margins and other costs have been increasing every year since 2004–05.
- Real gross indicative retail margins have increased from 3.5 cpl to 5.6 cpl from 2004–05 to 2008–09, an increase of 2.1 cpl and the nominal gross indicative margin has increased from 3.7 cpl to 6.7 cpl from 2004–05 to 2008–09 an increase of 3 cpl. Part of the increase in margins and other costs could be attributed to higher transport costs, freight and insurance.
- Over the past six years, the gross indicative retail margin as a proportion of the average retail price has decreased from 5.7 per cent to 5.3 per cent.[4]

9.1.4 Retail prices do not move with oil prices on a one for one basis

In late 2008, some consumers and commentators expressed concern that the retail price did not drop proportionately with falls in crude oil prices. Wholesale prices are set in relation to Mogas 95, which is only partly determined by the price of crude oil. Furthermore, retail prices contain components that are not directly linked to Mogas prices, and so retail prices do not move on a one for one basis with Mogas prices. In addition, changes in the value of the Australian dollar also influence retail prices.

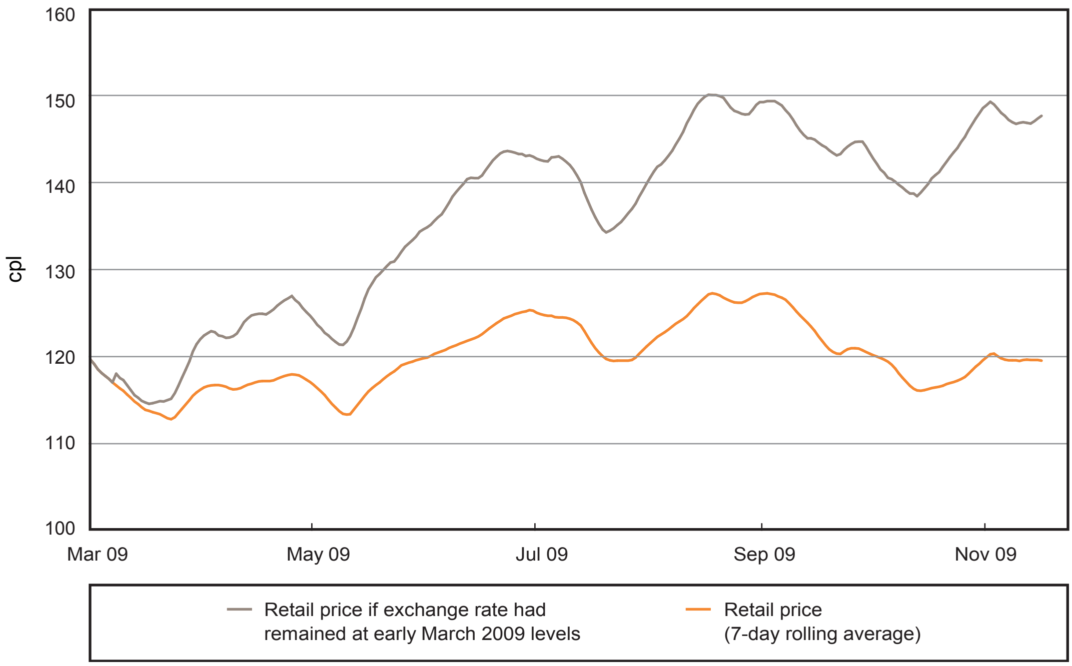
Based on 2008–09 costs, if crude oil were free, the cost of petrol would still be around 65 cpl due to government taxes, refining and transport costs, retailer and wholesaler margins and other costs necessary to supply refined petrol to the end consumer.

4 Refer to appendix C for more information on gross indicative retail margins.

9.1.5 Adjustments must be made for movements in the exchange rate, as oil prices are usually quoted in $US

As Singapore Mogas 95 prices are quoted in US dollars, movements in the Australian/US foreign exchange rate impact on domestic petrol prices. As shown in chart 9.6, average retail petrol prices would have increased significantly in recent months if the Australian/US foreign exchange rate had remained at the lows of around US 62 cents in early March 2009.

Chart 9.6 Comparison of Australian average retail petrol prices since March 2009 with floating exchange rate and March 2009 exchange rate



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

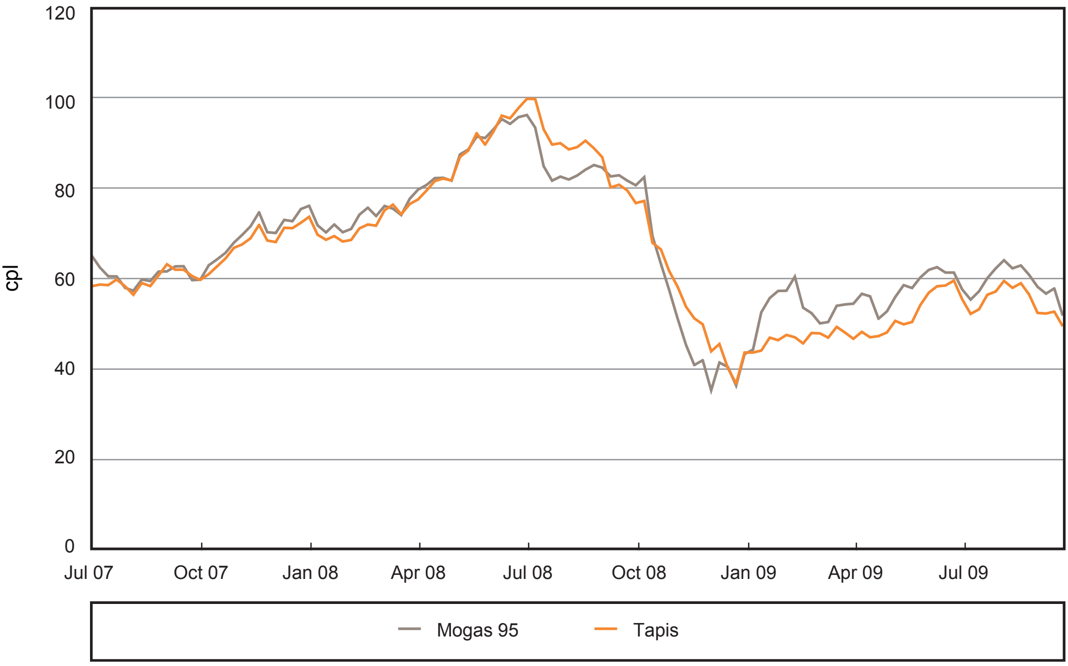
9.1.6 There has been a close relationship between the international price of refined petrol and the cost of crude oil

The most important determinant of the international price of refined petrol is the cost of crude oil. Crude oil accounts for more than 90 per cent of the cost of producing refined petrol. Chart 9.7 shows that the price of refined petrol in Singapore has closely followed the price of Tapis crude oil. Tapis is a Malaysian crude oil that is used as a benchmark for crude oil prices within the Asia-Pacific region.

Between July 2007 and July 2008, strong global demand for petroleum products caused a sharp rise in the price of crude oil. Australian retail prices followed this upward trend. With the onset of the global financial crisis in July 2008, world demand for petroleum products declined sharply. Crude oil costs followed and so did Australian wholesale and retail prices. More recently, as the global financial crisis has eased, crude oil prices have again started to trend upward.

There is a clear chain of causality from the cost of international crude oil to refined petrol in Singapore to retail prices in Australia.

Chart 9.7 Movements in refined petrol and crude oil benchmark prices: 1 July 2007 to 30 September 2009



Source: ACCC calculations based on Platts and CBA data.

9.1.7 Retail RULP price movements compared with international benchmark price movements

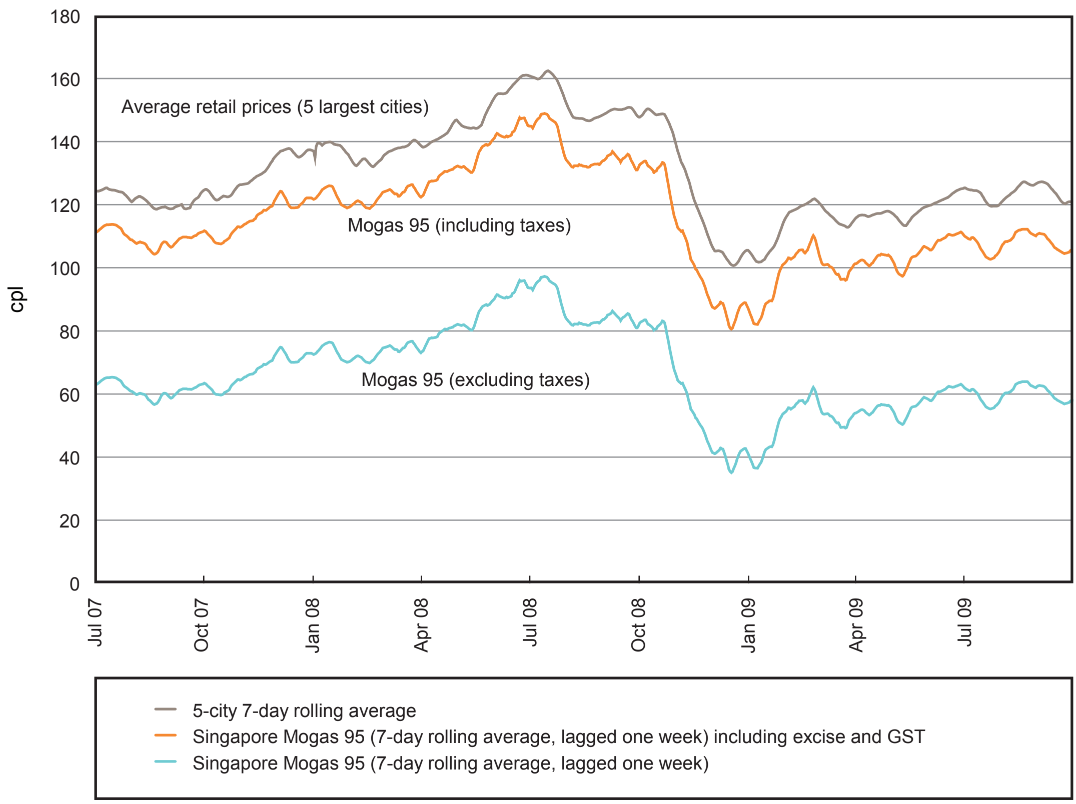
Chart 9.8 shows the movements in the price of Singapore Mogas 95 (with excise and retail GST added) and the retail price of RULP in Australia's five largest cities.

Observations from chart 9.8 include:

- Changes in the long-term average daily price of RULP are largely the result of movements in the international benchmark for refined petrol.
- Retail prices were generally around 60 cpl higher than the Singapore Mogas price; these differences are largely explained by excise, GST, wholesale and retail margins and other costs.

To facilitate comparison between Mogas and retail prices, excise and retail GST have been added to Mogas 95.

Chart 9.8 Movements in retail petrol prices and Singapore benchmark prices: 1 July 2007 to 30 September 2009



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

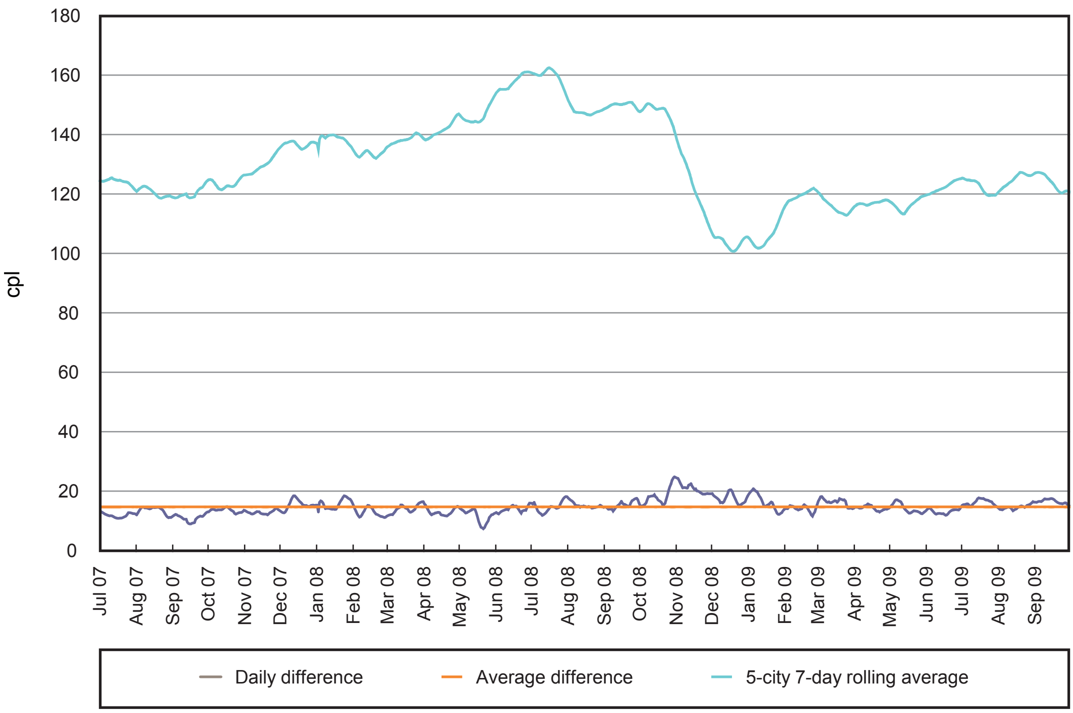
Throughout 2008 petrol prices were extremely volatile. There was a large price increase between February and July (132.0 cpl to 162.5 cpl) and a large price decrease between July and December (162.5 cpl to 100.8 cpl). Over this period, the usual lags between international and local prices were put under stress. As a consequence of the turmoil in international crude oil and refined petrol prices, the local industry made a loss in aggregate over this period (see chart 12.10).

Despite these extreme price movements, local prices generally continued to track international prices closely. Chart 9.9 shows the course of local prices since January 2008 (five largest cities, seven-day moving average) as well as the difference between international prices (Mogas 95 lagged seven days) and local prices. As can be seen, the difference between international and local prices has remained relatively stable, averaging about 15 cpl over the period. This difference between international and local prices is due to wholesale and retail margins and other costs, including the cost of freight to Australia and the cost of operating terminals and service stations.

Nevertheless, from time to time there have been small divergences between the two price series. Examples, of these differences can be seen in chart 9.9. Sometimes the difference was above the average and at other times it was below the average. In view of the dynamics involved, some short-term deviations are not unexpected. Australian retail petrol prices are affected by price cycles and local competition. In addition, the lag between movements in international prices and Australian prices is not predefined. The length of the lag depends on factors such as the speed with which products move through the supply chain, the dates on which purchases are made, the speed of the international price movement and the contractual arrangements.

Consequently, short-term comparisons at a particular point in time can be misleading, especially if different points in the price cycle are chosen. Where possible, comparisons between international and local prices should be viewed over longer periods.

Chart 9.9 Differences between average retail prices in the five largest cities and Mogas 95 (including excise and GST), lagged seven days, against the average retail price for the five largest cities: 1 July 2007 to 30 September 2009



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Movements in the international price of refined petrol over the past two years have generally been passed on to Australian motorists (both up and down). Table 9.2 shows that most changes in the average price of petrol can be traced back to movements in the international benchmark for refined petrol (after adjusting for exchange rate movements). For example, between the peak in July and the trough in December 2008, Mogas 95 decreased by 62.2 cpl and average retail prices in the five largest cities decreased by 61.8 cpl. Between December 2008 and August 2009, Mogas 95 increased by 28.8 cpl while average retail prices increased by 26.6 cpl.

Table 9.2 Major movements in Mogas 95 compared with movements in retail prices: 1 July 2007 to 30 September 2009

Period	Reference dates for retail prices	Change in retail prices between reference dates (cpl)	Reference dates for Mogas 95	Change in Mogas 95 between reference dates (cpl)	Change in prices for Australian motorists relative to change in international prices (cpl)[a]
Peak in July 2008 to trough in December 2008	Peak: 16 Jul 08 Trough: 19 Dec 08	–61.8	Peak: 6 July 08 Trough: 10 Dec 08	–62.2	0.4
Trough in December 2008 to peak in August 2009	Trough: 19 Dec 08 Peak: 20 Aug 09	26.6	Trough: 10 Dec 08 Peak: 12 Aug 09	28.8	–2.2

Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Note: Mogas 95 and retail prices measured on basis of seven-day rolling average; retail prices are average retail prices for the five largest capital cities.

a This is the change in the average retail price of the five largest cities minus the change in the Mogas 95 price for the reference dates.

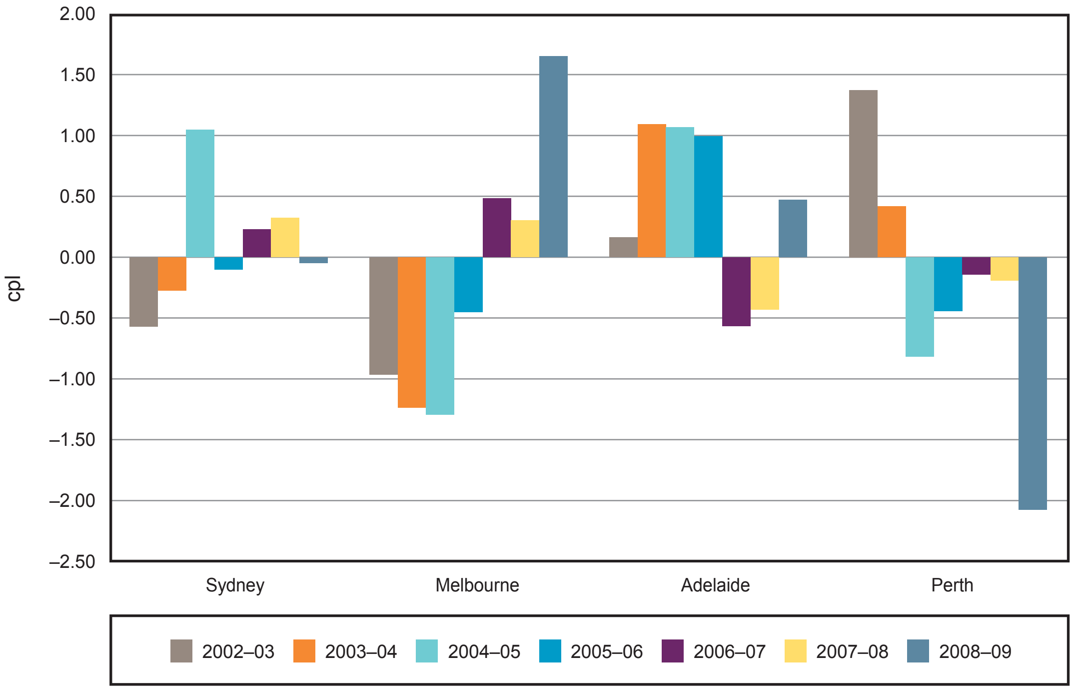
9.2 Retail price movements in the five largest cities

Each city possesses unique characteristics which affect the operation of competition and petrol prices differently. It is therefore unsurprising to see that prices vary from city to city.

Chart 9.10 provides a comparison of retail prices in Sydney, Melbourne, Perth and Adelaide relative to the average of the prices in all these cities (Brisbane has been excluded because Queensland retail prices were affected by a state subsidy). Observations from this chart include:

- The price differential between cities has been volatile over time. In 2002–03, Melbourne had the lowest prices while Perth had the highest. In 2008–09, Perth had the lowest prices and Melbourne the highest.
- Prices in Perth have been consistently lower than the average retail price across the four cities since 2004–05, while prices in Melbourne have clearly been above the average retail price since 2005–06.

Chart 9.10 Average retail prices in Sydney, Melbourne, Adelaide and Perth relative to the average price of petrol across all four cities: 2002–03 to 2008–09

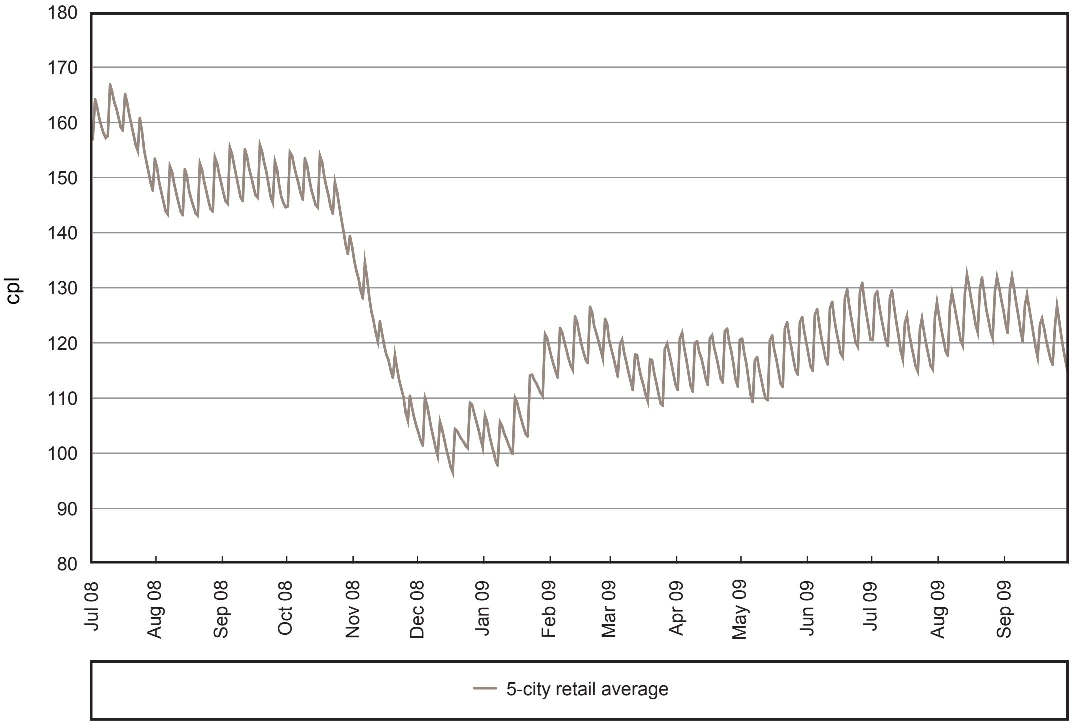


Source: ACCC calculations based on Informed Sources data.

Note: During this period the Queensland government provided a subsidy at the retail level of 8.4 cpl (or 9.2 cpl taking into account the effect of GST), so Brisbane is not included in this graph. The average price calculated does not include Brisbane, in order to keep the average at a level comparable with Sydney, Melbourne, Adelaide and Perth prices.

One of the most distinctive features of petrol prices in the five largest cities is the presence of regular price cycles. The regular pattern of these cycles is clearly evident in chart 9.11, which shows average retail prices in the five largest cities in 2008–09.

Chart 9.11 Daily average retail price across the five largest cities: 2008–09



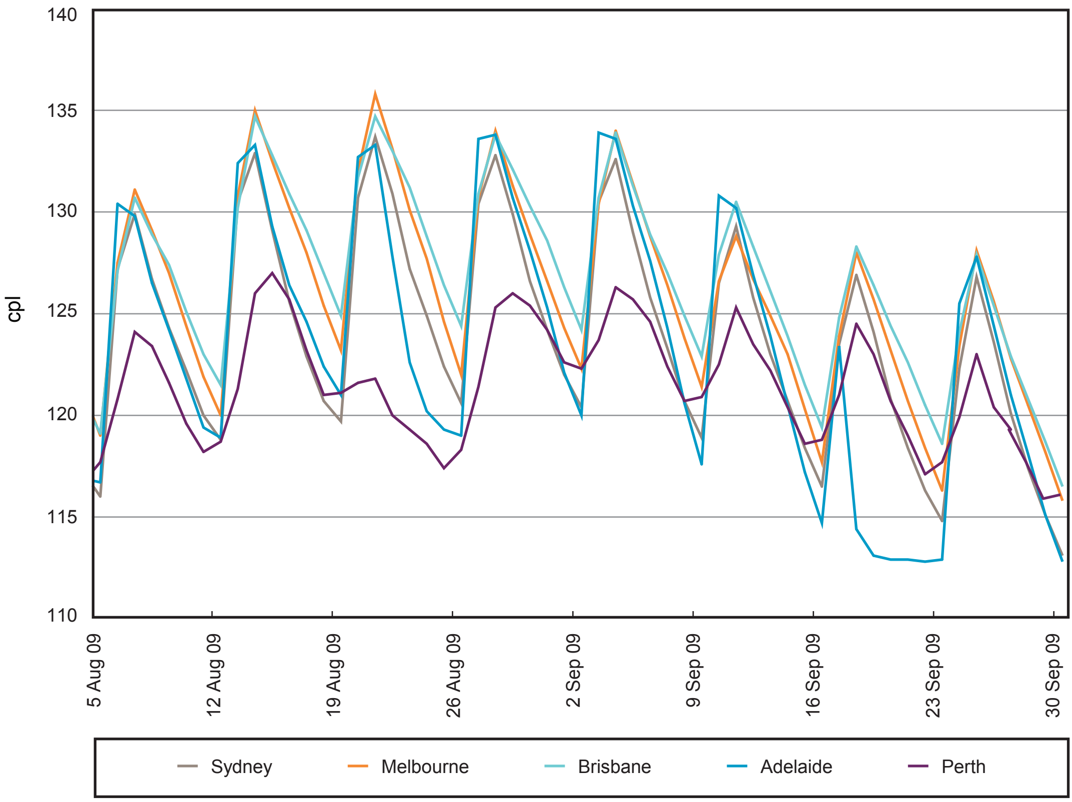
Source: ACCC calculations based on Informed Sources data.

Chart 9.12 shows the course of prices in each of the cities from 5 August 2009 to 30 September 2009, which shows the clear pattern of weekly price cycles.

The shape of price cycles is generally asymmetric—that is, prices increase rapidly over a short period and then steadily decrease. Generally these cycles occur weekly in duration, with peaks commonly on Thursdays or Fridays and troughs commonly on Tuesdays or Wednesdays. At the bottom of the cycle, prices can be below posted TGPs (that is, indicative wholesale prices).

Price cycles are considered further in chapter 11.

Chart 9.12 Daily average retail prices in the five largest cities: Wednesday, 5 August to Wednesday, 30 September 2009



Source: Informed Sources.

9.3 Retail price movements in the three smaller capital cities and in regional centres and country towns

The one-third of motorists who reside outside the five largest cities typically face higher prices than motorists in the largest cities.

RULP prices for all capital cities in 2008–09 are shown in table 9.3. Excluding Brisbane, there was a 3.8 cpl difference between average annual prices in these cities. Prices ranged from a low of 126.1 cpl in Perth to a high of 139.7 cpl in Darwin.

The three smallest capital cities tended to have higher RULP prices, which is influenced by their smaller populations and distance from refineries. Canberra has price cycles, though with a less regular pattern. Darwin and Hobart do not generally have price cycles.

Table 9.3 Average retail prices of RULP in all capital cities: 2008–09

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra	Darwin
128.2	129.9	122.4	128.7	126.1	133.3	131.3	139.7

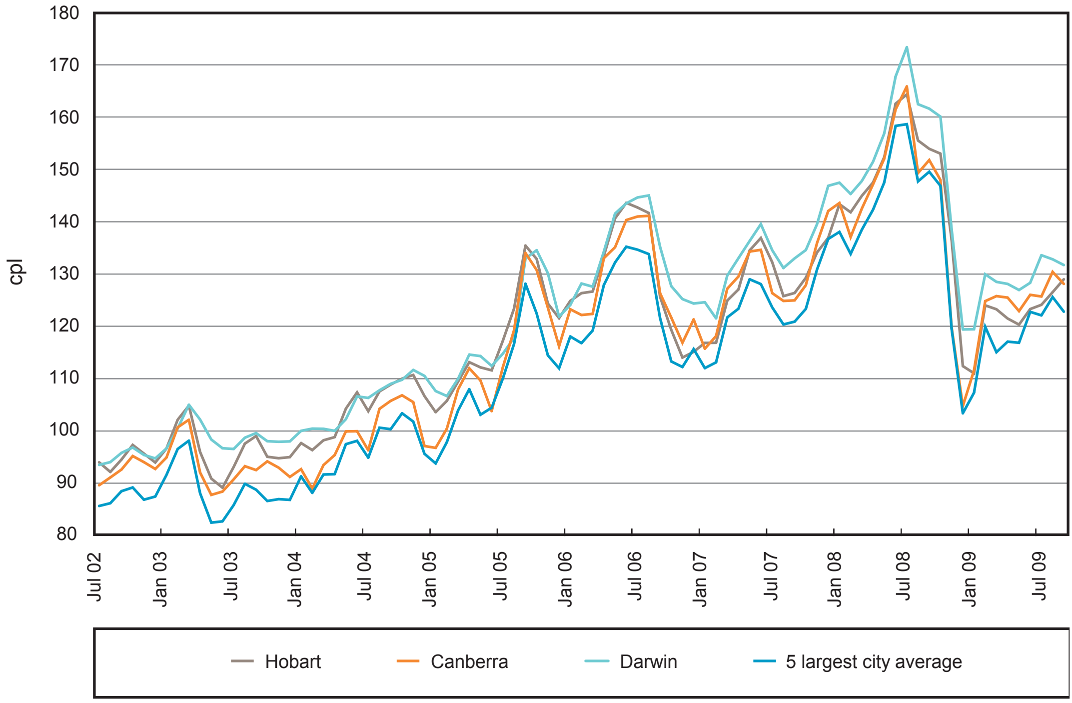
Source: ACCC calculations based on Informed Sources data.

Chart 9.13 shows average monthly retail RULP prices in the three smaller capital cities over the period July 2002 to September 2009 with the average monthly price across the five largest cities.

In summary:

- Average monthly retail RULP prices in the smaller capital cities have tended to follow similar trends to those in the five largest cities.
- From 2002–03 to 2008–09 Darwin had the most expensive average monthly RULP prices. RULP in Darwin cost on average 5 cpl more than in Canberra and 3 cpl more than in Hobart.

Chart 9.13 Average retail prices of RULP in the three smaller capital cities: 2002–03 to 2008–09



Source: ACCC calculations based on Informed Sources data.

9.4 Other petrol grades

While RULP is the most common petrol used by motorists, there are other forms of petrol which are becoming more widely used. These include: premium unleaded petrol (PULP) with RON 95, PULP with RON 98 and E10 (that is, RULP with up to 10 per cent ethanol content).

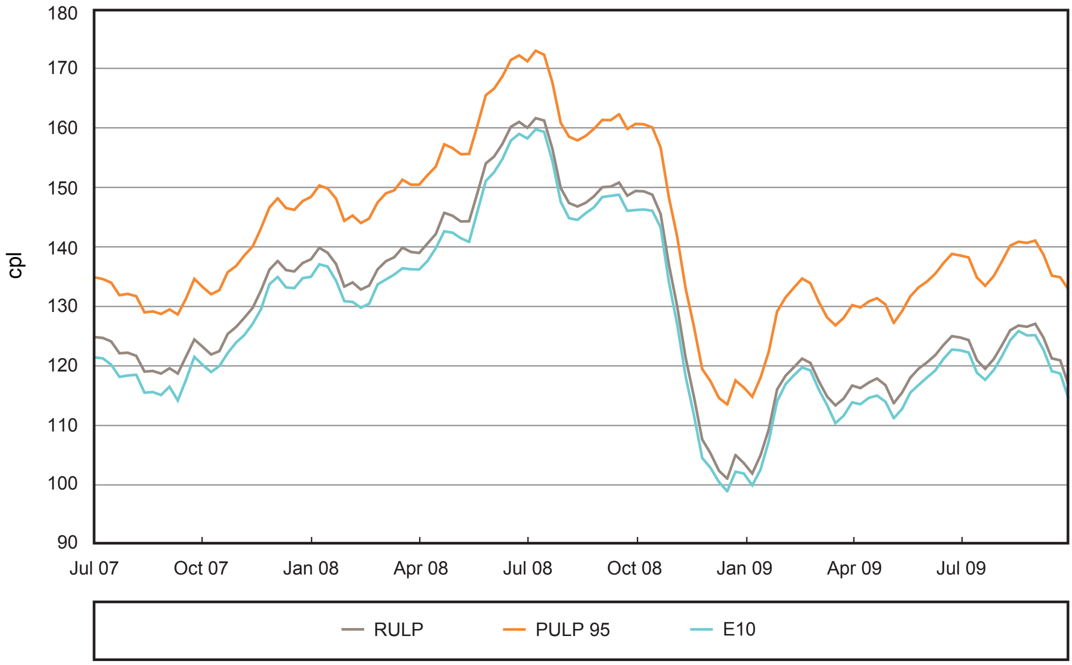
According to RET data, premium fuels accounted for just over 20 per cent of total retail petrol sales in Australia in 2008–09. Sales of E10 have increased significantly over the past few years, particularly in New South Wales and Queensland. However, E10 is not available in every state.

It is important to realise that these are different products and there are a number of reasons why there are differences in the price of these products. Some of these reasons are:

- There are different international benchmarks that apply to these products; RULP is generally priced off the spot price of Mogas 95 whereas PULP is generally priced off the spot price of Mogas 97.
- There are different fuel standards. For example, PULP has a higher standard than RULP and attracts a higher fuel quality premium.
- Domestic producers of ethanol used in transport receive a government subsidy equal to the fuel excise of 38.14 cpl. This means that E10 petrol is effectively excise free for the ethanol component (which is 10 per cent).

Chart 9.14 shows RULP, PULP 95 and E10 prices from July 2007 to September 2009. Over this period, the average price differential between RULP and PULP has been 8.4 cpl and the average price differential between RULP and E10 has been 4.4 cpl.

Chart 9.14 Average monthly retail prices of PULP, RULP and E10 in the five largest cities: 1 July 2007 to 30 September 2009



Source: ACCC calculations based on Informed Sources data.

Note: E10 is not available in Perth.

9.5 E10 petrol price differential

This section describes the ACCC's monitoring of E10 petrol prices and the differential between E10 prices and RULP prices over the period October 2008 to September 2009.

9.5.1 E10 petrol price monitoring

E10 petrol is unleaded petrol with up to 10 per cent ethanol. It is usually sold at a lower price than RULP. The main reason for the lower price is that ethanol used in petrol is effectively excise free. However, there are additional production costs for E10 petrol (such as separate storage tanks for ethanol at terminals, gantries to put the ethanol into tankers and separate tanks and pumps at service stations). As at July 2009 there were around 1580 service stations in Australia selling E10 petrol.[5]

The ACCC has been monitoring E10 petrol prices since August 2006. The ACCC monitors prices for regular E10 unleaded petrol only. It therefore excludes premium E10 petrol prices and E5 petrol prices. Prices used in the E10 petrol analysis are collected from various service stations in a particular location and compared with the regular unleaded petrol prices at those service stations. As a result, the analysis in this section differs from that in section 9.4, which compares all prices recorded for E10 in the four largest capital cities selling E10 (Sydney, Melbourne, Brisbane and Adelaide) with all prices recorded for RULP and PULP.

Appendix E provides details on E10 prices and the differential between E10 petrol prices and regular unleaded petrol prices in the 46 locations monitored by the ACCC. The locations include five capital cities (Sydney, Melbourne, Brisbane, Adelaide and Canberra) and 41 regional centres and country towns.

9.5.2 Price differentials

Table 9.4 shows, for the last four quarters, the average quarterly differential between the price of E10 petrol and the price of RULP across the locations monitored by the ACCC.

Table 9.4 Quarterly differentials between the price of E10 petrol and the price of RULP: December 2008 quarter to September 2009 quarter

Quarter	E10 price differential cpl
December 2008	2.9
March 2009	2.7
June 2009	2.5
September 2009	2.5

Source: ACCC and Informed Sources.

Table 9.4 shows that the average quarterly differential has steadily declined over the quarters. In the 2008–09 financial year the average E10 price differential was 2.7 cpl. This is 0.1 cpl lower than in 2007–08.

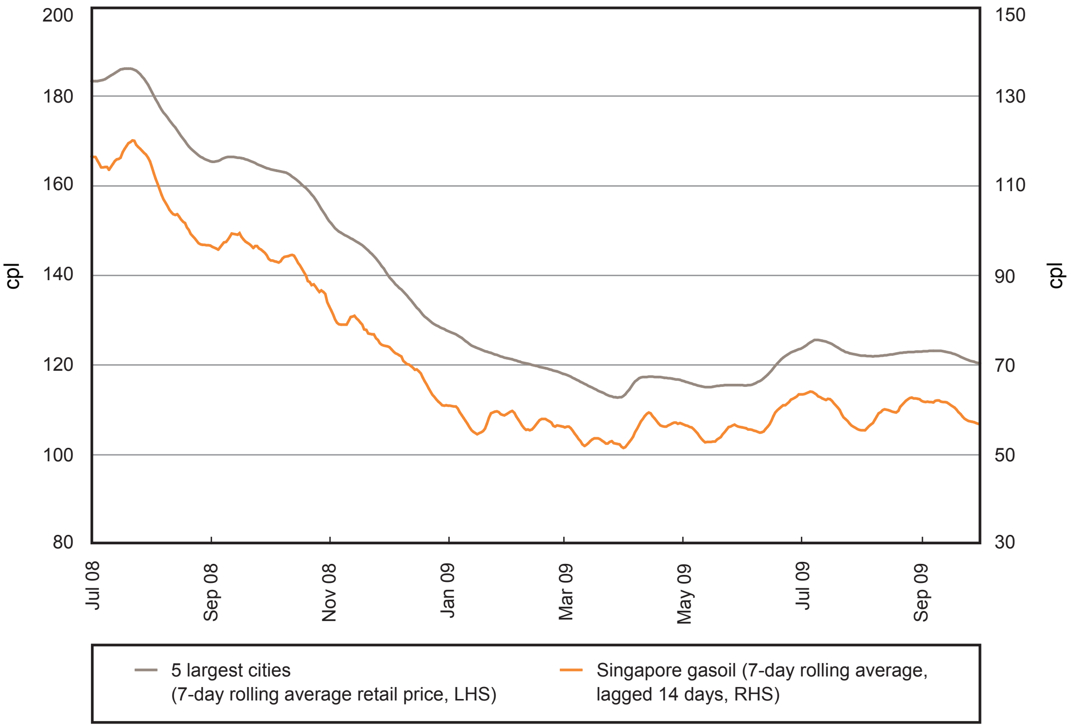
5 See the E10 supplier list on the Department of Finance and Deregulation website at: http://www.finance.gov.au/vehicle-leasing-and-fleet-management/docs/E10-Supplier-List.xls.

9.6 Diesel and automotive LPG

In his media release of 16 February 2008 the Minister for Competition Policy and Consumer Affairs stated that the ACCC will, in addition to the formal monitoring of petrol, increase its focus on monitoring automotive LPG and diesel prices.

The ACCC monitors the movement of retail diesel prices against the spot price of Singapore gasoil with 10 parts per million (ppm) sulphur content. The diesel benchmark price was Singapore gasoil with 50 ppm from 1 January 2006 to 31 December 2008. Chart 9.15 illustrates that diesel retail prices broadly tracked movements in the international benchmark price.

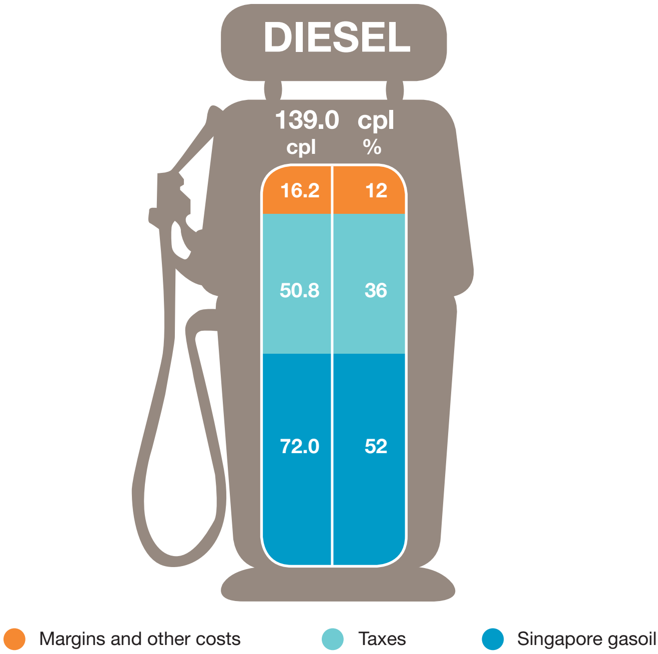
Chart 9.15 Movements in retail diesel prices and Singapore gasoil prices: 1 July 2008 to 30 September 2009



Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Chart 9.16 shows the major components in the Australian price of diesel during 2008–09. These components include the Singapore gasoil price, retail and wholesale gross margins and other costs, and excise and GST.

Chart 9.16 Components of Australian retail diesel prices in the five largest cities: 2008–09



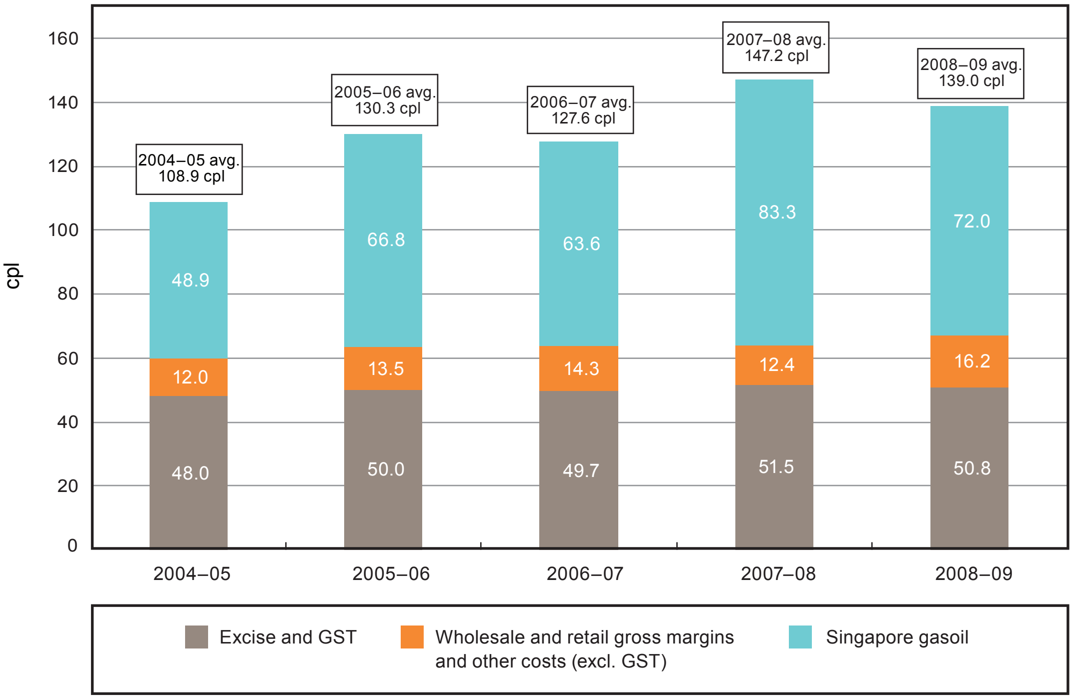
Source: ACCC calculations based on Platts, CBA and Informed Sources data.

Chart 9.17 shows the major components of the retail diesel price for each year from 2004–05.

From chart 9.17 we can conclude that:

- Changes in the price of Singapore gasoil have been the major influence in changes to the retail price of diesel in Australia.
- Since 2005–06, Singapore gasoil has been the largest component in the retail price of diesel, followed by excise and GST.
- While retail and wholesale margins and other costs have fluctuated, they have not had a major impact on the final retail diesel price when compared to movements in the price of Singapore gasoil.
- The excise and GST component of prices has remained relatively constant throughout the period.

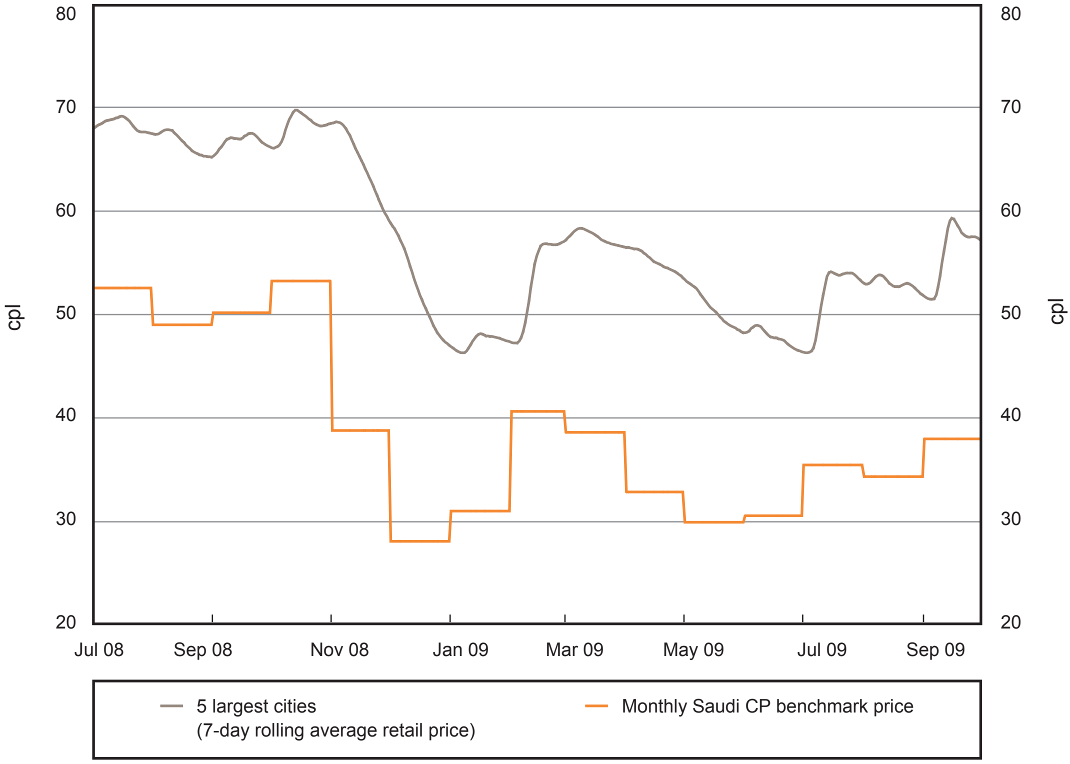
Chart 9.17 Components of Australian retail diesel prices in the five largest cities: 2004–05 to 2008–09



Source: ACCC calculations based on Platts, CBA, AIP and Informed Sources data.

The ACCC monitors the movement of retail automotive LPG prices against the average price of Saudi Aramco contract prices (Saudi CP) for propane and butane, which are issued on the first day of the month. Chart 9.18 illustrates that automotive LPG retail prices broadly tracked movements in the international benchmark price.

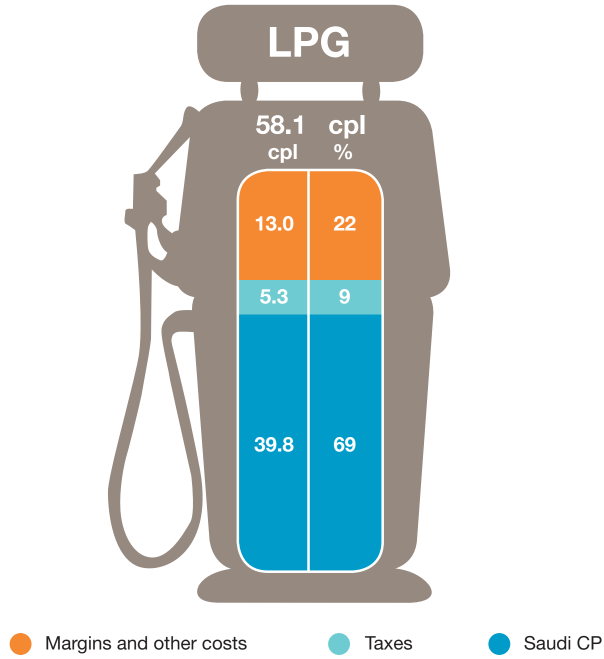
Chart 9.18 Movements in retail automotive LPG prices and Saudi CP prices: 1 July 2008 to 30 September 2009



Source: ACCC calculations based on LPG Australia, RBA and Informed Sources data.

Chart 9.19 shows the major components in the Australian price of automotive LPG during 2008–09. These components include Saudi CP, GST, and retail and wholesale gross margins and other costs.

Chart 9.19 Components of Australian retail automotive LPG prices in the five largest cities: 2008–09



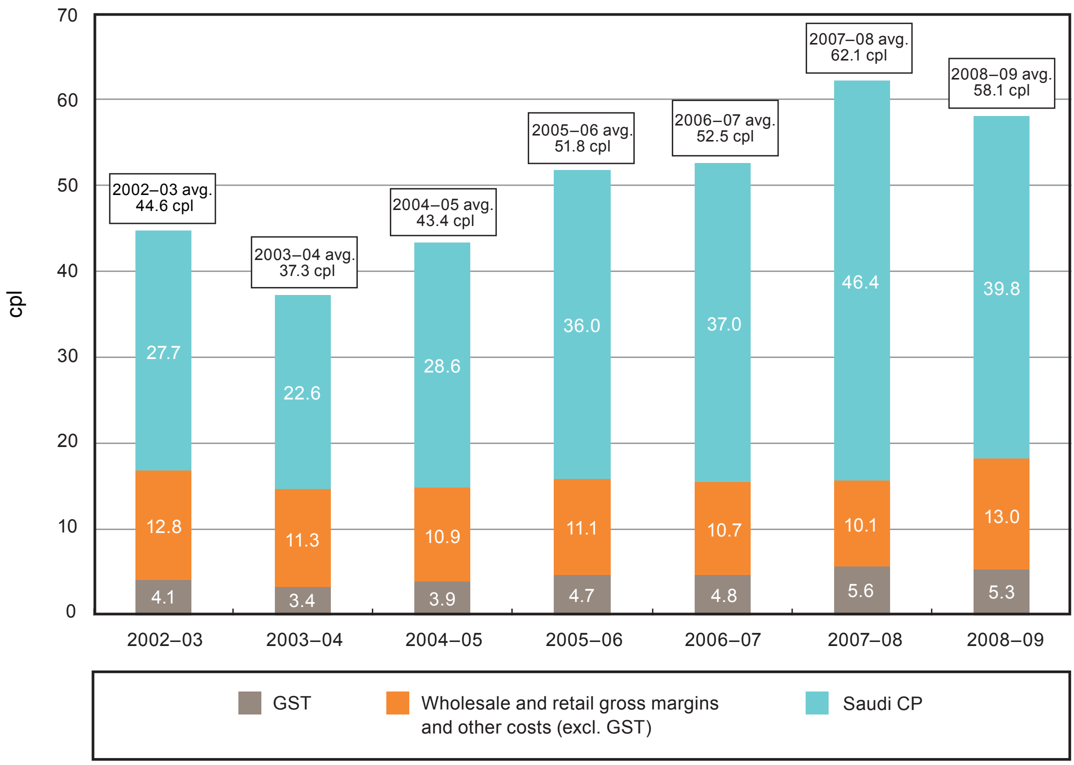
Source: ACCC calculations based on LPG Australia, RBA and Informed Sources data.

Chart 9.20 shows the major components of the retail automotive LPG price for each year from 2002–03.

From chart 9.20 we can conclude that:

- Changes in the price of Saudi CP have been the major influence in changes to the retail price of automotive LPG in Australia.
- While retail and wholesale margins have fluctuated, they have not had a major impact on the final retail automotive LPG price when compared to movements in the Saudi CP.

Chart 9.20 Components of Australian retail automotive LPG prices in the five largest cities: 2002–03 to 2008–09



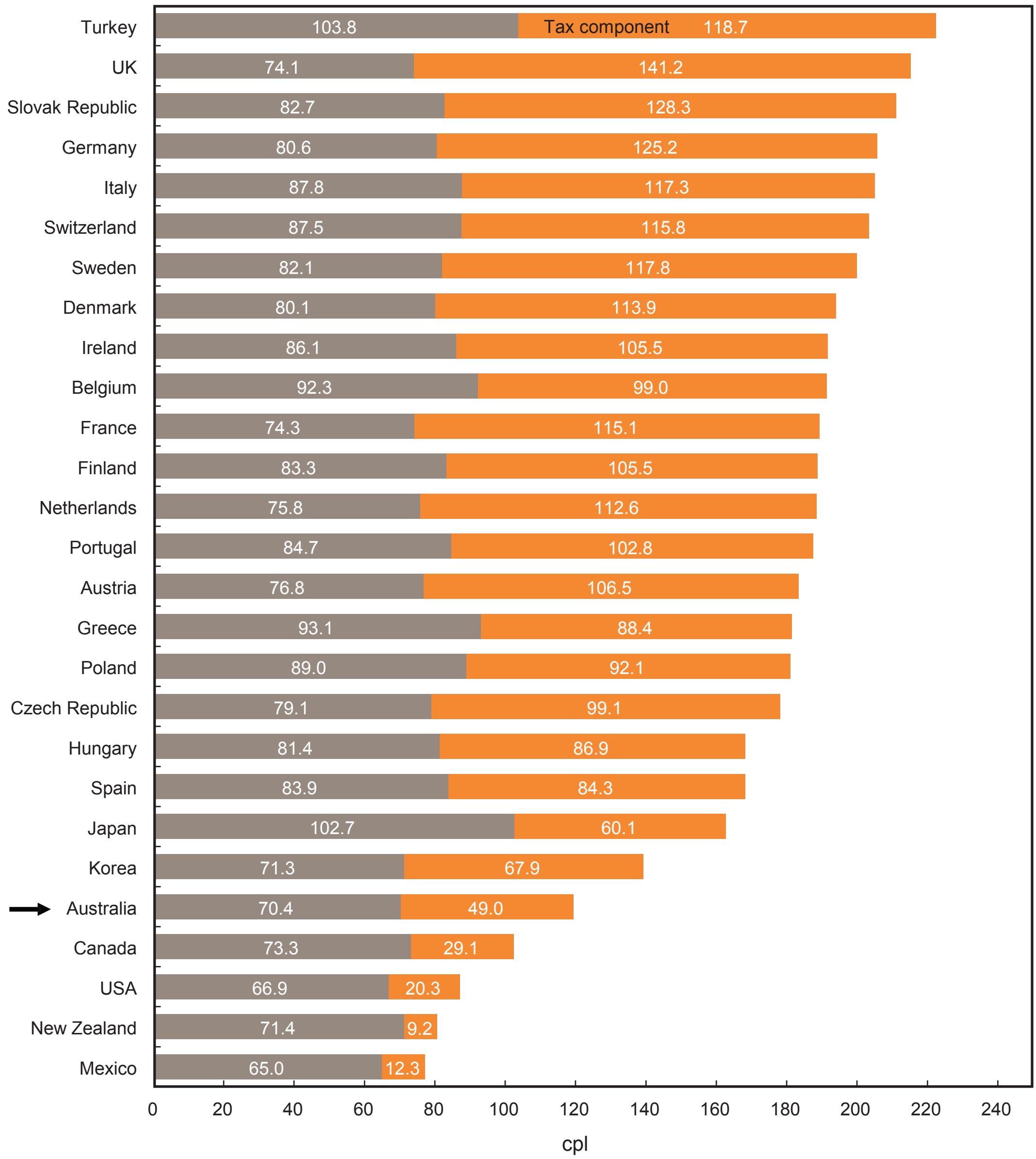
Source: ACCC calculations based on LPG Australia, RBA and Informed Sources data.

9.6.1 Comparisons of domestic and international diesel and automotive LPG prices

RET publishes data showing that, as is the case with petrol, Australian retail diesel and automotive LPG prices were relatively low compared with prices in other OECD countries. In March 2009 Australia had:

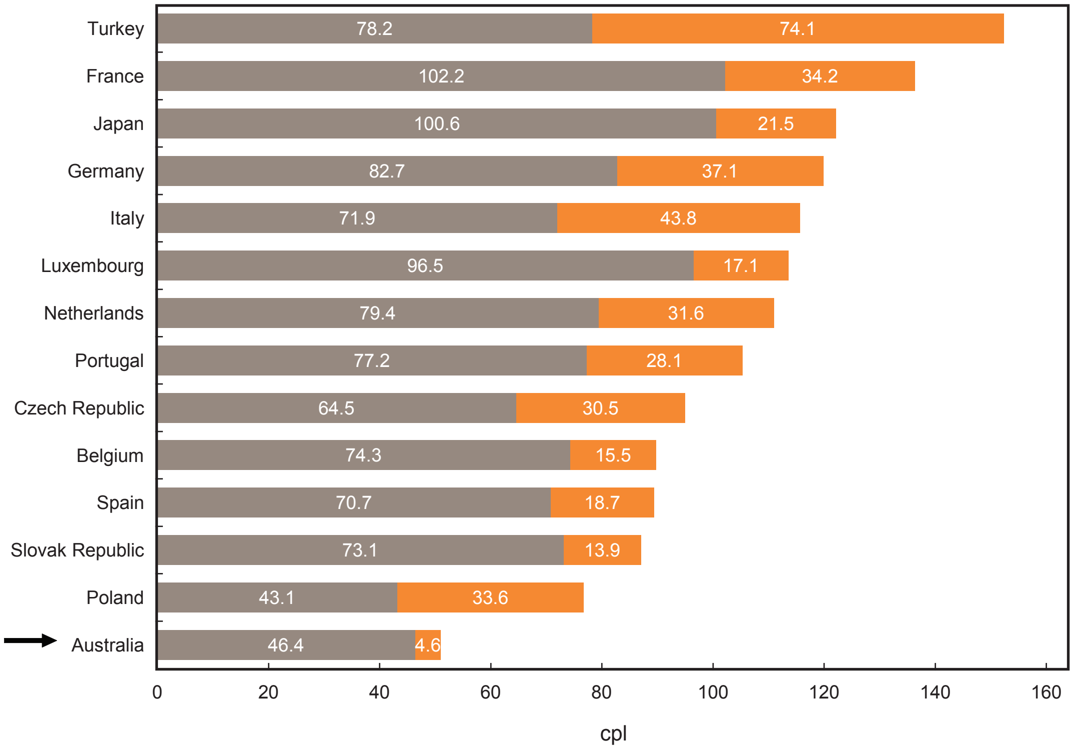
- the fifth-cheapest diesel prices in the OECD
- the lowest automotive LPG prices in the OECD.

Chart 9.21 Comparison of automotive diesel oil prices in OECD countries: March 2009 quarter



Source: *Australian Petroleum Statistics,* issue 155 (June 2009).[6]

Chart 9.22 Comparison of automotive LPG prices in OECD countries: March 2009 quarter



Source: *Australian Petroleum Statistics*, issue 155 (June 2009).[7]

9.6.2 Comparison of diesel and automotive LPG prices with RULP prices

RULP, diesel and automotive LPG are all used for motor transport; thus, in the longer run, they are to an extent substitutable products. Over the long run, they move together in price. In addition, as diesel and petrol are both derived from crude oil, their prices will tend to be broadly correlated in the long term.

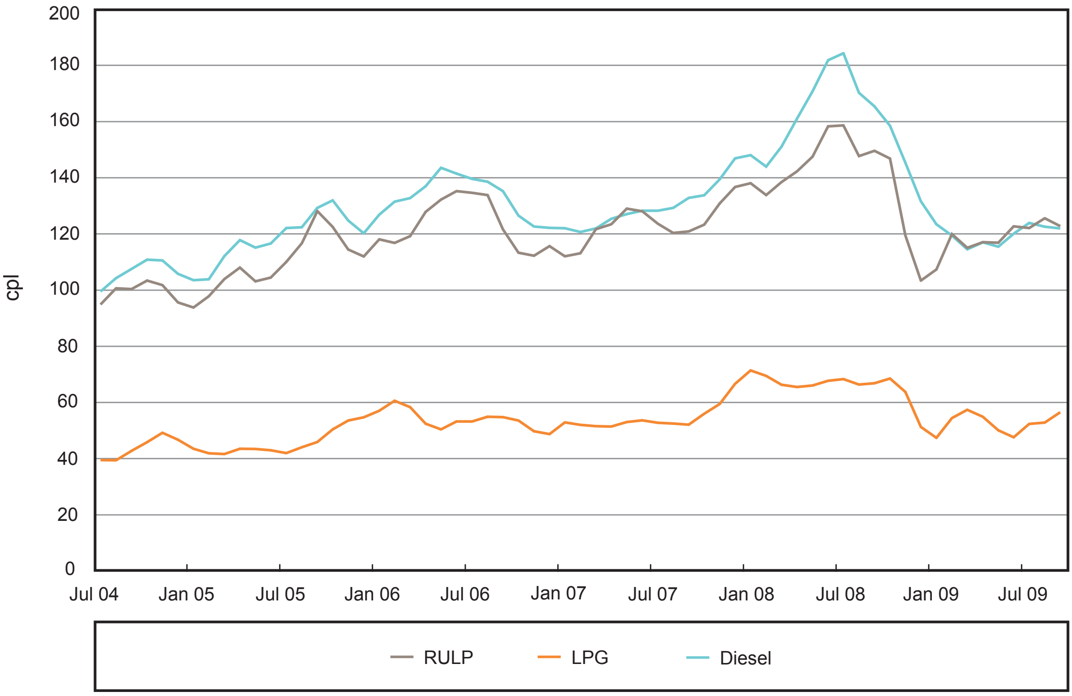
This section compares RULP prices with those of diesel and automotive LPG in the five largest cities in the period July 2004 to September 2009.

In summary, chart 9.23 shows that between July 2004 and September 2009:

- Average monthly RULP prices increased by about 29 per cent (from 94.9 cpl to 122.8 cpl).
- Average monthly diesel prices increased by about 22 per cent (from 99.5 cpl to 121.9 cpl).
- Average monthly automotive LPG prices increased by about 43 per cent (from 39.5 cpl to 56.5 cpl).
- In July 2008, diesel prices were 25.7 cpl higher than RULP prices; by the end of September, 2009 the average retail price of diesel was 0.9 cpl lower than the price of RULP.

7 See footnote 2.

Chart 9.23 Average monthly retail prices of RULP, diesel and automotive LPG in the five largest cities: 1 July 2004 to 30 September 2009



Source: ACCC calculations based on Informed Sources data.

Note: Automotive LPG prices are based on movements in international LPG prices (which may diverge from crude oil movements over short periods). Excise (of 38.14 cpl) is applied to petrol and diesel but not to automotive LPG.

10 Retail prices in regional centres and country towns

This chapter presents information on retail petrol[1] prices in capital cities, regional centres and country towns.

10.1 Price differentials over the past seven years

Over the past seven years, petrol prices have generally been higher in regional centres and country towns than in the five largest cities (Sydney, Melbourne, Brisbane, Adelaide and Perth).

For each state and the Northern Territory, table 10.1 shows the average price difference between the capital city and the regional centres and country towns that are monitored by the ACCC.[2] It also shows two aggregate indicators of the city–country differential (five-city and eight-city city–country differentials).[3]

Observations from this table include:

- prices in regional centres and country towns have been about 6 cents per litre (cpl) higher, on average, than prices in the five largest cities over the past seven years
- the largest price differentials occurred in Western Australia, where there are large distances between the capital city and remote town centres
- the smallest price differentials occurred in Tasmania, reflecting the location of the major terminals outside the capital, and the relatively even population distribution in a small and compact state.

1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

2 Prior to 1 July 2009 the ACCC monitored fuel prices in 110 regional centres and country towns. This data is collected by Informed Sources on a daily basis. Since then the ACCC has increased its monitoring to 150 regional centres and country towns.

3 The city–country differentials for each state are the difference between the arithmetic average of average annual prices in each country town in the state and the average annual capital city price.

The five-city city–country differential is the difference between the arithmetic average country price for the seven states and territories monitored (there are no prices available for the Australian Capital Territory, other than Canberra) and the arithmetic average price for the five largest cities.

The eight-city city–country differential is the difference between the arithmetic average country price for the seven states and territories monitored and the arithmetic average price for the eight capital cities. Since the eight-city differential includes in the city price the smaller capital cities, which tend to have higher prices than the five largest cities, the eight-city city–country differential produces smaller numbers than the five-city city–country differential.

Table 10.1 Average price difference between the capital city and the regional centres and country towns monitored by the ACCC: 2002–03 to 2008–09

	2002–03 cpl	2003–04 cpl	2004–05 cpl	2005–06 cpl	2006–07 cpl	2007–08 cpl	2008–09 cpl	7-year average
State								
New South Wales	5.5	5.0	4.4	5.9	5.4	4.7	5.1	5.1
Victoria	4.3	3.9	5.9	5.3	4.5	4.8	2.9	4.5
Queensland	4.1	2.8	3.5	5.0	4.9	4.7	2.7	4.0
South Australia	3.0	2.8	3.8	4.3	5.6	4.8	4.2	4.1
Western Australia	10.0	9.8	11.8	11.3	12.2	12.5	17.0	12.1
Tasmania	–0.3	0.6	0.5	–1.1	0.1	1.1	1.4	0.3
Northern Territory	6.5	3.3	5.4	4.3	5.2	8.0	5.8	5.5
Aggregate indicators								
5-city	5.4	4.4	5.5	6.0	6.0	5.9	5.5	5.5
8-city	2.8	1.8	3.0	3.4	3.3	3.5	2.7	2.9

Source: ACCC calculations based on Informed Sources data.

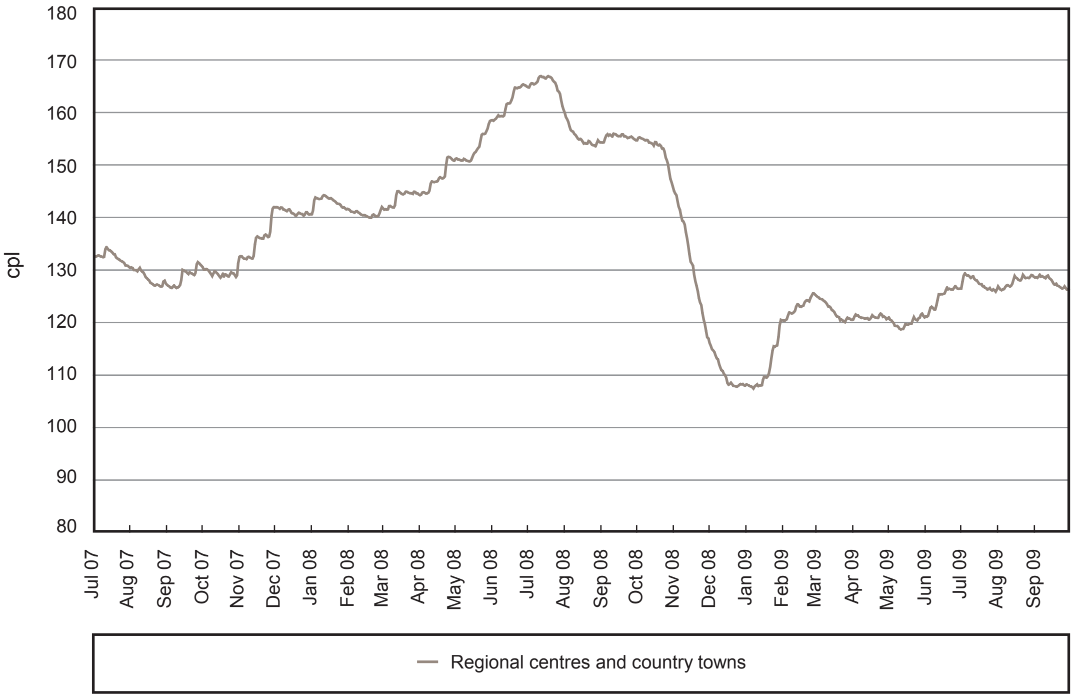
Note: Figures will vary from the 2008 ACCC petrol monitoring report, as a different data source has been used which covers a different set of regional centres.

10.2 Petrol prices in regional centres and country towns

As shown in chart 10.1, retail prices in regional centres and country towns followed a similar path to those in the five largest cities.

- Prices rose fairly steadily until July 2008 but then fell rapidly between October and December 2009 with the onset of the global financial crisis.
- Since March 2009, prices have remained reasonably steady, although a slight upward trend is evident.

Chart 10.1 Average daily RULP prices in regional centres and country towns monitored by the ACCC: 1 July 2007 to 30 September 2009



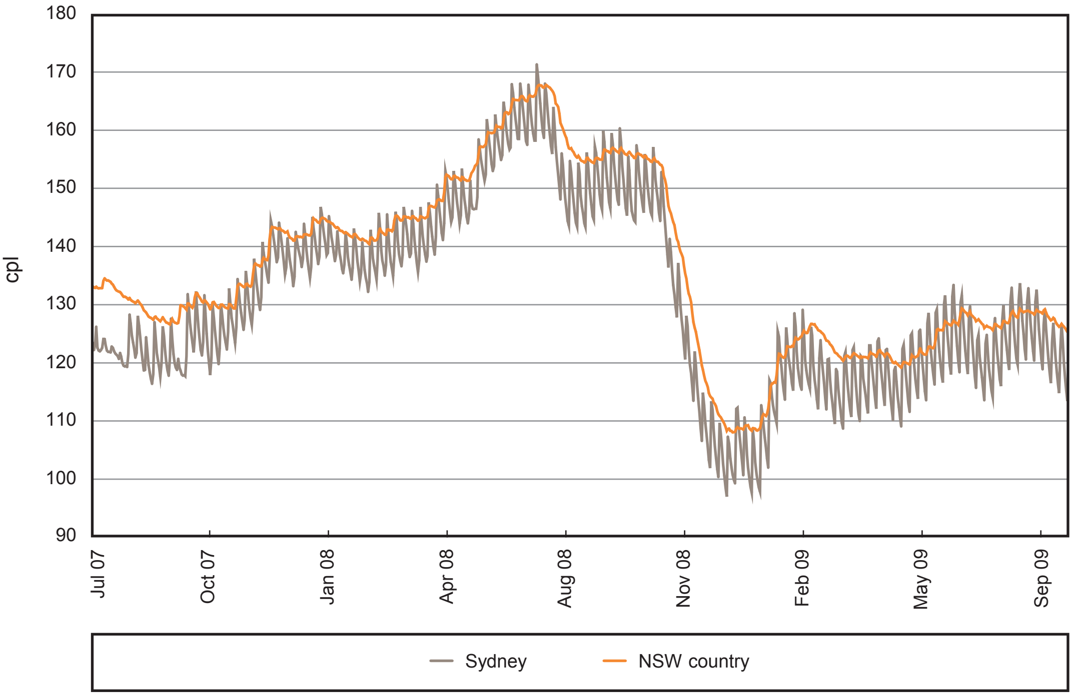
Source: ACCC calculations based on Informed Sources data.

Charts 10.2 to 10.8 show average daily prices for the capital city and for the monitored regional centres and country towns in each state and the Northern Territory from July 2007 to September 2009.

The charts show:

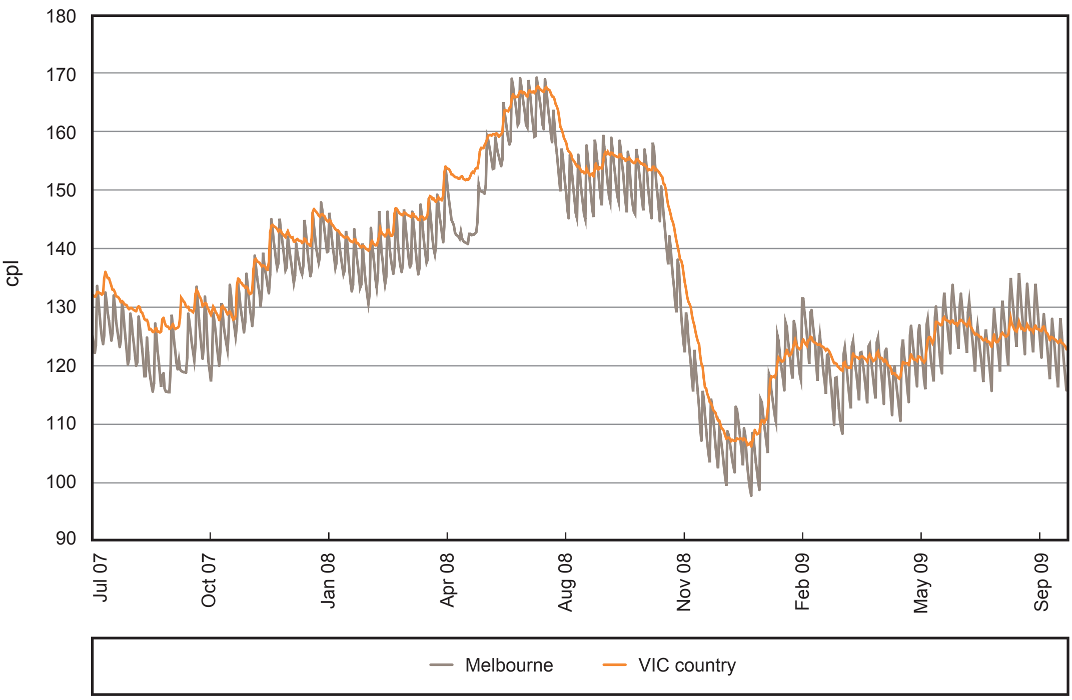
- prices in capital cities except Hobart and Darwin tend to move in regular weekly cycles, whereas in regional centres and country towns there may be a modest price cycle or no cycle at all
- in most states and territories (most notably Western Australia and the Northern Territory) country prices are higher than city prices
- price changes in regional centres and country towns tend to lag behind price changes in capital cities. This reflects the extra time it takes for stocks to move through the supply chain in regional centres and country towns. This effect was especially pronounced in 2008–09 in Western Australia.

Chart 10.2 Sydney and New South Wales regional centres and country towns—average daily RULP prices: July 2007 to September 2009



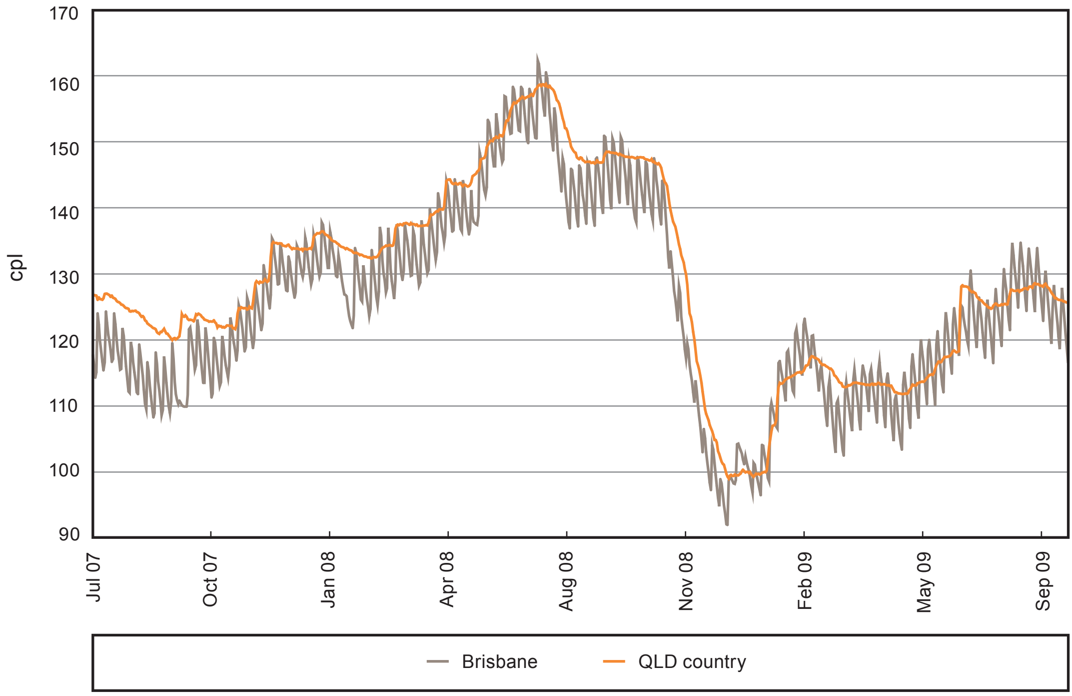
Source: ACCC calculations based on Informed Sources data.

Chart 10.3 Melbourne and Victorian regional centres and country towns—average daily RULP prices: July 2007 to September 2009



Source: ACCC calculations based on Informed Sources data.

Chart 10.4 Brisbane and Queensland regional centres and country towns—average daily RULP prices: July 2007 to September 2009

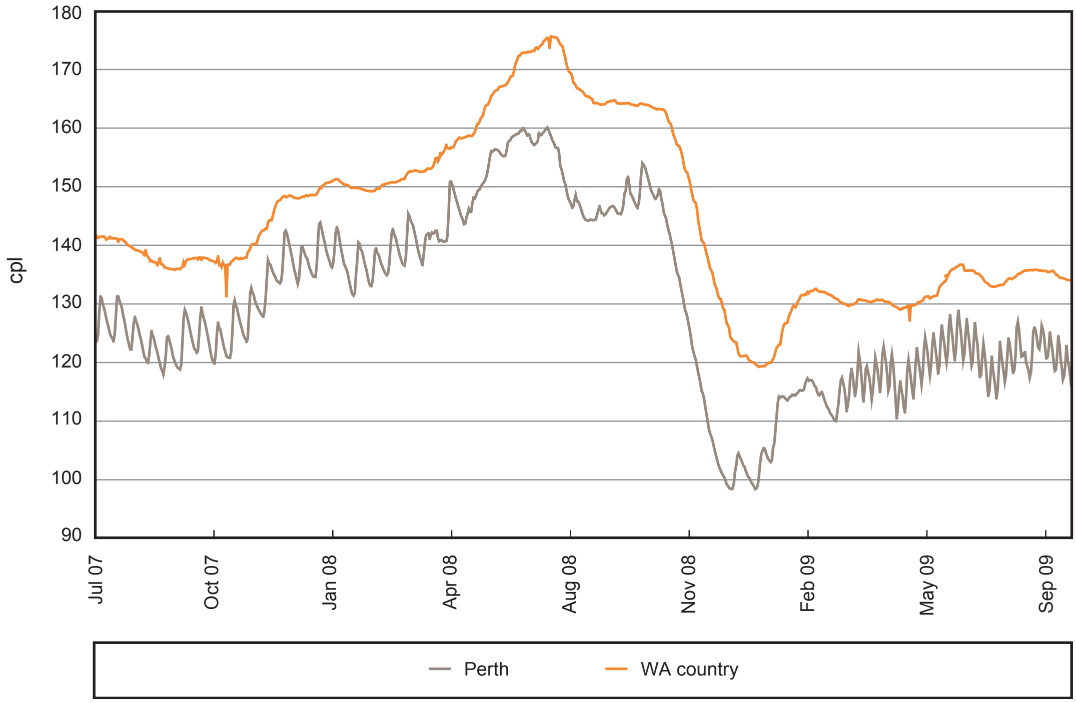


Source: ACCC calculations based on Informed Sources data.

Chart 10.5 Adelaide and South Australian regional centres and country towns—average daily RULP prices: July 2007 to September 2009

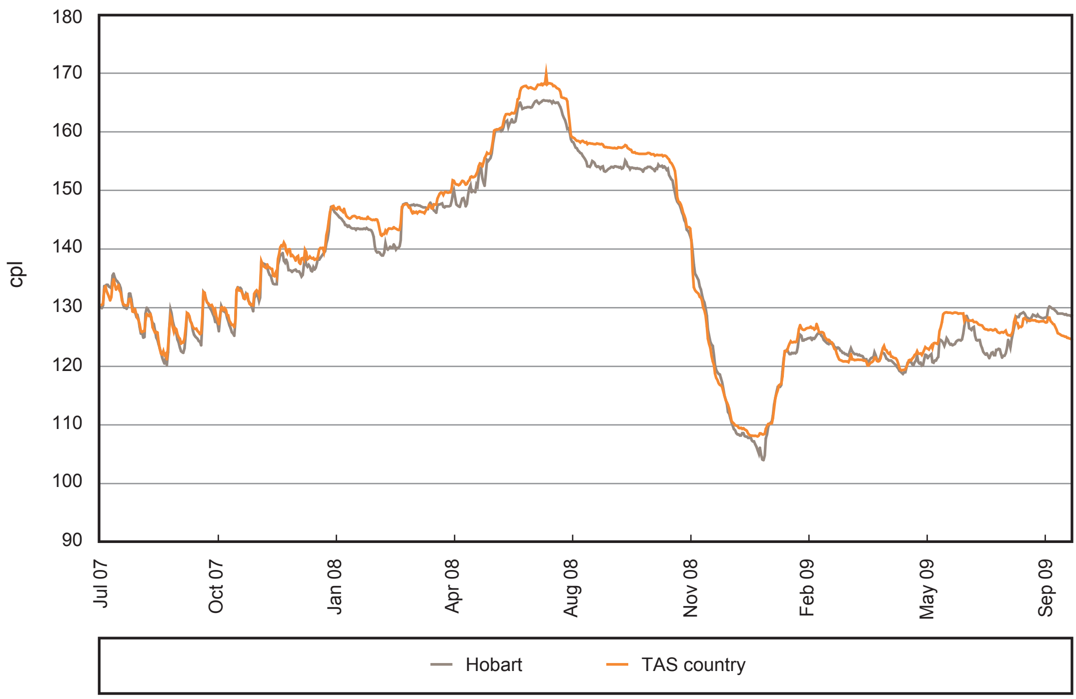
Source: ACCC calculations based on Informed Sources data.

Chart 10.6 Perth and Western Australian regional centres and country towns—average daily RULP prices: July 2007 to September 2009



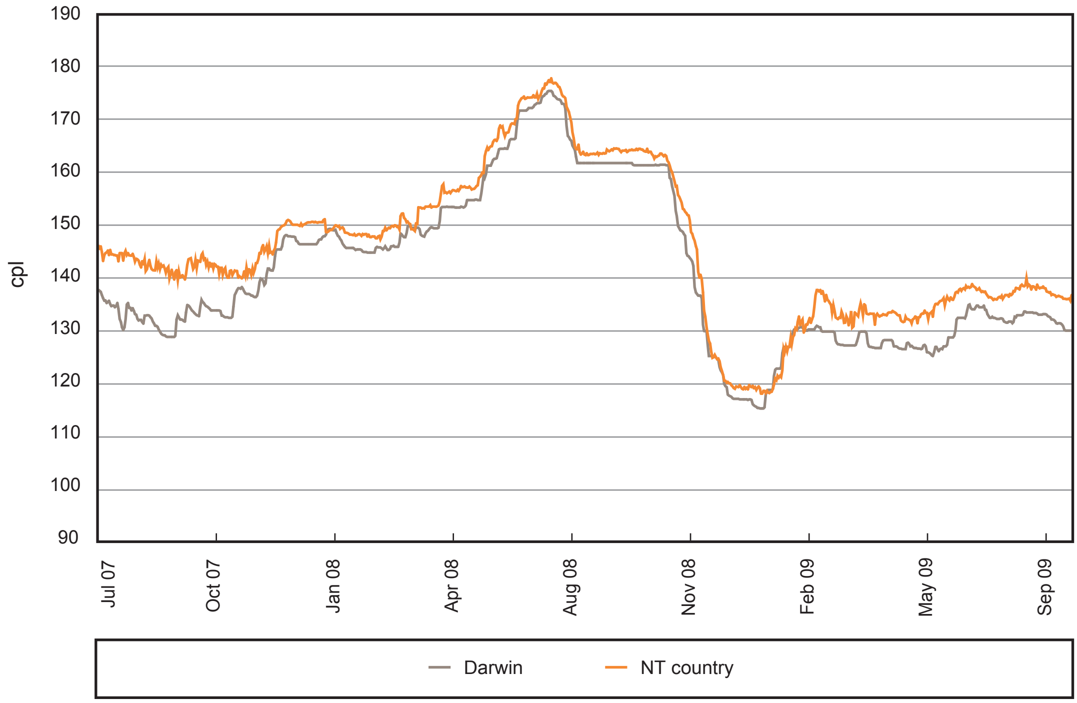
Source: ACCC calculations based on Informed Sources data.

Chart 10.7 Hobart and Tasmanian regional centres and country towns—average daily RULP prices: July 2007 to September 2009



Source: ACCC calculations based on Informed Sources data.

Chart 10.8 Darwin and Northern Territory regional centres and country towns—average daily RULP prices: July 2007 to September 2009

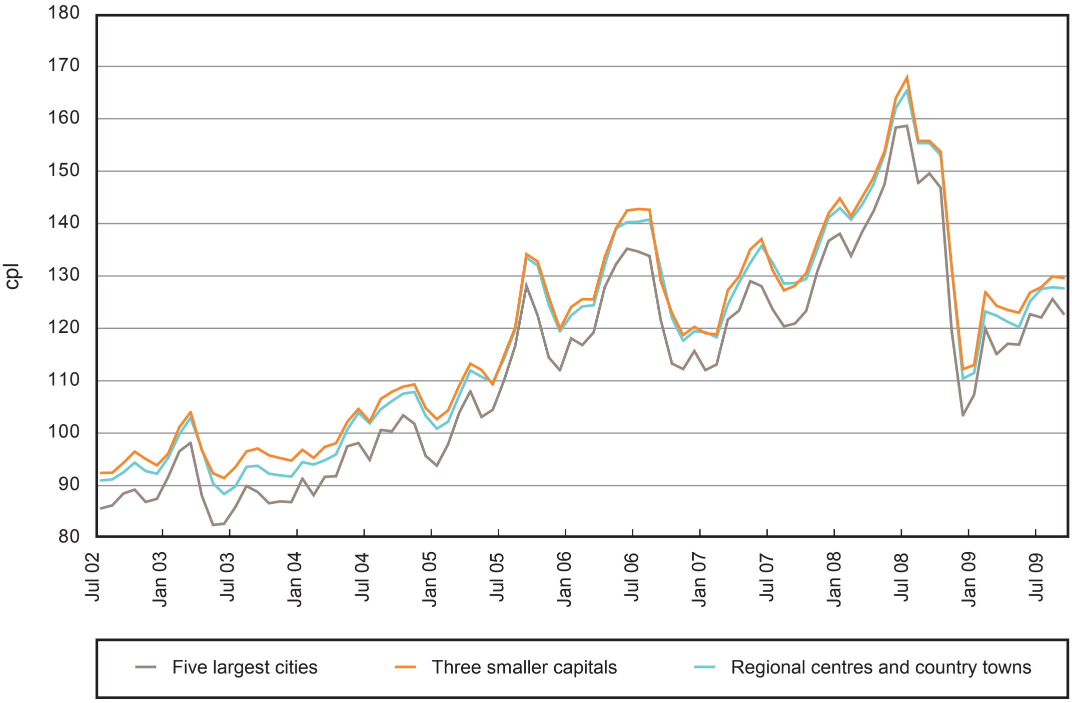


Source: ACCC calculations based on Informed Sources data.

Chart 10.9 shows that average monthly retail prices of RULP in the three smaller capital cities and in regional centres and country towns have followed a similar trend to prices in the five largest cities over the period July 2002 to September 2009. Further observations from chart 10.9 include:

- the average price difference between the five largest cities and the three smaller capitals was 7.0 cpl (an estimate of 5.5 cpl if the Brisbane subsidy is excluded), while the average difference between the regional centres and country towns and the five largest cities was 5.6 cpl
- overall, the price differential between the five largest cities and the other locations did not increase over this period; however, it did vary from year to year
- in the short term, the price differential between the five largest cities and the other locations tended to decrease when prices rose steeply and increase when prices fell rapidly. This is reflected by the increased time lags between price changes in the smaller centres.

Chart 10.9 Average monthly RULP prices in the five largest cities, three smaller capitals, and regional centres and country towns: July 2002 to September 2009



Source: ACCC calculations based on Informed Sources data.

Table 10.2 shows average annual prices in the five largest cities, the three smaller capitals, and regional centres and country towns for the seven years from 2002–03 to 2008–09.

Table 10.2 Average annual retail prices of RULP—five largest cities, three smaller capitals, and regional centres and country towns: 2002–03 to 2008–09

	Five largest cities cpl	Three smaller capitals cpl	Regional centres and country towns cpl
2002–03	88.6	95.5	94.0
2003–04	90.3	97.3	94.7
2004–05	100.6	107.5	106.1
2005–06	121.1	128.2	127.1
2006–07	121.5	128.6	127.5
2007–08	134.5	141.1	140.4
2008–09	127.1	134.8	132.9

Source: ACCC calculations based on Informed Sources data.

Average annual prices for RULP, diesel and automotive LPG in 2008–09 for the regional centres and country towns monitored by the ACCC are provided in appendix F.

10.3 Factors influencing petrol prices in regional centres and country towns

While country and city prices have followed the same broad trends, over the past few years country prices have tended to be higher than city prices. The difference in prices between locations in the city and country has been around 6 cpl on average, but the differential has varied depending on the features of the particular location.

There is no single variable which explains the differential. The factors the ACCC has found to be important include:

- the volumes sold—this factor has a significant bearing on prices: the ACCC has found that if a typical country service station is selling around half the volume of a typical city service station then it needs to sell petrol at around 4 cpl more to earn the same return on sales (see chapter 14)
- convenience store sales—these usually make a greater contribution in the city to service station operating costs, such as the wages of the console operator
- the population of the location—usually locations with larger populations have lower prices, but the relationship has not been strong
- the number of service stations—again, prices have usually been lower in locations with more service stations, but this relationship has also been weak
- distance—usually the further the location from a refinery or major depot, the higher the price.

The ACCC looked at the impact of local factors on average retail petrol prices in 105 country towns. The locally specific factors that may explain the price differences between country towns include population, number of registered petrol vehicles, number of fuel retailers and distance from fuel terminals. The ACCC analysed the impact of these variables on the average annual retail petrol prices for 2008–09 in the 105 country towns.

The correlation calculations derived in table 10.3 for the above variables suggest that retail petrol prices in country towns are:

- negatively correlated with population, number of registered petrol vehicles and number of fuel stations—that is, a lower retail price is associated with higher population and more registered vehicles and retail outlets
- positively correlated with distance from fuel terminals—that is, a higher retail price is associated with longer distance from major fuel terminals.[4]

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4 The above analysis was also undertaken for diesel and automotive LPG. The results were broadly similar to those for petrol.

Table 10.3 Correlation results for 105 country towns: 2008–09[5]

	Retail price	Population	Vehicles	Sites	Terminals
Retail price	1.0000				
Population	–0.3069	1.0000			
Vehicles	–0.3170	0.9975	1.0000		
Sites	–0.2473	0.9506	0.9465	1.0000	
Terminals	0.3058	–0.2658	–0.3001	–0.2492	1.0000

Source: ACCC calculations based on Informed Sources and Australian Bureau of Statistics data.

Australian Bureau of Statistics, 2006, SEIFA Australia Postal areas datacube, population, viewed during September 2009, http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012006?OpenDocument.
Australian Bureau of Statistics, 2009, Motor vehicle census, Australia, Cat. No 9309.0, ABS data available on request.

10.4 Price changes in regional centres and country towns

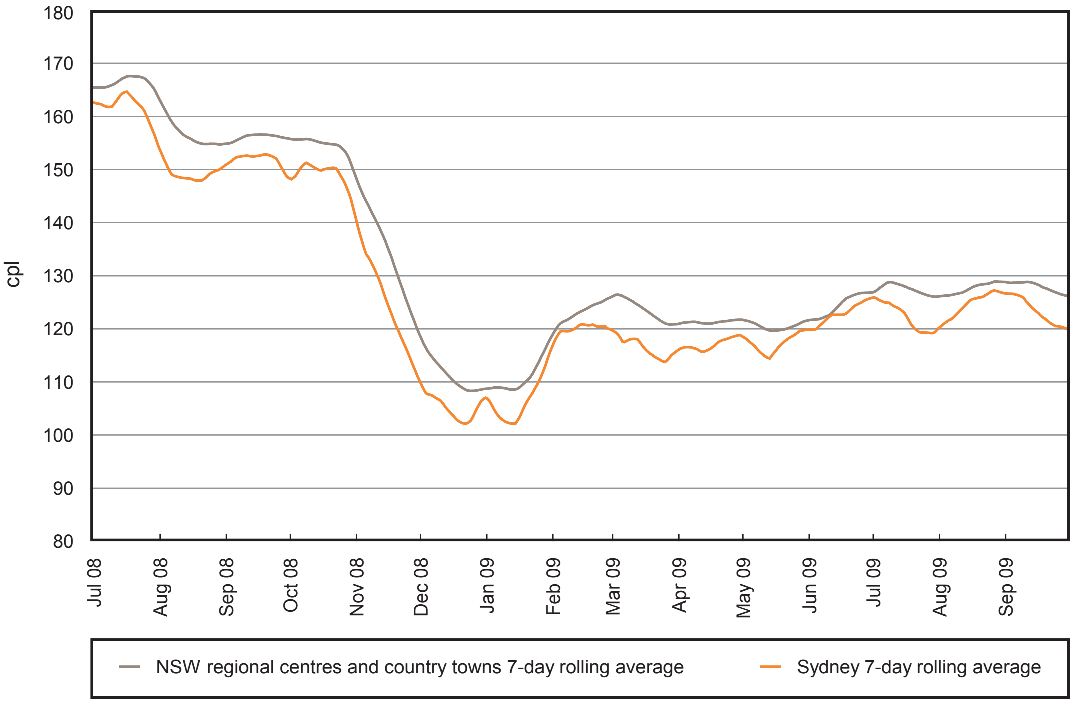
Generally, prices in regional centres and country towns are less volatile and tend to change more slowly than those in capital cities.

Chart 10.10 shows that prices in New South Wales regional centres and country towns:

- moved roughly in a similar trend to prices in Sydney (both moving in response to changes in the benchmark price)
- were typically higher than in Sydney
- were broadly more stable than prices in Sydney and appear to have taken longer to respond to both increases and decreases in the international benchmark.

5 Generally, if the correlation is greater than 0.80 (or less than –0.80) there is a strong relationship. As expected, some of these variables are closely correlated—for example, population and the number of registered vehicles.

Chart 10.10 Average daily prices in Sydney and the rest of New South Wales: 1 July 2008 to 30 September 2009



Source: ACCC calculations based on Informed Sources data.

11 Retail price analysis

In light of continued community concern about the persistence and magnitude of retail petrol price cycles, the ACCC has continued to examine price cycles over 2009.

The 2007 petrol inquiry report[1] considered these issues in detail. This chapter builds on that analysis and examines the operation of the cycles in recent times.

11.1 Petrol price cycles

Petrol price cycles have long been evident in Australia's largest cities and are characterised by the consistent movement of prices up and down.[2] Over the duration of a cycle, petrol prices generally rise quickly at the outset and are then discounted over a period of five to eight days of the remainder of the cycle to a low point.

In Sydney, Melbourne, Brisbane and Adelaide price cycles have been well established and occur on a weekly basis. In Perth the pattern of price cycles has not been as consistent over recent years, and price cycles have usually been of smaller amplitude than those in the other capitals. Between January 2007 and April 2008 Perth generally had a fortnightly price cycle. From April 2008 there was no clearly established price cycle in Perth, until March 2009 when a weekly cycle commenced.

Canberra's petrol prices have exhibited a degree of cycling behaviour, although these patterns have not been as consistent as in the five largest cities. Darwin and Hobart do not experience regular price cycles.

1 ACCC, *Petrol price cycles and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol*, December 2007.

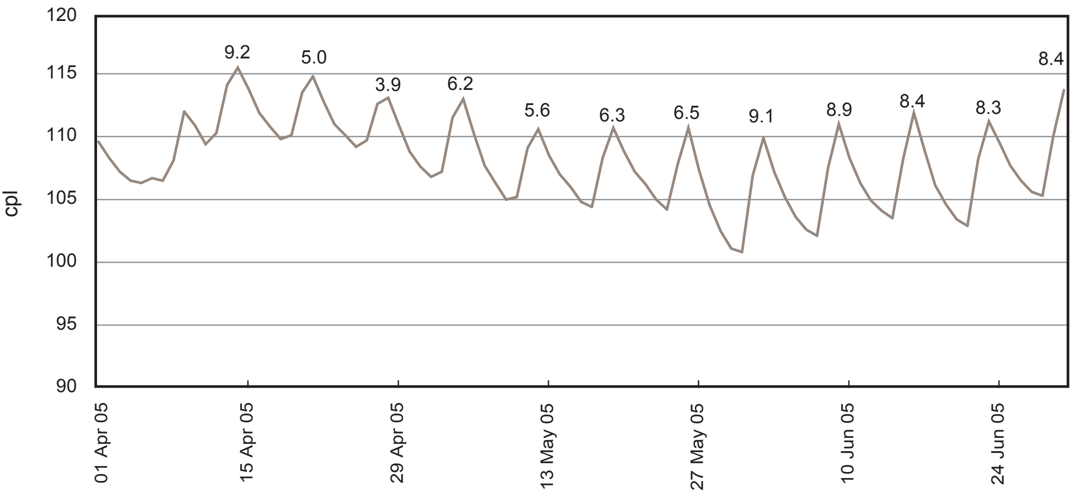
2 In October 2008 the ACCC revised its definition of a petrol price cycle. The previous definition was a movement of at least 1.0 cents per litre (cpl) from the preceding trough of the cycle to the peak, and from the peak of the cycle to the following trough. The ACCC now considers a price cycle to occur when the movements between the peak and preceding trough and the peak and the following trough is at least 3 per cent of the price at the preceding trough.

11.1.1 Price cycle amplitudes

While petrol price cycles have been a regular occurrence in Australia's large capital cities for many years, the ACCC has observed that the amplitude (or price rise during the weekly cycle) has generally increased both in absolute terms and as a percentage of the price, particularly in recent years.

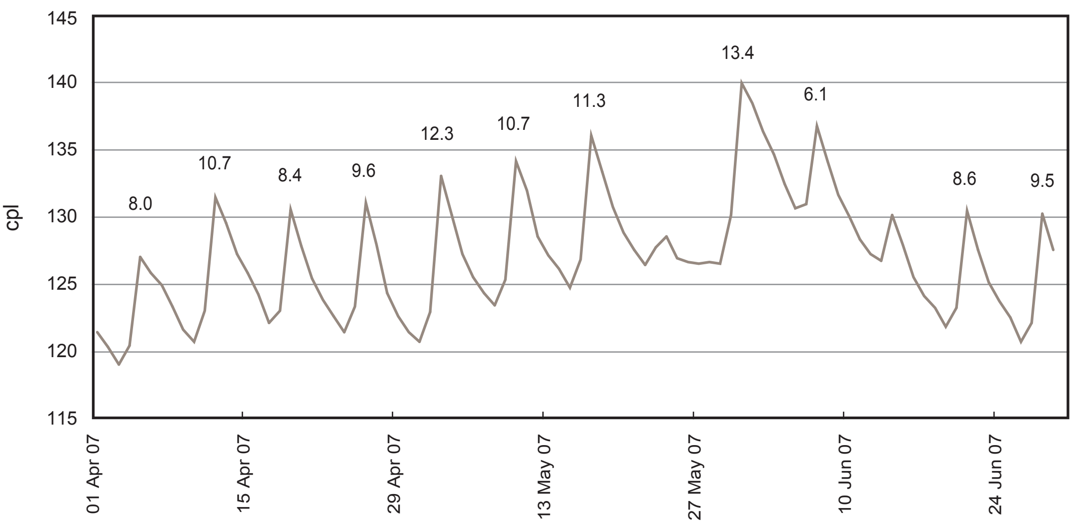
Charts 11.1, 11.2 and 11.3 show the daily average retail price of regular unleaded petrol (RULP)[3] in Sydney from 1 April to 30 June in the years 2005, 2007 and 2009. These charts illustrate the increase in the amplitudes of the weekly price cycle in Sydney. Over the three-month period, the average amplitude steadily increased from 7.2 cpl in 2005 to 9.9 cpl in 2007 and 12.6 cpl in 2009.

Chart 11.1 Daily average retail price of RULP in Sydney: 1 April to 30 June 2005



Source: ACCC and Informed Sources.

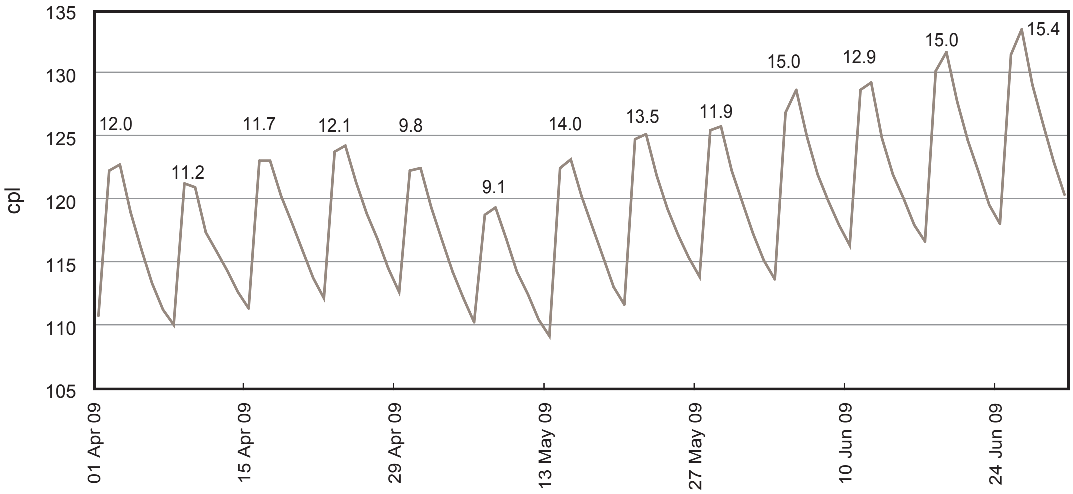
Chart 11.2 Daily average retail price of RULP in Sydney: 1 April to 30 June 2007



Source: ACCC and Informed Sources.

3 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

Chart 11.3 Daily average retail price of RULP in Sydney: 1 April to 30 June 2009



Source: ACCC and Informed Sources.

Table 11.1 shows the average price cycle amplitude over the past five calendar years in the five largest cities, as well as the average across the four cities.

Table 11.1 Average price cycle amplitude, average amplitude as a proportion of average price and number of price cycles in the five largest cities: 2005 to 2009

	Sydney	Melbourne	Brisbane	Adelaide	Perth	4-city average
Average amplitude (cpl)						
2005	7.0	7.1	7.1	7.6	10.8	7.2
2006	9.0	9.2	8.2	9.8	7.3	9.0
2007	9.4	9.6	8.4	10.3	8.0	9.4
2008	10.1	9.9	8.5	11.2	9.1	9.9
2009	12.3	11.1	9.3	13.4	7.7	11.5
Amplitude as % of price						
2005	6.3	6.4	6.9	6.7	9.8	6.6
2006	7.2	7.3	7.0	7.8	5.9	7.3
2007	7.5	7.7	7.1	8.3	6.4	7.6
2008	7.1	6.9	6.3	7.9	6.5	7.1
2009	10.3	9.2	7.9	11.2	6.6	9.7
Number of cycles						
2005	46	28	34	49	6	39
2006	47	43	45	50	20	46
2007	44	49	50	45	24	47
2008	52	48	47	46	11	48
2009	48	48	47	48	35	48

Source: ACCC and Informed Sources.

Notes: 2009 data covers the period 1 January to 30 November 2009.

Based on a price cycle definition of an increase of 3 per cent of the trough price and a similar decrease to the subsequent trough.

The table presents the 4-city average as the price cycle in Perth has been relatively inconsistent until recently.

In Sydney, Melbourne, Brisbane and Adelaide the average price cycle amplitude has increased significantly over time. The largest increase in the average amplitude from 2005 to 2009 occurred in Adelaide (5.8 cpl), followed by Sydney (5.3 cpl), Melbourne (4.0 cpl) and Brisbane (2.2 cpl). Perth has not had the same consistent price cycle as the other large capitals. The ACCC notes that the state-based FuelWatch system operates in Perth.

Table 11.1 also shows the average price cycle amplitude as a proportion of the average retail price. While price cycle amplitudes represented, on average, a smaller proportion of price in 2008 (a period of record high prices) than in 2007, amplitudes in 2009 represented significantly higher proportions of retail prices.

It is also clear from Table 11.1 that price cycles in Sydney, Melbourne, Brisbane and Adelaide occurred in most weeks of the year, and that price cycles in Perth occurred more often in 2009 than in any other year during the period.

11.1.2 Cheap and expensive days of the week

The ACCC has analysed the days of the week on which daily average RULP prices reach a minimum (or trough) and maximum (or peak) in the five largest cities over their respective price cycles. Tables 11.2 to 11.6 show the number (and proportion) of troughs and peaks that occurred on each day of the week for each of the five cities from 2005 to 2009 (to the end of November).

Over the past five years there has been a change in the day of the week on which prices peak and trough in the five largest cities.

In 2005 the most common day on which daily average prices were at the trough of the price cycle was Tuesday in Sydney and Melbourne, Thursday in Brisbane, Friday in Adelaide and Monday in Perth. By 2009 this had changed to Wednesday in Sydney, Melbourne, Brisbane and Adelaide. In Perth, where FuelWatch operates, the cycle is less consistent and pronounced; Tuesday is the most common day for the trough.

A similar change occurred in the timing of peak prices over price cycles. In 2005, in Sydney, Melbourne and Brisbane, Thursday was the most common day of the week on which daily average prices were at the peak of the price cycle. By 2009 this had changed to Friday. In 2005 the most common day of the week for peaks in Adelaide was Sunday and in Perth it was equally Tuesday and Thursday. By 2009 this had changed to Thursday in Adelaide and Friday in Perth.

Table 11.2 Number of troughs and peaks (and proportion of annual total) on each day of the week in Sydney: 2005 to 2009

Year	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
Troughs								
2005	11 (24%)	27 (59%)	6 (13%)	2 (4%)				46
2006	1 (2%)	44 (94%)					2 (4%)	47
2007		43 (98%)			1 (2%)			44
2008		26 (49%)	26 (49%)				1 (2%)	53
2009			47 (100%)					47
Total	**12 (5%)**	**140 (59%)**	**79 (33%)**	**2 (1%)**	**1 (0%)**		**3 (1%)**	**237**
Peaks								
2005			4 (9%)	31 (67%)	6 (13%)	3 (7%)	2 (4%)	46
2006			3 (6%)	44 (94%)				47
2007				44 (100%)				44
2008				51 (98%)	1 (2%)			52
2009				12 (25%)	36 (75%)			48
Total			**7 (3%)**	**182 (77%)**	**43 (18%)**	**3 (1%)**	**2 (1%)**	**237**

Source: ACCC and Informed Sources.

Table 11.3 Number of troughs and peaks (and proportion of annual total) on each day of the week in Melbourne: 2005 to 2009

Year	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
Troughs								
2005	9 (32%)	12 (43%)		6 (21%)			1 (4%)	28
2006	2 (5%)	41 (95%)						43
2007	1 (2%)	47 (96%)	1 (2%)					49
2008		23 (47%)	26 (53%)					49
2009			47 (100%)					47
Total	**12 (6%)**	**123 (57%)**	**74 (34%)**	**6 (3%)**			**1 (0%)**	**216**
Peaks								
2005			3 (11%)	16 (57%)		2 (7%)	7 (25%)	28
2006				43 (100%)				43
2007				49 (100%)				49
2008				48 (100%)				48
2009				8 (17%)	40 (83%)			48
Total			**3 (1%)**	**164 (76%)**	**40 (19%)**	**2 (1%)**	**7 (3%)**	**216**

Source: ACCC and Informed Sources.

Table 11.4 Number of troughs and peaks (and proportion of annual total) on each day of the week in Brisbane: 2005 to 2009

Year	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
Troughs								
2005	5 (15%)	10 (29%)	1 (3%)	11 (32%)	3 (9%)	1 (3%)	3 (9%)	34
2006		42 (93%)	1 (2%)			1 (2%)	1 (2%)	45
2007		43 (86%)	6 (12%)				1 (2%)	50
2008		21 (45%)	26 (55%)					47
2009		1 (2%)	46 (98%)					47
Total	**5 (2%)**	**117 (52%)**	**80 (36%)**	**11 (5%)**	**3 (1%)**	**2 (1%)**	**5 (2%)**	**223**
Peaks								
2005			1 (3%)	15 (44%)	2 (6%)	6 (18%)	10 (29%)	34
2006				45 (100%)				45
2007				49 (98%)	1 (2%)			50
2008				45 (96%)	2 (4%)			47
2009				3 (6%)	44 (94%)			47
Total			**1 (0%)**	**157 (70%)**	**49 (22%)**	**6 (3%)**	**10 (4%)**	**223**

Source: ACCC and Informed Sources.

Table 11.5 Number of troughs and peaks (and proportion of annual total) on each day of the week in Adelaide: 2005 to 2009

Year	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
Troughs								
2005	1 (2%)	14 (29%)	1 (2%)	6 (12%)	27 (55%)			49
2006	2 (4%)	47 (92%)					2 (4%)	51
2007		41 (93%)	1 (2%)				2 (5%)	44
2008		34 (72%)	12 (26%)				1 (2%)	47
2009		1 (2%)	45 (96%)				1 (2%)	47
Total	**3 (1%)**	**137 (58%)**	**59 (25%)**	**6 (3%)**	**27 (11%)**		**6 (3%)**	**238**
Peaks								
2005			1 (2%)	15 (31%)		7 (14%)	26 (53%)	49
2006			1 (2%)	49 (98%)				50
2007				45 (100%)				45
2008				46 (100%)				46
2009				36 (75%)	12 (25%)			48
Total			**2 (1%)**	**191 (80%)**	**12 (5%)**	**7 (3%)**	**26 (11%)**	**238**

Source: ACCC and Informed Sources.

Table 11.6 Number of troughs and peaks (and proportion of annual total) on each day of the week in Perth: 2005 to 2009

Year	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
Troughs								
2005	3 (43%)		1 (14%)	1 (14%)			2 (29%)	7
2006	2 (11%)				1 (5%)	4 (21%)	12 (63%)	19
2007	10 (42%)	4 (17%)	1 (4%)	1 (4%)		1 (4%)	7 (29%)	24
2008	4 (36%)	3 (27%)	2 (18%)				2 (18%)	11
2009		33 (92%)	2 (6%)				1 (3%)	36
Total	**19 (20%)**	**40 (41%)**	**6 (6%)**	**2 (2%)**	**1 (1%)**	**5 (5%)**	**24 (25%)**	**97**
Peaks								
2005	1 (17%)	2 (33%)	1 (17%)	2 (33%)				6
2006		1 (5%)	13 (65%)	6 (30%)				20
2007			3 (13%)	8 (33%)	11 (46%)	2 (8%)		24
2008		2 (18%)		2 (18%)	4 (36%)		3 (27%)	11
2009				1 (3%)	31 (89%)	3 (9%)		35
Total	**1 (1%)**	**5 (5%)**	**17 (18%)**	**19 (20%)**	**46 (48%)**	**5 (5%)**	**3 (3%)**	**96**

Source: ACCC and Informed Sources.

11.1.3 Recent changes in price cycles

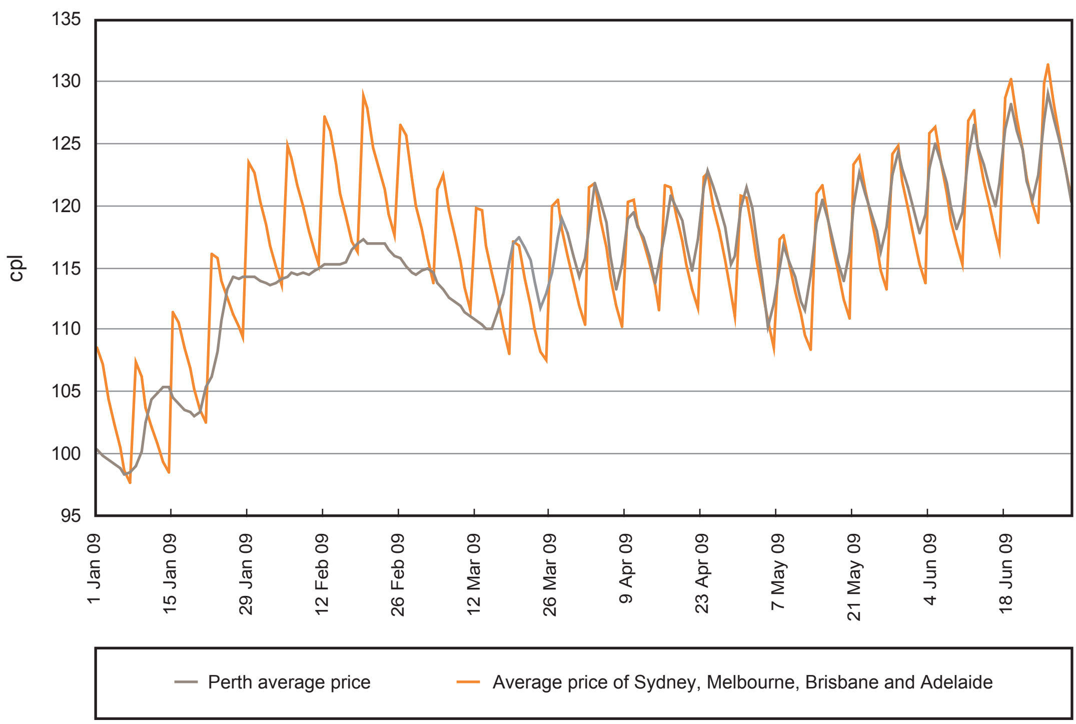
Throughout 2008–09 a number of cities experienced changes in the pattern of their price cycles. The most significant and sustained change occurred in early 2009, when pricing patterns changed in Perth and a regular weekly price cycle emerged. Another example of a change in price cycle behaviour occurred in Adelaide in September 2009, when the regular price cycle ceased for one week. These two events are examined in more detail below.

Emergence of a regular weekly price cycle in Perth

In February 2009 a trend developed whereby some Perth service stations began increasing the retail price of RULP sharply one day and decreasing the price over subsequent days, a similar trend to the weekly price cycle observed in other large capital cities.

Chart 11.4 shows the average daily price of RULP in Perth and the average price across Sydney, Melbourne, Brisbane and Adelaide over the first six months of 2009. The chart shows the clear emergence of a weekly price cycle in Perth, beginning about the middle of March. Until this point Perth's average RULP prices exhibited few signs of price cycles during 2009.

Chart 11.4 Daily average retail RULP prices in Perth and across Sydney, Melbourne, Brisbane and Adelaide: 1 January to 30 June 2009

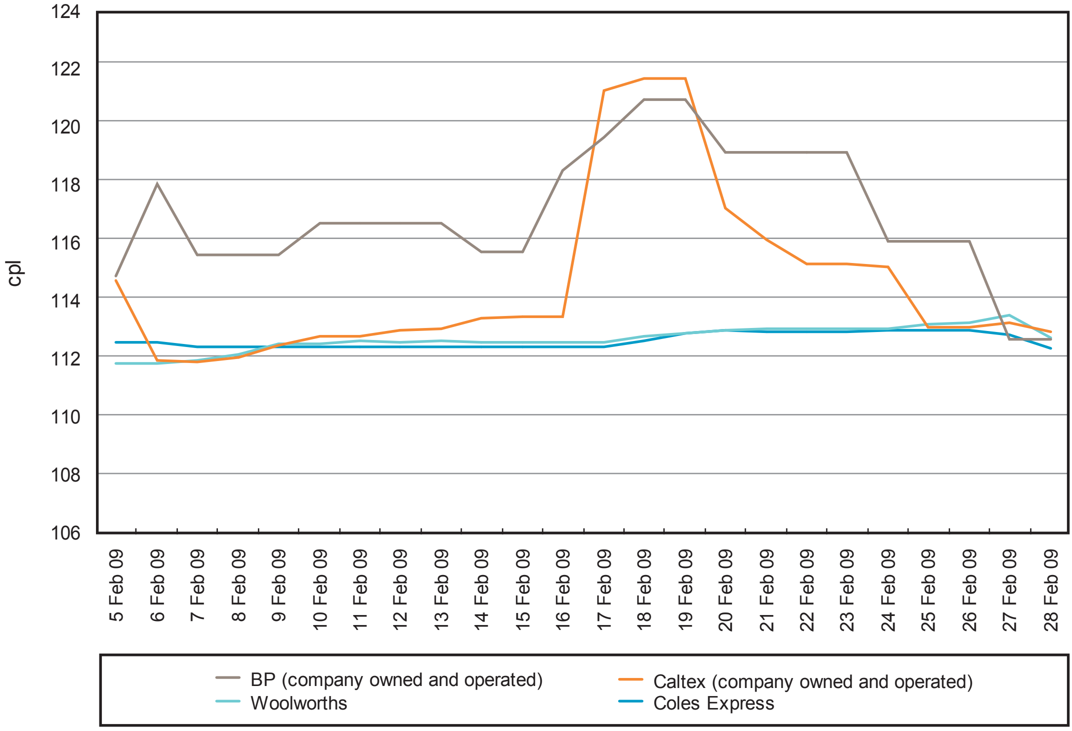


Source: ACCC and Informed Sources.

Based on pricing information supplied by FuelWatch in Western Australia, the ACCC examined the commencement of the weekly cycle.

It appears that on a number of occasions from early February 2009, BP increased its prices at its company controlled service stations. On occasion Caltex also increased its prices; however, other service station operators did not increase their prices to the same degree. BP (and Caltex) subsequently decreased their prices and the price cycle pattern was not sustained. Chart 11.5 shows one instance where a price increase by BP and Caltex was not reflected by other major retailers.

Chart 11.5 Daily average retail RULP prices in Perth for selected retailers: 5 to 28 February 2009

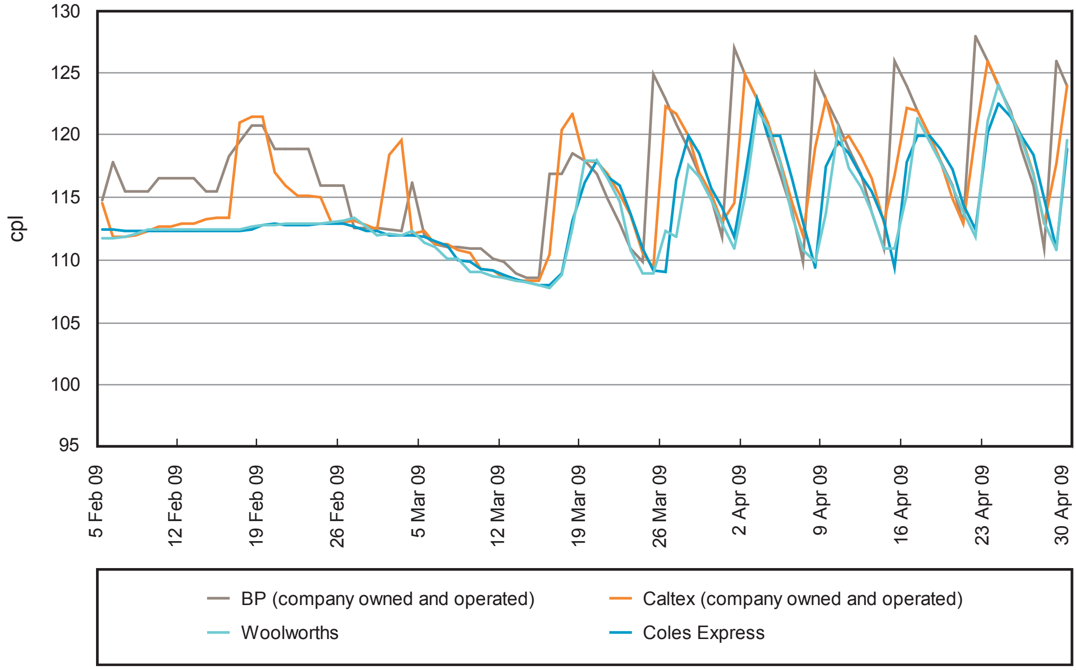


Source: ACCC, based on data supplied by WA FuelWatch.

By contrast, in mid to late March 2009 a consistent pattern emerged where BP increased its prices midweek and other service station operators increased their prices in subsequent days, generating what is now a regular weekly price cycle in Perth. This is illustrated in chart 11.6.

For ease of viewing, the ACCC has only presented the price paths for the four largest retail chains in Perth (BP and Caltex company operated sites and Woolworths and Coles Express). The ACCC notes that Gull and United company operated sites have followed a similar price path to Woolworths and Coles Express.

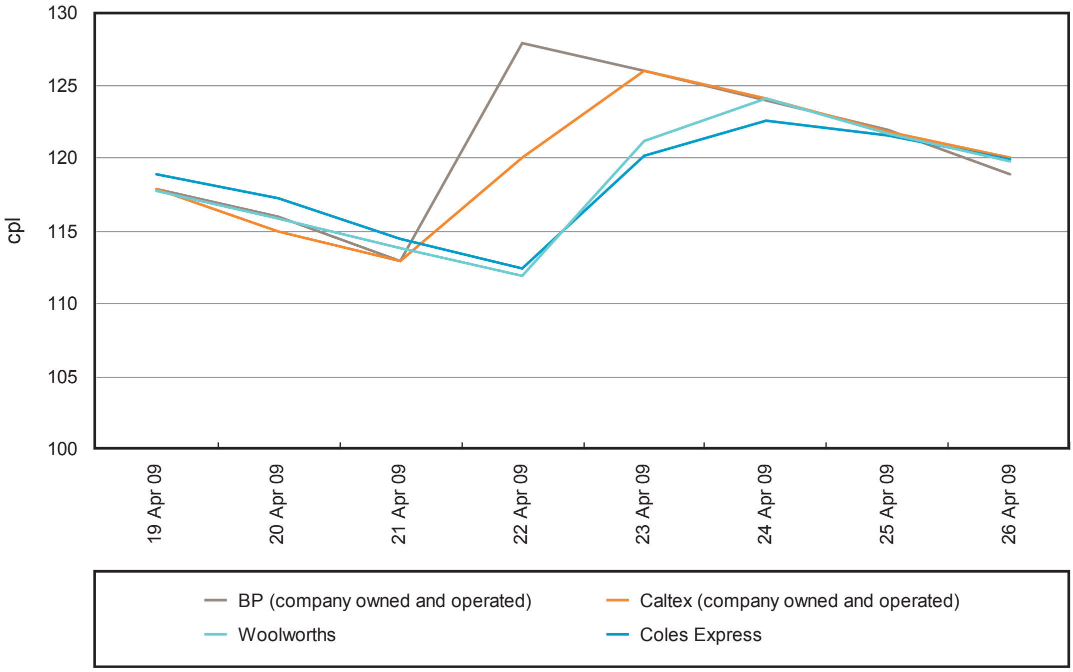
Chart 11.6 Daily average retail RULP prices in Perth for selected retailers: 5 February to 30 April 2009



Source: ACCC, based on data supplied by WA FuelWatch.

From mid March to the end of April 2009, BP often increased its prices on Wednesdays. Caltex typically increased its prices the next day and the supermarkets generally increased their prices on the Friday. Chart 11.7 shows daily average retail prices for selected retail operations for the eight days from Sunday, 19 April to Sunday, 26 April 2009, a number of weeks after the emergence of the weekly price cycle in Perth.

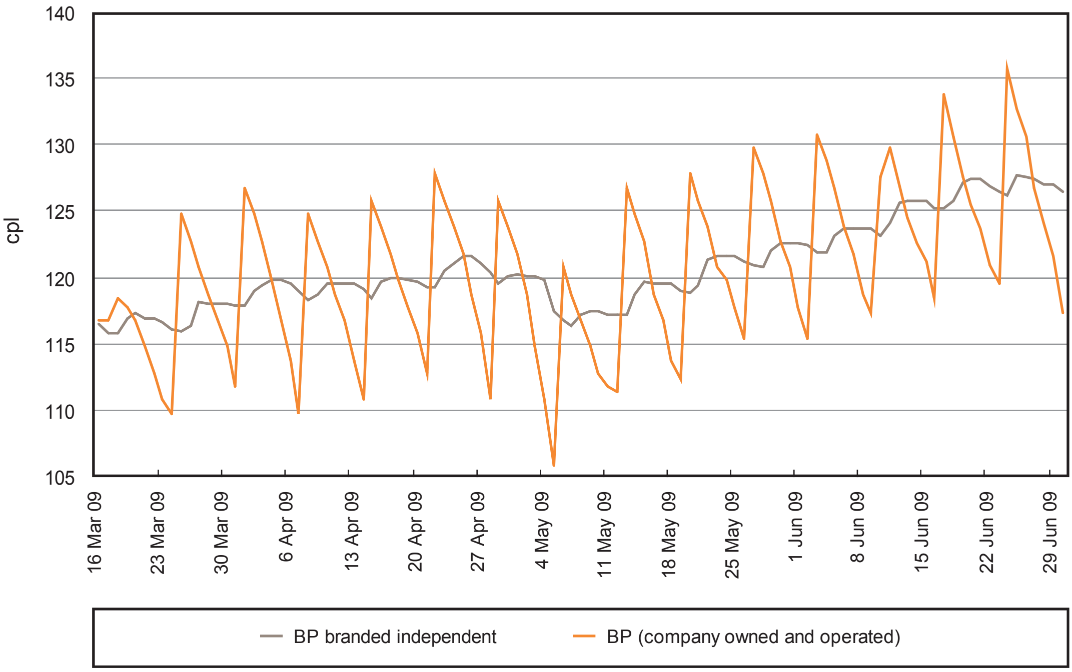
Chart 11.7 Daily average retail RULP prices in Perth for selected retailers: Sunday, 19 April to Sunday, 26 April 2009



Source: ACCC, based on data supplied by WA FuelWatch.

The FuelWatch data also shows that the price cycle is most strongly evident at BP's company owned and operated service stations, where BP determines the retail price, as opposed to independently operated BP branded service stations, where BP does not determine the retail price. Chart 11.8 shows the variation in pricing between BP's company and independently controlled stations.

Chart 11.8 Movement in daily average retail RULP prices at BP company operated service stations against BP branded independents in Perth: 16 March to 30 June 2009

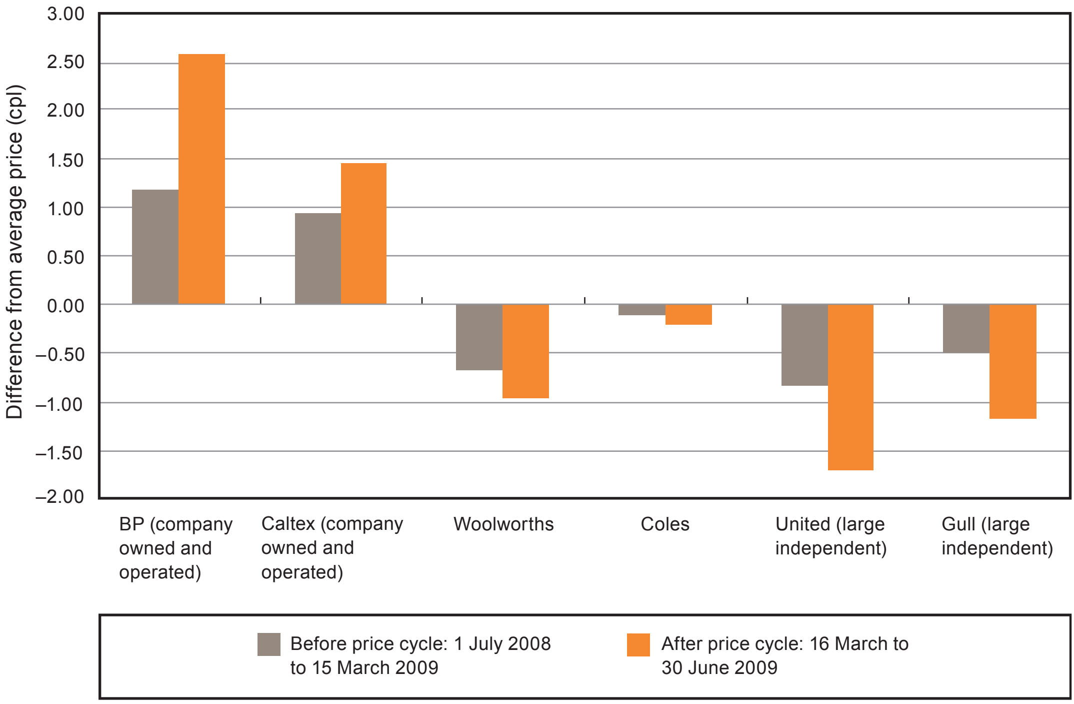


Source: ACCC, based on data supplied by WA FuelWatch.

The average RULP prices of selected retailers operating in Perth were analysed throughout 2008–09. Chart 11.9 shows the differential between each retailer's average price and the average of all of these retailers before and after the emergence of a weekly price cycle. The date for the beginning of regular price cycles in Perth is taken to be 16 March 2009.

The average price at BP and Caltex company owned and operated retailers increased relative to the other major retailers after the emergence of the price cycle. The average price at Woolworths, United and Gull decreased relative to the other large service station chains after the emergence of the cycle.

Chart 11.9 Difference between average company RULP prices and the average price of those companies combined in Perth: 2008–09

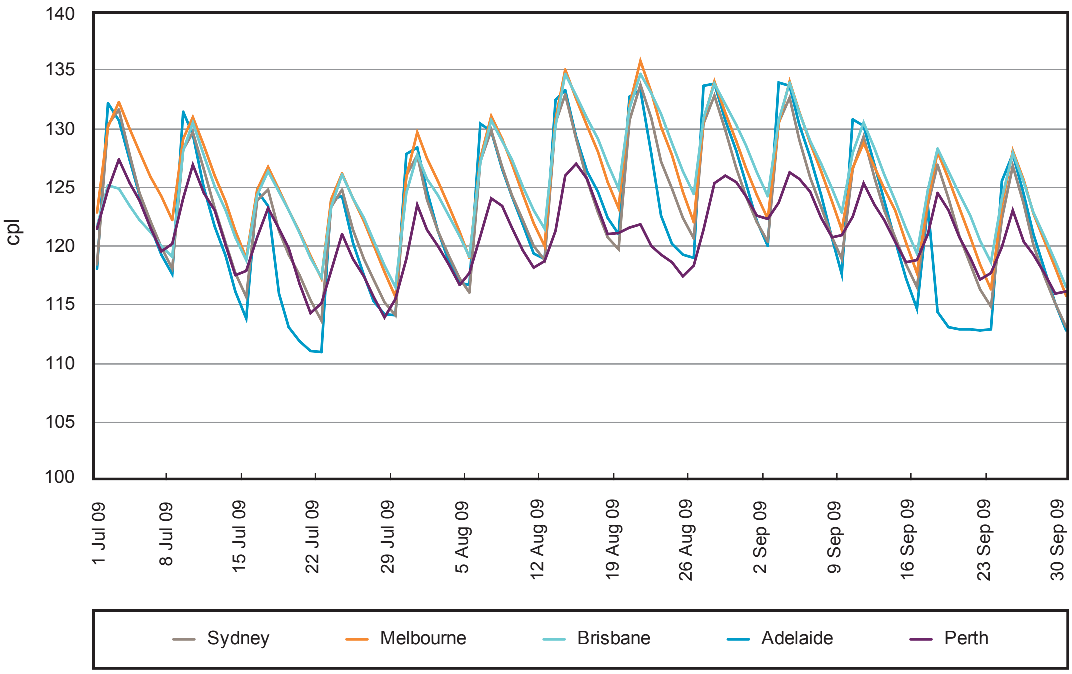


Source: ACCC, based on data supplied by WA FuelWatch.

Note: Average price is the average for the six service station operators in the chart. Calculated prices have not been weighted by volume.

While a regular weekly price cycle has been established in Perth, there appears to be a clear difference between price cycle amplitudes in Perth and those in the other large capital cities. Chart 11.10 shows that for almost every week in the period 1 July to 30 September 2009 Perth experienced the smallest price cycle increase.

Chart 11.10 Daily average retail RULP prices in the five largest cities: 1 July to 30 September 2009



Source: ACCC and Informed Sources.

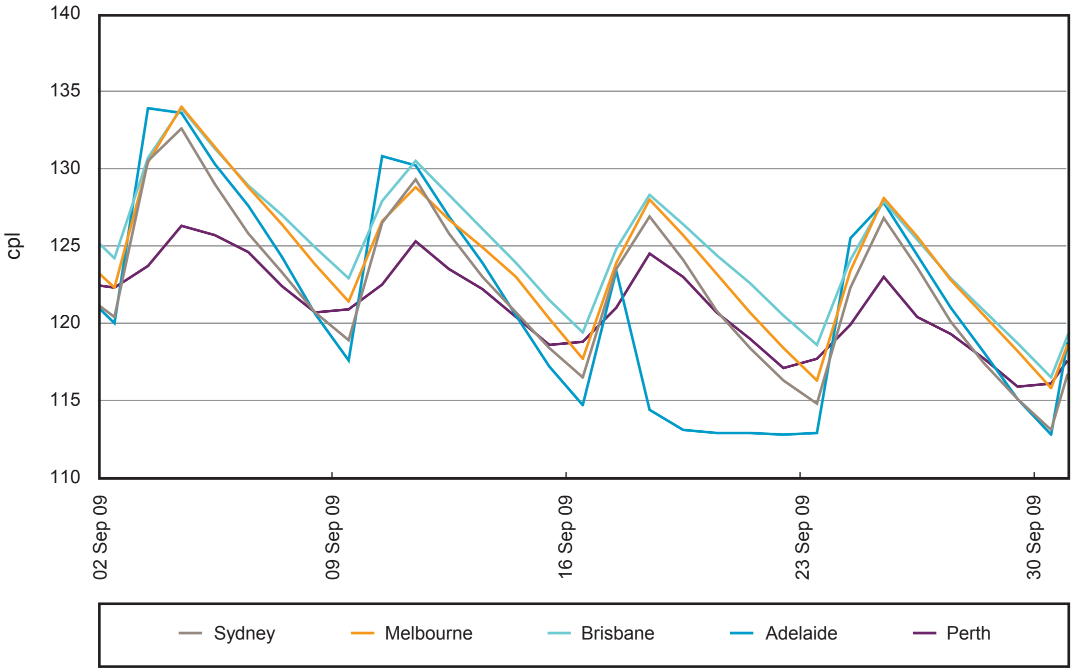
Temporary cessation of the price cycle in Adelaide in September 2009

During the middle of September 2009 Adelaide's petrol price cycle temporarily ceased.

Chart 11.11 shows that in the week beginning Sunday, 13 September 2009 the daily average price for RULP reached a minimum on Wednesday and began to increase on Thursday, following the typical weekly pattern. On the following day, however, the daily average price of RULP fell substantially and remained relatively low over the weekend and until the following Thursday (24 September).

A possible explanation is the act of one or more retailers to not follow the price increase of a 'price leader'. This places pressure on the firms that led prices up to bring their price back down, thus collapsing the cycle.

Chart 11.11 Daily average retail RULP prices in the five largest cities: 30 August to 30 September 2009



Source: ACCC and Informed Sources.

Price levels over the price cycle

The ACCC has found that not all operators in a location charge the same price. The price charged at an individual site can vary due to the location, quality or size of the site, the other products available at the site, the number and identity of the other service stations in the area and the pricing policies of the operators. In its statement of issues on the proposed acquisition of Mobil's retail assets by Caltex, the ACCC noted that there was a distinct ordering in the average retail prices offered by the major retailers examined over weekly price cycles. Among the five retailers examined:

- 7-Eleven and Woolworths generally had the lowest average prices over the cycle, with average retail pump prices up to 0.4 cpl below those of the Mobil sites, depending on the capital city
- Coles Express's average prices over the cycle were lower than those of Caltex in three of the four largest capital cities
- Mobil's average prices over the cycle were between 0.1 cpl and 0.7 cpl lower than those of Caltex.

The ACCC's preliminary view was that there were two reasons for these differences in average prices over weekly cycles. First, Mobil and the Caltex sites on average increased prices at the start of the price cycle earlier and often more quickly than Woolworths and 7-Eleven. As a result, there were periods (usually lasting a few hours) when Mobil and the Caltex sites had significantly higher prices than 7-Eleven or Woolworths.

Second, it appears that during the discounting phase of the price cycle the Caltex sites on average did not reduce their prices as rapidly or by as much as Woolworths, 7-Eleven and Mobil.

11.2 Consumer buying patterns over the price cycle

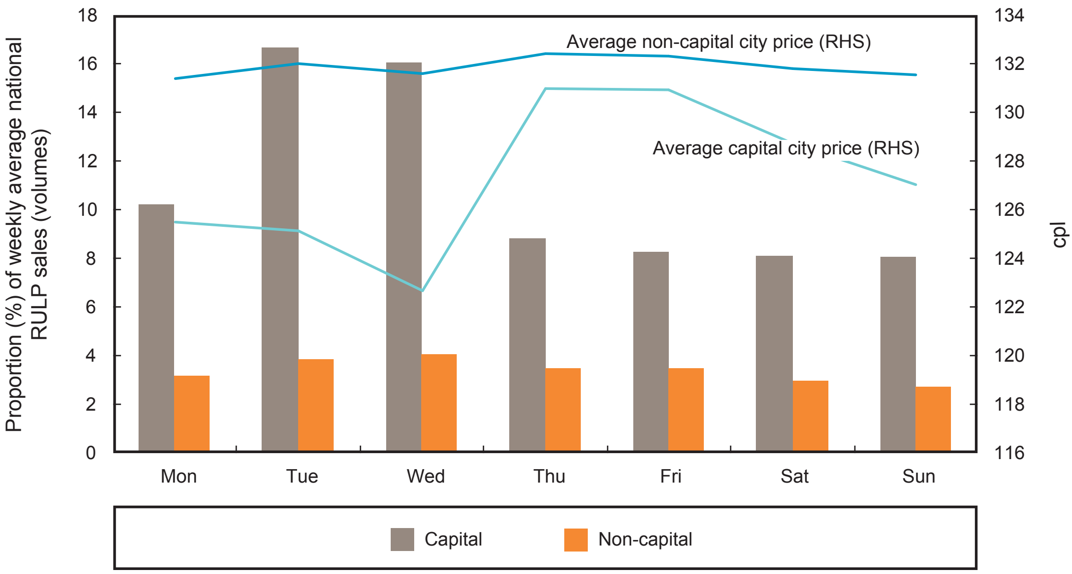
A significant proportion of consumers choose to purchase their fuel on the cheaper days of the week. This is not surprising, given that price cycles are a relatively predictable event and have been evident in Australia's largest cities for many years.

Chart 11.12 shows that over 2008–09 in the largest cities the greatest volumes of RULP sales occurred on Tuesdays and Wednesdays, when the price was usually at a weekly minimum.[4]

The chart also shows that there are consumers who are less price sensitive, as a consistent amount of RULP is sold on the more expensive days.

In comparison to 2007, relatively higher volumes are sold on Wednesdays—now typically the cheapest day of the week.[5]

Chart 11.12 Average national RULP sales volumes and prices by day of the week: 2008–09



Source: ACCC analysis from data supplied through its monitoring process and Informed Sources.

In smaller cities and regional areas of Australia, where price cycles generally do not occur, sales are more consistent over the week.

4 This includes Perth, which did not have a regular weekly cycle until 16 March 2009.

5 ACCC, *Petrol prices and Australian consumers*, p. 177.

11.3 Petrol price cycles and public holidays

11.3.1 Timing of price cycles and public holidays

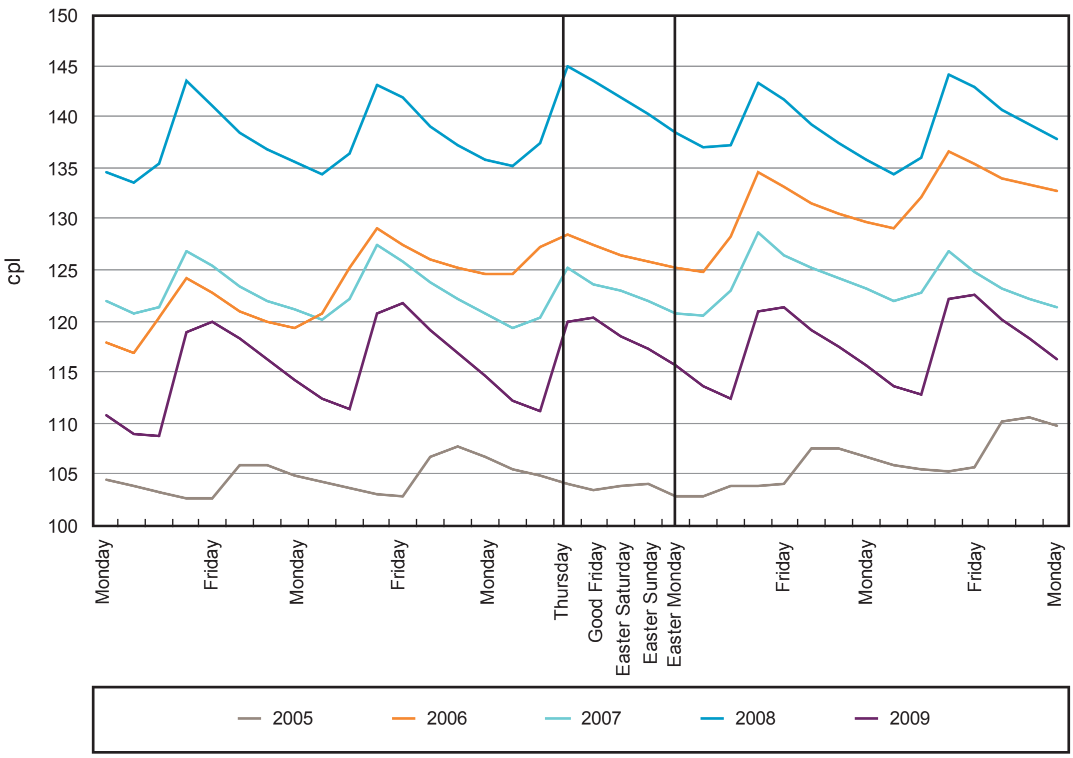
Public holidays in Australia often fall either side of a weekend. As petrol prices at particular sites usually begin to rise on Wednesday night through to Thursday or Friday morning in the largest cities, motorists may get the impression that prices are deliberately increased before public holidays.

During a regular weekly price cycle, prices will rise in the days before a weekend, whether or not there is a public holiday.

ACCC analysis found that the timing of price cycles in the lead-up to public holidays was consistent with other weeks. In four of the five largest cities the price cycle trough was usually on Wednesday and the peak on Thursday or Friday, whether or not there was a public holiday that week. Chart 11.13 shows the daily average retail RULP prices in the five largest cities over the Easter period for 2005 to 2009.

The chart illustrates the consistency of the price cycles throughout the five-day period around Easter. As the Easter holidays always fall on either side of a weekend, the prices consumers pay on the Easter weekend will generally be higher, as this coincides with the peak time of the regular price cycle.

Chart 11.13 Daily average retail RULP prices in the five largest cities over Easter: 2005 to 2009



Source: ACCC and Informed Sources.

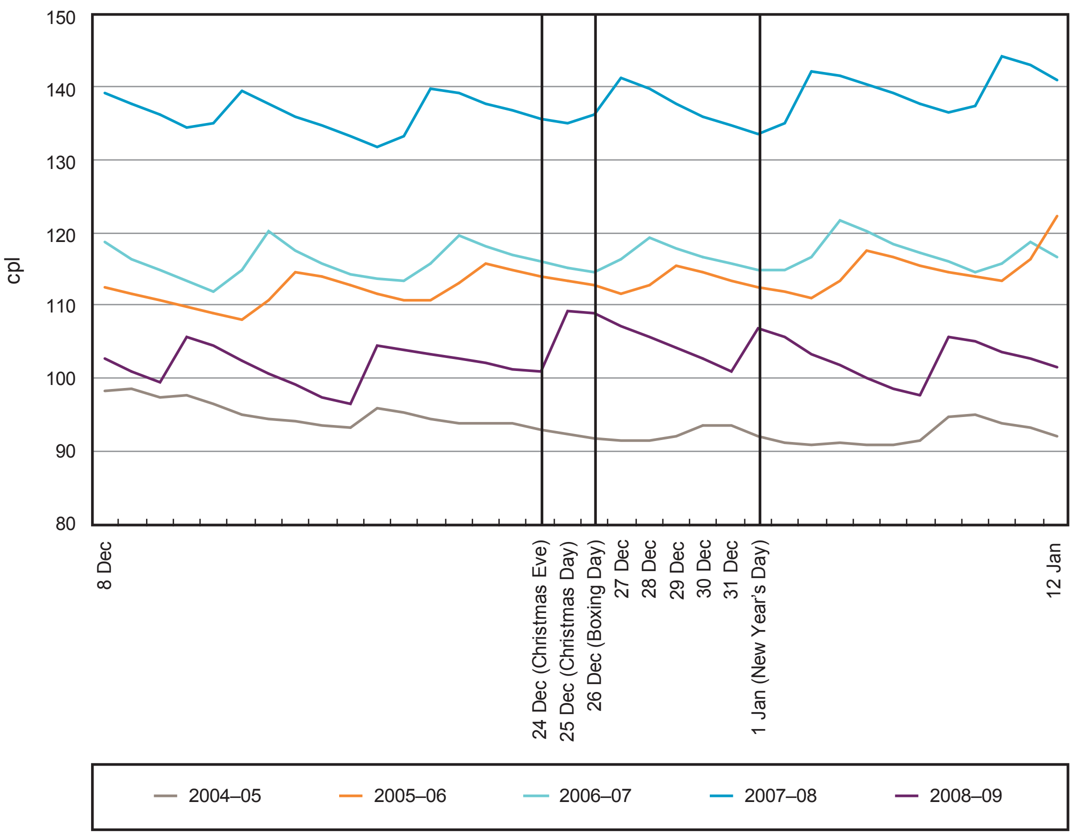
By contrast, the Christmas and New Year public holidays do not coincide with a particular day of the week each year. Chart 11.14 illustrates that the relative price of RULP during these holidays varies each year, depending on whether they coincide with a peak, trough or intermediate stage of the regular price cycle.

In 2008, New Year's Day coincided with the trough of the cycle on Tuesday and, on average, delivered the cheapest price of the week.

In 2009, New Year's Day coincided with the peak of the cycle on Thursday. However, petrol prices were relatively low on Christmas Eve, which was on Wednesday and thus had the cheapest price of the week.

In 2010, Christmas Day falls on a Thursday. If the usual price cycle pattern holds, prices are likely to be cheaper on Christmas Eve than Boxing Day.

Chart 11.14 Daily average retail RULP prices in the five largest cities over Christmas / New Year: 2004–05 to 2008–09



Source: ACCC and Informed Sources.

11.3.2 Price cycle increases and public holidays

In its 2007 petrol inquiry report the ACCC analysed petrol price increases (or amplitudes) before public holidays and long weekends. Price cycle amplitudes were analysed for each of the five largest cities for the first half of 2007. The report concluded that there was little evidence to support the claim that price cycle increases before public holidays are always higher than the price cycle increases when there is no public holiday.[6]

To analyse this further, the ACCC has assessed retail price amplitudes in each of the five largest cities from the beginning of 2007 to the end of June 2009. Charts are provided in appendix G.

Table 11.7 shows the results for January 2007 to June 2009. The average price amplitude before public holidays during this period was equal to or above the average amplitude less than half (45 per cent) of the time.

- In Sydney, Melbourne, Brisbane and Perth, amplitudes before public holidays were greater than or equal to the average amplitude less than half the time, while in Adelaide amplitudes were equal to or above average before public holidays 58 per cent of the time.
- In all cities except Sydney, there was one occasion when the price cycle amplitude before a public holiday was the highest amplitude in the period examined. In Sydney there was none.
- In 2008, amplitudes were equal to or above average in all of the five largest cities before Anzac Day (April 25) and before Easter (March 21) in all cities except Perth.
- Similarly, in 2009 amplitudes were higher than average before Australia Day (26 January) and the Queen's Birthday (June 8) in all cities except Perth.

Table 11.7 Number of amplitudes in the weeks before public holidays for the five largest cities: January 2007 to June 2009

	Number of amplitudes before public holidays	Number and proportion of amplitudes before public holidays greater than or equal to average amplitude	Number and proportion of amplitudes before public holidays less than average amplitude	Number and proportion of amplitudes before public holidays lower than highest amplitude
Sydney	19	8 (42%)	11 (58%)	19 (100%)
Melbourne	21	10 (47%)	11 (53%)	20 (95%)
Brisbane	19	9 (47%)	10 (53%)	18 (95%)
Adelaide	19	11 (58%)	8 (42%)	18 (95%)
Perth	16	4 (25%)	12 (75%)	15 (94%)
Average	18.8	8.4 (45%)	10.4 (55%)	18 (96%)

Source: ACCC and Informed Sources.

6 ACCC, *Petrol prices and Australian consumers*, p. 16.

While many factors influence the price of petrol, three main factors shape the size of price cycle increases:

- changes in wholesale prices
- whether there is a period of discounting before the price cycle increase
- the overall price level.

Overall, the analysis indicates that over the two-and-a-half year period since January 2007 for the five largest cities:

- price cycle amplitudes before public holidays were equal to or above the average amplitude less than half of the time
- this proportion varied over the years, being lower in 2007, higher in 2008 and around average in the first half of 2009
- the timing of price cycles in the weeks leading up to public holidays was consistent with the timing in weeks when there was no public holiday.

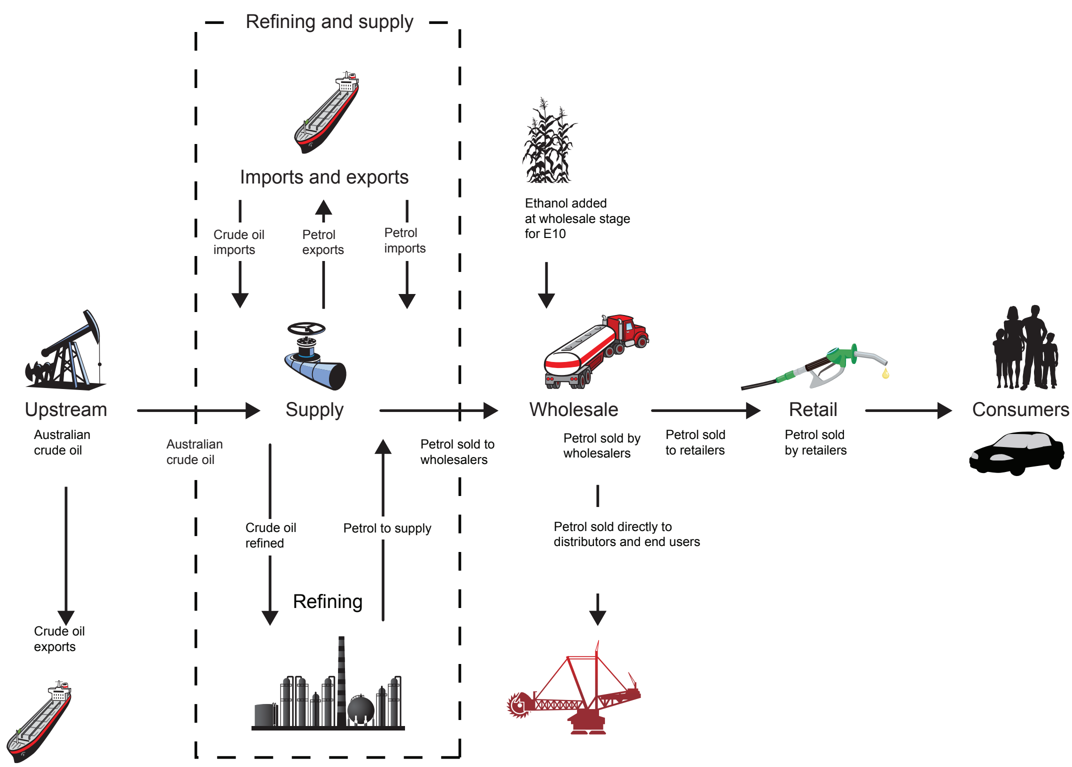
As a result there is little evidence to support the claim that price cycle increases before public holidays are always higher than price cycle increases in other weeks.

12 Financial performance of the downstream petroleum sector

This chapter reports the overall financial performance of the downstream petroleum industry in total, including refining, supply, wholesale and retail activities. In particular it reports the revenues, costs and profits associated with unleaded petrol,[1] as specified in the direction of the Minister for Competition Policy and Consumer Affairs. The revenues, costs and profits of petrol refining and supply are covered in chapter 13. In this chapter and in chapter 13, supply has been combined with refining as the combined sector—refining and supply. The revenues, costs and profits of petrol in the wholesale and retail sectors are reported in chapter 14.

The downstream petroleum sector refines crude oil into petrol and other petroleum products and then distributes them to wholesalers, commercial users, retailers and finally consumers. The products are physically moved from one place to another until petrol is purchased by consumers and other users. At each transfer of the product from one business to another (and sometimes within the one company) the sales prices and costs associated with those transactions are recorded in the businesses' financial and management accounts. Figure 12.1 outlines the sectors in the Australian petroleum industry's supply chain from oil well to consumer.

Figure 12.1 Sectors in the Australian downstream petroleum supply chain



1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

The ACCC obtained information from refiner–marketers, wholesalers and retailers about their revenues, costs and profits from refining, importing, wholesale and retail activities.[2] From that information the ACCC has estimated petrol revenues, costs and profits for each company and sector, as well as for the industry as a whole.

In the 2008 monitoring report, most profit results were calculated on the basis of replacement cost[3] (known as replacement cost operating profit). That method is commonly used in the petroleum industry to assess its performance after removing the impact of changes in crude oil or petroleum product prices. That method uses a notional cost in calculating the cost to replace a product in inventory. That notional cost can be different from the historical cost originally paid on the product's purchase. Profit calculated using replacement cost can be significantly different from historical cost. However, the impact of these effects should wash out over time.

In this monitoring report, the ACCC has primarily reported profits on a historical cost basis. Historical cost reporting has two main advantages over replacement cost reporting. First, it is consistent with Australian accounting standards. Second, it shows the actual returns to a company's shareholders. However, in the short term, profits measured using historical costs can be volatile if there are large and rapid movements in the price of crude oil and/or refined petroleum products. The ACCC has examined profit measures over several years to minimise the impact of short-term volatility.

An indication of the differences in results under the two approaches can be seen in Caltex's publicly reported results. For the year to December 2008, Caltex reported its earnings before interest and tax as $321 million on a replacement cost basis.[4] As required under Australian accounting standards, Caltex also reported a historical cost operating profit of $104 million, a difference of $217 million compared to replacement cost profit.

The data for chapters 12, 13 and 14 was obtained by the ACCC from the petrol companies using set financial templates. Those templates sought data on revenues, costs and profits for each company. The templates were separated into sectors, and companies reported the revenues, costs and profits for each sector they operate in, as well as their consolidated outcomes.[5] In many instances the ACCC has calculated averages to protect confidentiality. As with any average, there are companies with results or outcomes greater than that average as well as companies reporting figures less than the calculated average.

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2 The ACCC asked the surveyed companies to adopt Australian accounting standards to report their downstream petroleum revenues, costs and profits by sector and overall. For companies that operate in more than one sector—for example, the refiner–marketers—internal transactions have been excluded from the company-wide result. Excise and GST have been excluded from revenues and costs in all cases.

3 The replacement cost of sales operating profit excludes the impact of the rise or fall in oil or petrol prices. It is calculated by adjusting the cost of sales using the replacement cost of goods rather than the historical cost. Companies report the impact of these changes in their financial statements as inventory gains or losses.

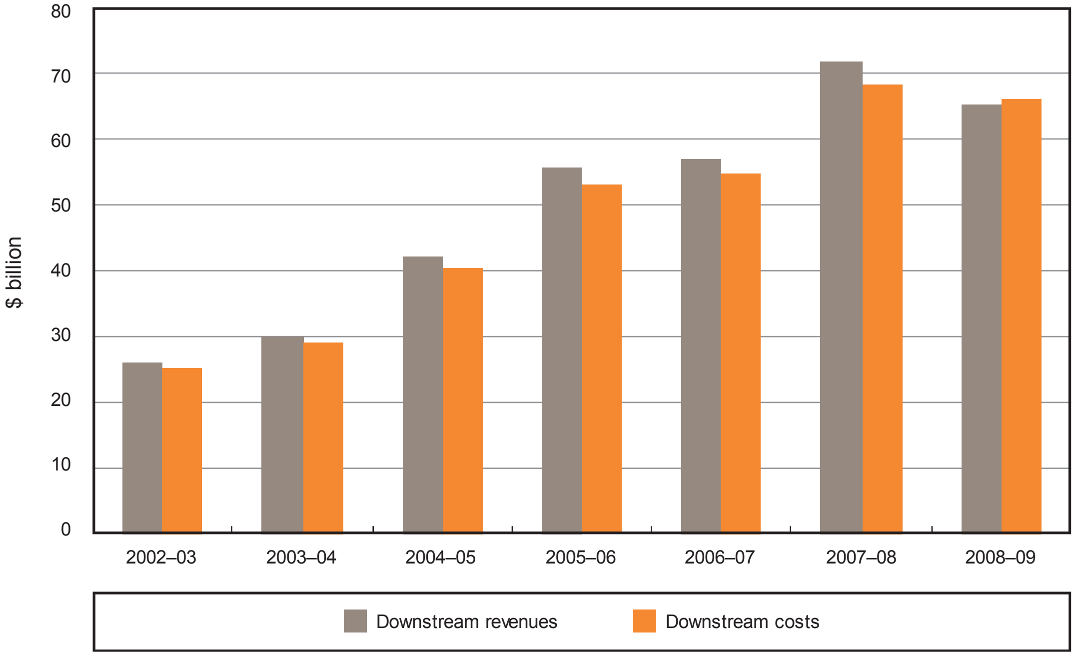
4 Caltex Australia Ltd, financial report, 2008.

5 The process of consolidating each sector's revenues, costs and volumes sold prevents double counting. The revenues, costs and volumes that are eliminated on consolidation are transactions between different sectors within the same company.

12.1 Total downstream revenues and costs

Revenues and costs in the downstream petroleum sector arise from the production and sale of petrol and other petroleum products. Total industry revenues and costs are shown in chart 12.1. Total revenues and costs exclude excise, GST and income taxes as well as interest incomes and expenses.

Chart 12.1 Total downstream revenues and costs: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues and costs exclude excise and GST.

In 2007–08, industry revenues exceeded $71 billion. In the six years to 2007–08 the industry experienced a long period of increasing sales volumes of petroleum products. Over this period, the industry experienced increased prices for its petroleum products and increased revenues from other products and services in both refining and retail.

In 2008–09, downstream revenues fell by more than $6 billion (or almost 9 per cent), mainly due to price falls but also due to lower petrol volumes.

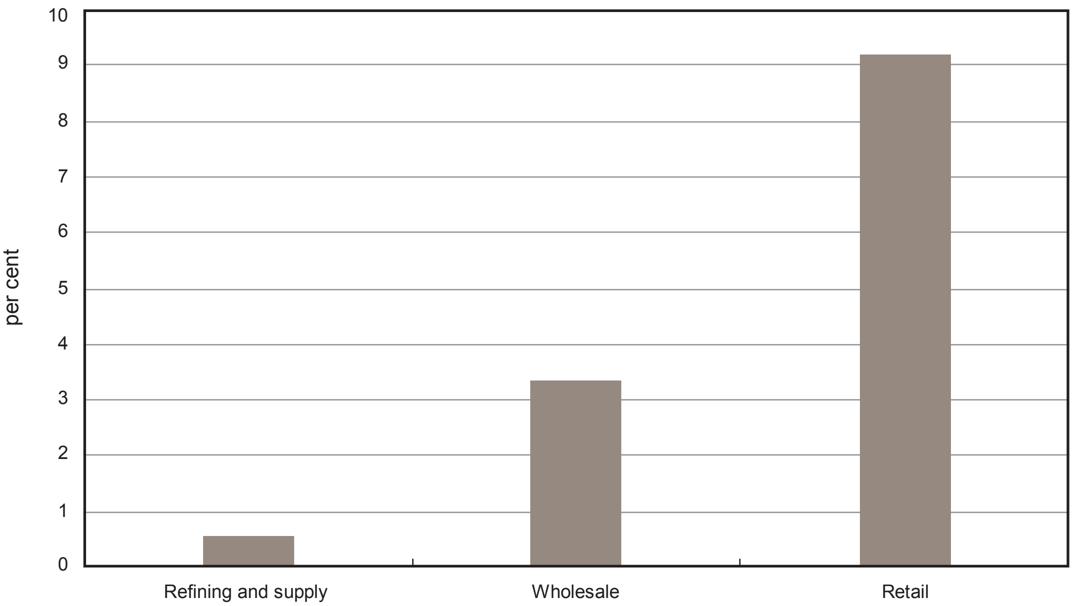
For most of the period from 2002–03, total industry costs were usually less than revenues. As a result the industry generated profits over this period. However, in 2008–09 the industry made a loss in aggregate.

In large part, the industry loss in 2008–09 was due to the rapid fall in international crude oil and petrol prices that occurred between July and December 2008. In the downstream petroleum sector, total costs are dominated by the cost of crude oil itself as well as the cost of imported petrol and diesel. In the refining sector, the cost of crude oil makes up more than 90 per cent of refining costs.

As the crude oil price fell, the international price of petrol and the value of the Australian dollar declined rapidly. In some circumstances, the refiner–marketers were selling petroleum products at a price similar to or lower than the original purchase price.

Costs not associated with the refining, purchase and delivery of crude oil or petrol are generally small across downstream petroleum. Operating expenses were highest in retail and wholesale, with operating costs being much smaller in refining and supply.[6] Chart 12.2 shows operating expenses as a share of sales in each sector, for the three years where detailed cost information was provided by the surveyed companies. Operating expenses include costs that are not directly attributable to one product; examples are headquarters costs, salaries and wages, repairs and maintenance, and depreciation.

Chart 12.2 Operating expenses by sector as a proportion of sales: 2006–07 to 2008–09



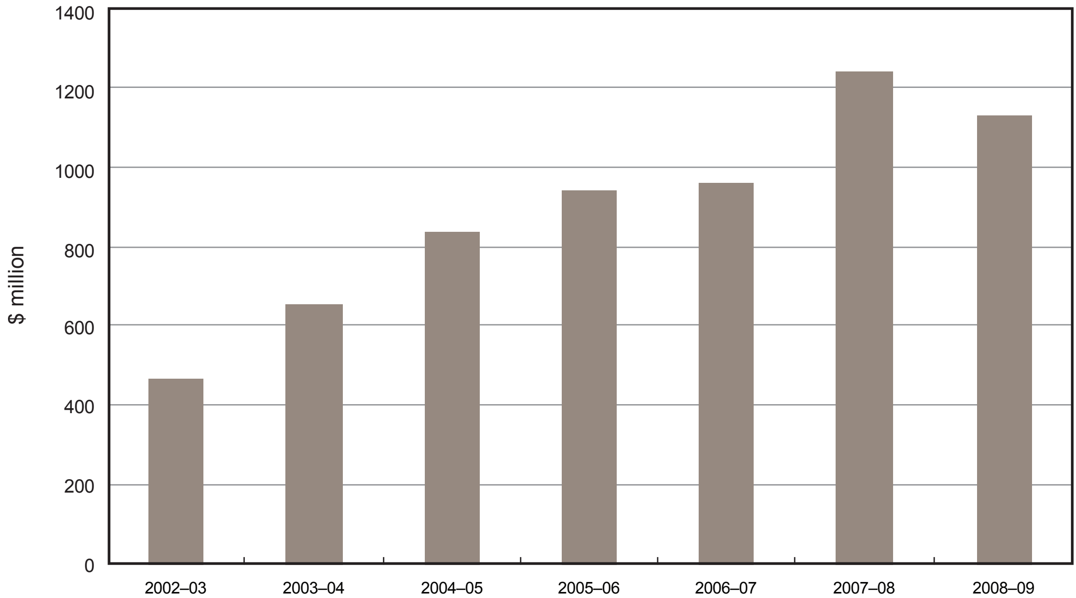
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Costs exclude price support, excise and GST.

Expenditures on plant, property and equipment are also significant. In downstream petroleum, capital expenditure has been incurred mainly by the refiner–marketers on refinery upgrading and equipment replacement. Total annual capital expenditure is reported in chart 12.3. As the chart shows, the industry spent more than $1 billion in 2008–09, at a time when industry net profits were negative.

6 Due to the limited coverage of the retail sector between 2002–03 and 2004–05 by the ACCC survey, the estimate of total downstream revenues is likely to be an underestimate of total industry revenues, costs and profits in those years. Estimates incorporating the retail sector in those years should be treated with caution.

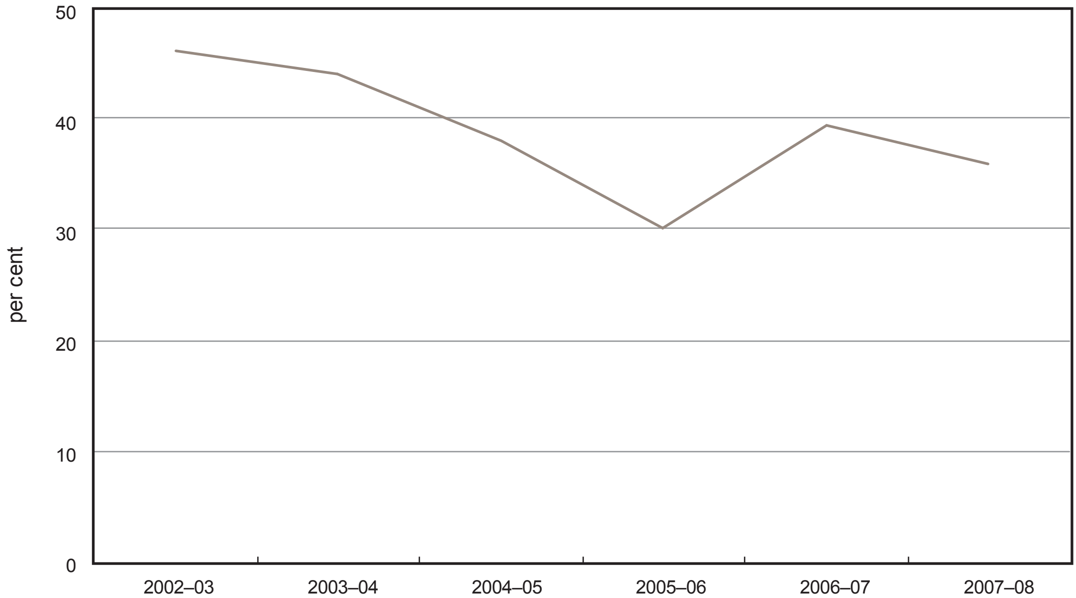
Chart 12.3 Total downstream capital expenditure: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Capital expenditure can also be compared to industry profits. Financial analysts commonly compare capital expenditure to earnings before interest and tax, depreciation and amortisation (known as EBITDA) to show the extent to which profits are covering capital expenditure. The ACCC has removed depreciation expenses from its measure of net profits (that is, adjusted earnings before interest and tax, known as EBIT) to calculate a similar measure. Chart 12.4 shows that a significant share of profits have been used to add additional plant property and equipment. The industry's annual average capital expenditure represents approximately 40 per cent of adjusted EBITDA. The 2008–09 year has been excluded from the chart since the industry did not produce a positive adjusted EBITDA in that year.

Chart 12.4 Total downstream capital expenditure as a share of adjusted EBITDA: 2002–03 to 2007–08



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

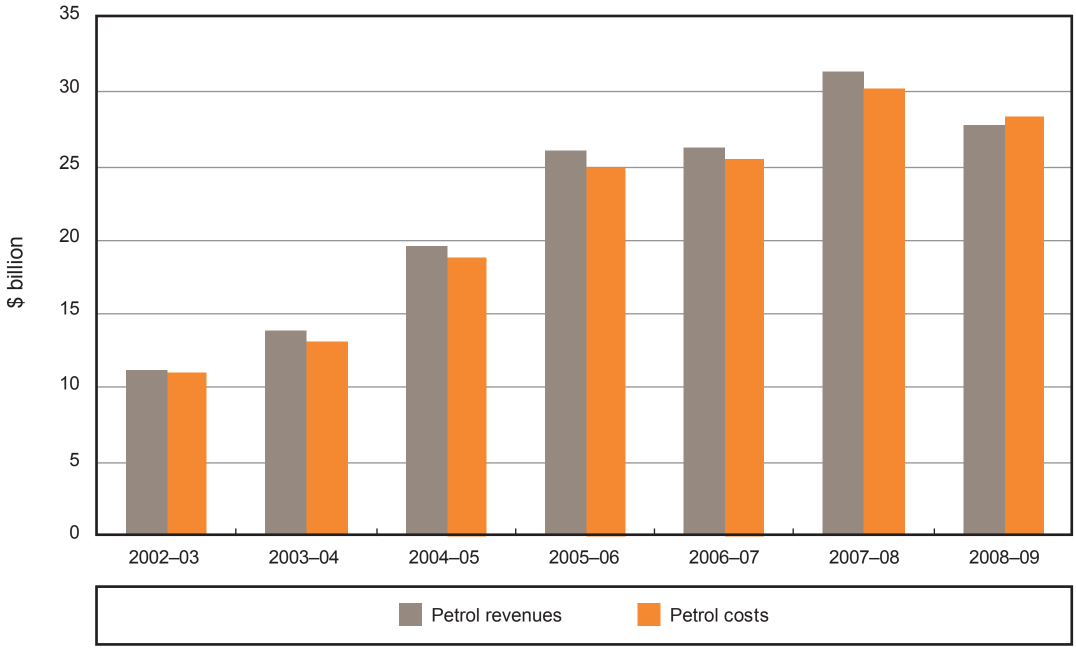
12.2 Total downstream petrol revenues and costs

The revenues, costs and profits of petrol are difficult to measure. At the refinery stage petrol is produced jointly as one of a number of petroleum products. At the wholesale and retail levels petrol is sold alongside other products using common facilities. Also, wholesalers sometimes provide price support to retailers as a discount on prices, affecting the revenue wholesalers receive.

Given that context, companies in the downstream petroleum sector find it difficult to identify all costs associated with individual products in every instance. The downstream petroleum industry does not have a common methodology that reliably allocates all costs to individual products in every sector.[7] Therefore, the ACCC has allocated some of those costs to petrol to provide an indication of the revenues, costs and profits of petrol. The ACCC's estimate of petrol revenues and costs is shown in chart 12.5.

7 For example, the ACCC has been advised that the refining industry does not have a methodology for allocating refinery costs to individual products that is reliable and consistent between refineries.

Chart 12.5 Total downstream petrol revenues and costs: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues and costs exclude excise and GST.

Overall, petrol revenues have followed the same pattern as total downstream revenue. Revenues from petrol peaked in 2007–08 and declined by more than 10 per cent in 2008–09. Costs associated with petrol show a similar pattern but declined by 7 per cent in 2008–09. The ACCC estimates that petrol costs exceeded petrol revenues in 2008–09, the only time that was the case between 2002–03 and 2008–09.

In the six months to December 2008 there was a prolonged period of falls in international crude oil and petrol prices and in the value of the Australian dollar. The timing of these large declines meant that the purchase prices of crude oil and imported petrol were similar to or higher than petrol at the time it was sold to wholesale and retail customers and consumers.

Petrol revenues as a share of total downstream revenues were at their highest in 2005–06, when their share was almost 47 per cent. By 2008–09, petrol's share of downstream revenues had fallen to 43 per cent. This change in petrol revenues was partly due to petrol volumes falling as a proportion of total sales of petroleum products, despite increases in sales of premium unleaded petrol and ethanol blended petrol.

12.3 Total downstream profits

Profit is measured by deducting costs from revenues. A common accounting measure of profit is earnings before deducting interest expenses and taxes (EBIT). The ACCC has further adjusted this measure to remove costs and revenues not directly associated with petrol or petroleum. The ACCC's preferred measure of net profits from the refining and sale of petrol and other products is adjusted EBIT, also referred to in this report as net profit (see box 12.1 for more detail on profit indicators).

Box 12.1 Key profit indicators used in downstream petroleum

Gross profit: Gross profit is a measure of profit calculated by deducting the cost of goods or services sold from sales revenues. Those costs can include the cost of making the product and delivering it to the customer. The measure of gross profit does not cover all costs, as other operating expenses not allocated to a specific product are not included. Gross profit can also be calculated by dividing the gross profit by the volumes of product sold; the result is gross profit reported on a cents per litre (cpl) basis.

In chapters 12, 13 and 14, the cost of goods sold includes the purchase price of petrol or diesel but also includes transport and freight, and other costs associated with purchasing the product. In the refining sector, the costs of converting crude oil to petrol, diesel etc. are also included. That approach is different to estimating gross profits by comparing average retail prices, terminal gate price (TGP) and import parity price (IPP), as is done elsewhere in this report.

Gross margin: Gross margin is the ratio of gross profit to sales, and indicates the extent to which the average mark-up on the goods or services can cover other expenses and provide a profit. Gross margin is expressed as a percentage.

Adjusted EBIT (net profit): While EBIT is a common accounting measure of profit, it is geared to measuring the total returns to the firm before interest incomes, interest expenses and taxes are taken into account. Adjusted EBIT, as calculated by the ACCC, excludes non-operating incomes, amortisation, impairment charges, and profits or losses on sales of fixed assets. This provides a consistent measure of profits from petrol activities and the petroleum industry rather than of total profits of the monitored companies. Adjusted EBIT is commonly referred to in this report as net profit. A net profit per litre can also be calculated by dividing by the volumes of petrol or other product sold to report profit in cents per litre (cpl).

Adjusted EBIT to sales (return on sales): The ratio of adjusted EBIT relative to sales revenue calculates the extent to which profit is earned from each dollar of revenue after deducting all relevant operating costs, other than interest and tax.

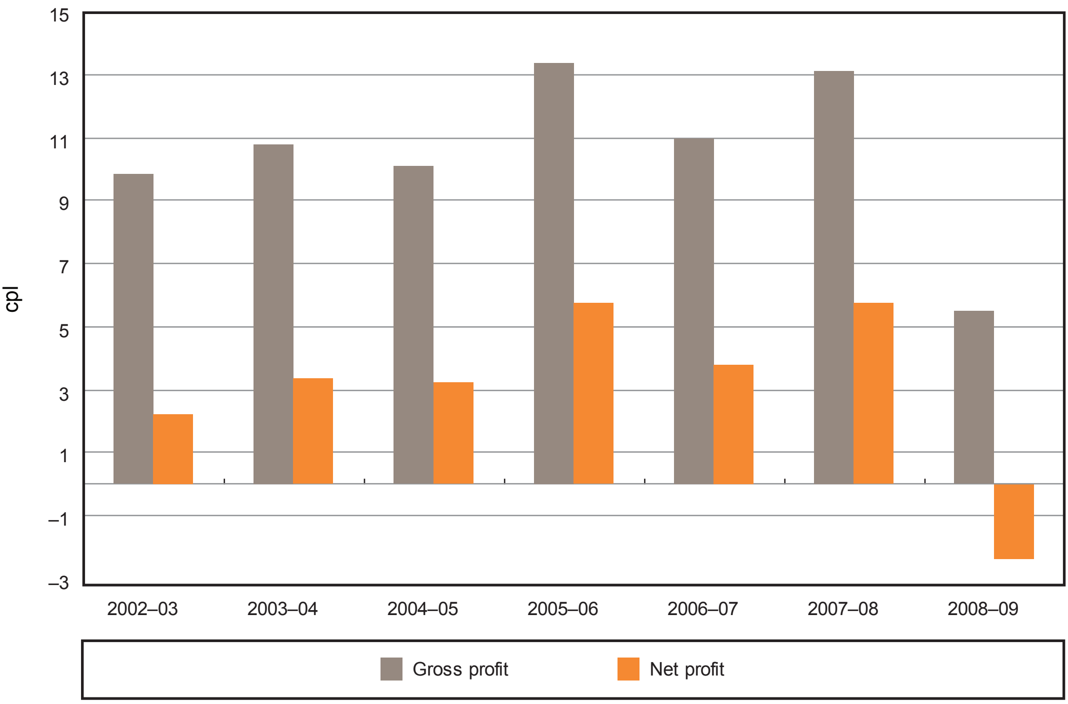
Return on adjusted total assets (return on assets): The ratio of EBIT to total assets calculates the extent to which profit is earned relative to assets used in the business. Where possible, adjusted total assets has excluded those assets not directly associated with downstream petroleum activity. For instance, deferred tax assets are relevant to an after-tax profit assessment, and intangibles are excluded since those values have not been consistently provided by the monitored companies, and usually arise from the acquisition of other companies (as opposed to growth solely by increasing sales). This measure of profitability is referred to in this report as return on assets.

12.4 Profitability from a motorist's perspective

Motorists are concerned about how much profit they pay for each litre of petrol they purchase. While the industry has a range of sectors, each buying and selling petrol, motorists see only the petrol they pay for at the bowser. In the supply and wholesale sectors, companies in the industry can buy and sell the same volume of petrol more than once, but this trading within the industry does not create additional petrol being produced or purchased by motorists.

To measure the gross profit on petrol for each litre that motorists purchase, the ACCC has used the volumes of petrol actually supplied by each sector and added each sector's gross profit per litre to estimate the gross profit the industry receives from providing each litre of petrol. The results are reported in chart 12.6. The average gross profit on petrol over the seven years to 2008–09 was 10.6 cpl, which, after deducting other expenses, resulted in an annual average net profit on petrol of 3.1 cpl. In recent years, the average net profit on petrol was typically in the range of 2–6 cpl.

Chart 12.6 Total downstream petrol gross and net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

The ACCC has also estimated the gross and net profit for each litre of diesel purchased by a motorist, using the same approach as for petrol. Using the volumes of diesel actually produced and imported, wholesaled and retailed, chart 12.7 shows the annual average diesel gross and net profit. The average annual gross profit was 13 cpl (compared to 11 cpl gross profit on petrol) and the average annual net profit was 6 cpl (compared to the petrol net profit of 3 cpl).

The higher profits on diesel have largely been due to strong demand for diesel across the Asia-Pacific which has led to higher prices, especially in 2007–08. Australia imports over 40 per cent of its diesel, so the local price is set with reference to the international benchmark. Australian refineries produce petrol and diesel from crude oil in relatively fixed proportions (see chart 3.10).

Consequently, when diesel prices are higher relative to petrol prices, the local refineries receive a higher gross profit on diesel. This was the case in 2007–08.

Chart 12.7 Total downstream diesel gross and net profit: 2002–03 to 2008–09

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

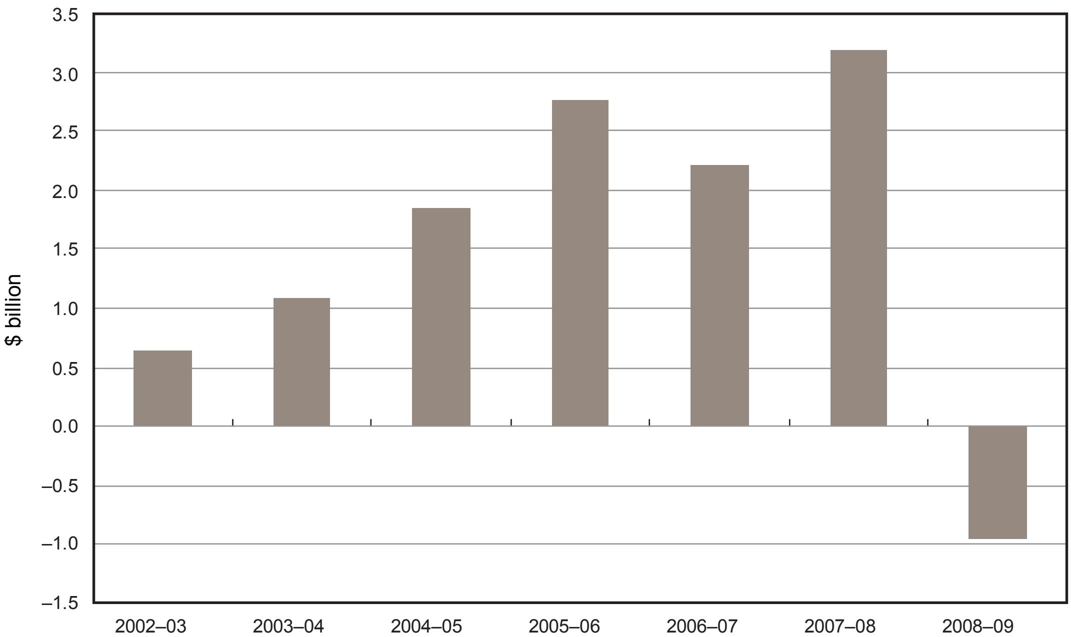
12.5 Total downstream profitability from a shareholder's perspective

The previous section reported profitability in the industry from the motorist's perspective in terms of cpl of final product supplied to motorists. This section provides an analysis of the profits earned by the companies from the perspective of the shareholders, using standard accounting measures.

Downstream industry net profits have varied greatly from year to year. From 2005–06 to 2006–07, net profit dropped more than 20 per cent, but it grew the following year by more than 44 per cent. In 2008–09 the industry overall experienced losses of about $1 billion.

Downstream net profits are shown in chart 12.8. An analysis of the source of the overall loss in 2008–09 shows that refining and supply combined as one sector reported approximately $2.2 billion in losses. The wholesale and retail sectors reported combined net profits that reduced total industry losses by around $1.2 billion.

Chart 12.8 Total downstream net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

To measure the profitability of different products and activities, a common accounting method is to compare net profits (in this instance, adjusted EBIT) to sales and to total assets.[8] The return on sales and return on assets are shown in chart 12.9.

Chart 12.9 Total downstream return on sales and return on assets: 2002–03 to 2008–09

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

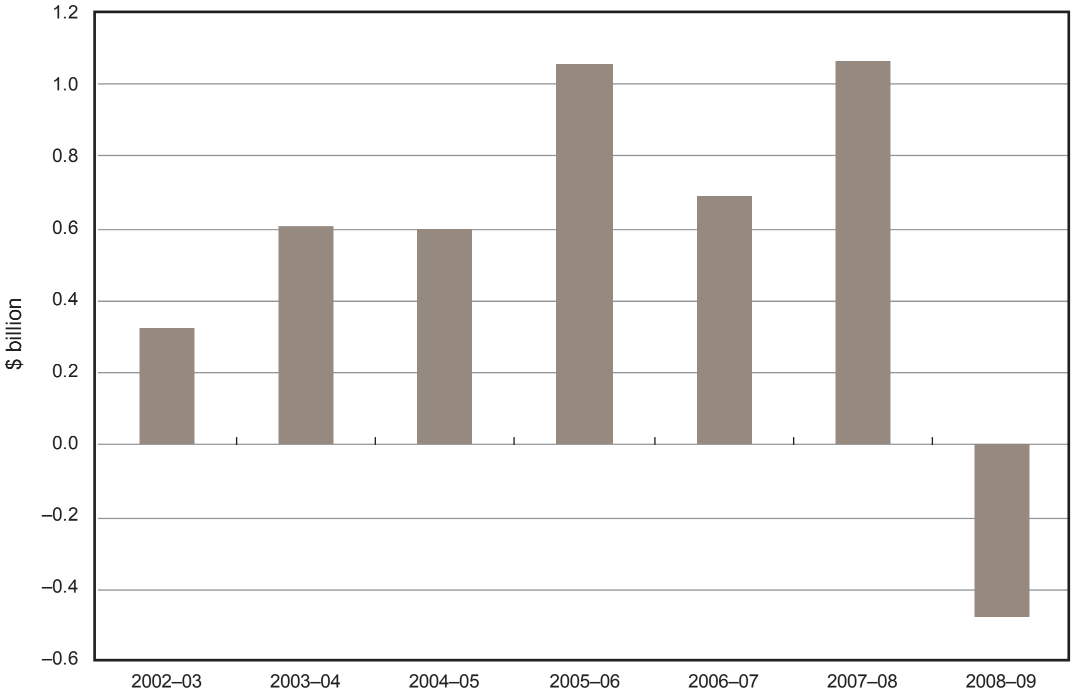
Over the period from 2002–03, the downstream sector reported an annual average return on sales of 3.2 per cent and an annual average return on assets of 9.7 per cent. The loss in 2008–09 had a significant impact on the profit measure in both instances. Excluding the result for 2008–09, the annual average return on sales was 4 per cent, and the annual average return on assets was 12.3 per cent.

8 The ACCC has adjusted total assets to remove intangibles, deferred tax assets, investments and other intangible assets. Intangibles have been removed since they generally arise from the recognition of goodwill resulting from the acquisition of other companies.

12.5.1 Total downstream indicative petrol profits

To estimate the net profits associated with petrol, the ACCC has found it necessary to allocate common costs between petroleum products.[9] In the retail sector, those common costs are allocated between fuel and non-fuel merchandise in the first instance. These allocations are somewhat subjective, and so the profit estimates in this section should be treated with caution. Chart 12.10 reports the ACCC's estimate of net profits from petrol.[10] The net profits from petrol are smaller than the net profits of the industry overall.

Chart 12.10 Total downstream indicative petrol net profits: 2002–03 to 2008–09



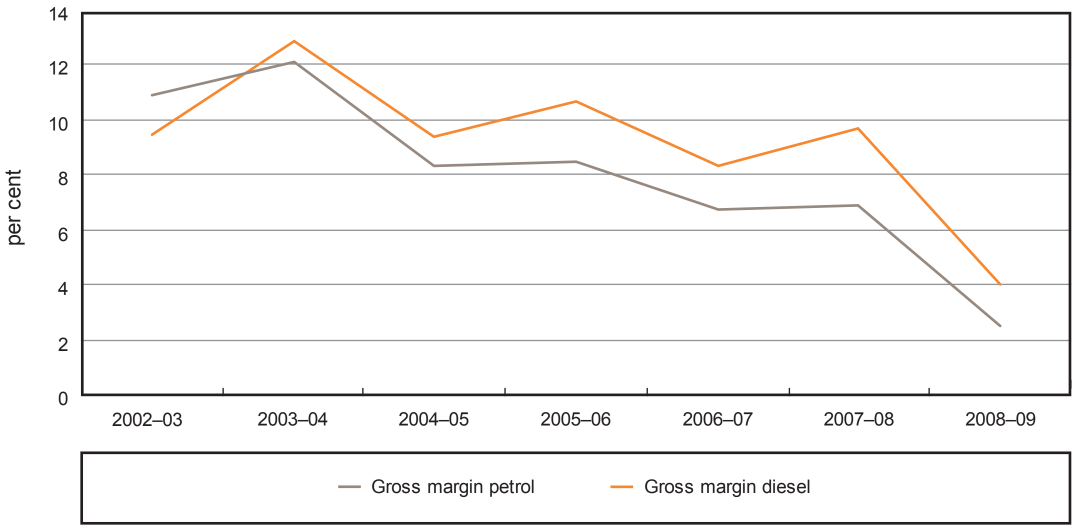
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

9 See chapters 13 and 14 for more detail on the cost allocation methodologies applied to each sector.

10 These estimates need to be treated with some care, however, as the ACCC's allocation of expenses between petrol and other fuels could affect the indicated adjusted EBIT from petrol and other products.

In 2008–09 the estimated losses from petrol are lower than the losses of the downstream industry overall. This outcome has arisen due to the relatively low margins earned by the industry on petrol. Since margins have fallen across all products, low gross margins in petrol, for example, means that petrol has also reported net losses. Other products with higher gross margins than petrol also experienced lower gross margins but they remained more profitable than petrol. Gross margins on petrol and diesel are shown in chart 12.11.

Chart 12.11 Total downstream estimated gross margins of petrol and diesel: 2002–03 to 2008–09



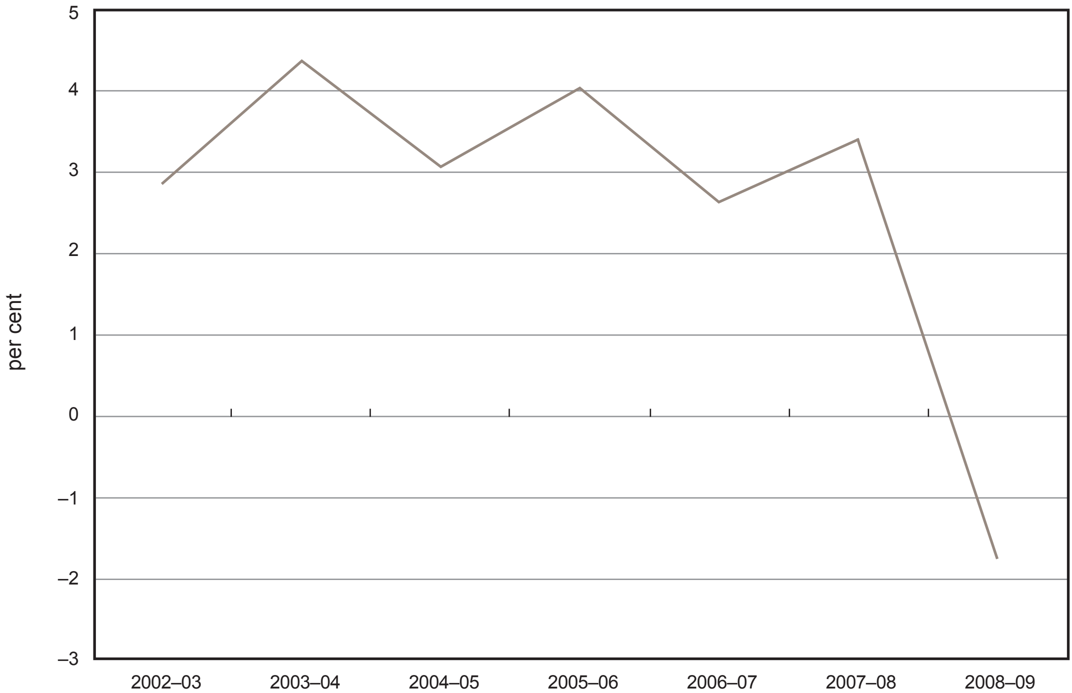
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

Gross margins are one factor in generating profits; sales volumes are another factor. During the period 2005–06 to 2008–09, sales volumes of petrol were declining. Combined with falling gross profit margins, petrol as a whole has recently contributed less to the overall profitability of the industry. All other products—such as diesel, other fuels and conveniences store items—have contributed relatively more to aggregate industry profits.

The ACCC has calculated that over the period 2002–03 to 2008–09 the annual average return on sales of petrol for downstream petroleum was 2.7 per cent. In contrast, the indicative petrol return on sales in 2008–09 was –1.7 per cent (see chart 12.12). Excluding the 2008–09 result, the annual average petrol return on sales between 2002–03 and 2007–08 was 3.4 per cent.

Chart 12.12 Total downstream estimated petrol returns on sales: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from monitored firms through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

12.6 Profits by sector

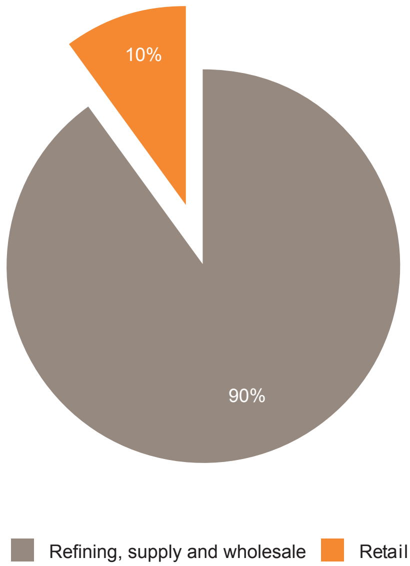
Each of the four sectors in downstream petroleum—refining, supply, wholesale and retail—has a different role in the industry. While they all buy or sell petroleum products, what they do with those products differs and so do their customers. As such, the commercial risks each sector faces will also be different. It is to be expected that their revenues, costs and profits reflect those differences.

However, the sector results should be treated with caution. The internal accounting arrangements within integrated firms can affect the profit results of individual sectors. For that reason, refining, supply and wholesale have been combined in this chapter.

Chart 12.13 reports the total net profit for each sector of the downstream petroleum industry. In that chart and in this report refining, supply and wholesale have been combined into a single sector, to better accommodate the different operating structures of the petrol companies.

Refining supply and wholesale earned 90 per cent of the net profit in downstream petroleum between 2002–03 and 2008–09, while retail earned 10 per cent of total industry profits.[11]

Chart 12.13 Net profits by sector as a share of total downstream net profit: 2002–03 to 2008–09

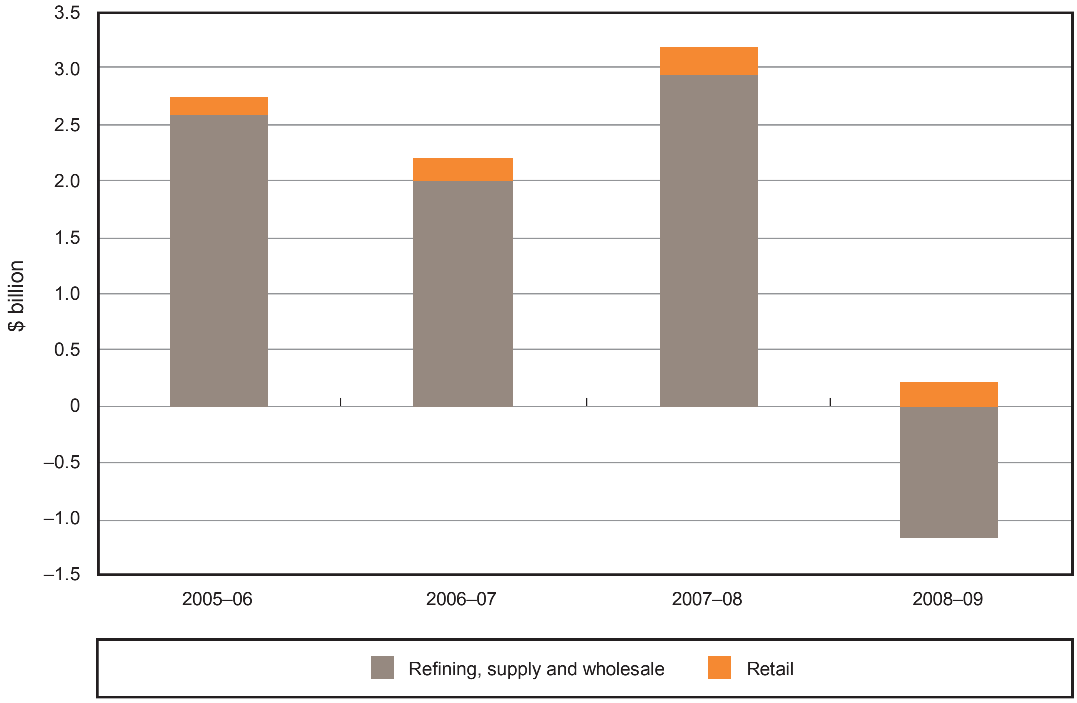


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

The profit shares by sector include the 2008–09 year, when the industry as a whole reported a loss. The net profits from each sector in that year can be compared to the results in a year of profitability for the industry as a whole. Chart 12.14 shows the net profit by sector between 2005–06 and 2008–09.

11 These shares of profit are based on the profits reported by the industry. The ACCC has not surveyed all petrol retailers, and therefore the share of profit earned by the retail sector is likely to be understated. The additional profit in retail is not expected to be material or to significantly change retail's share of profit.

Chart 12.14 Net profits by sector: 2005–06 and 2008–09

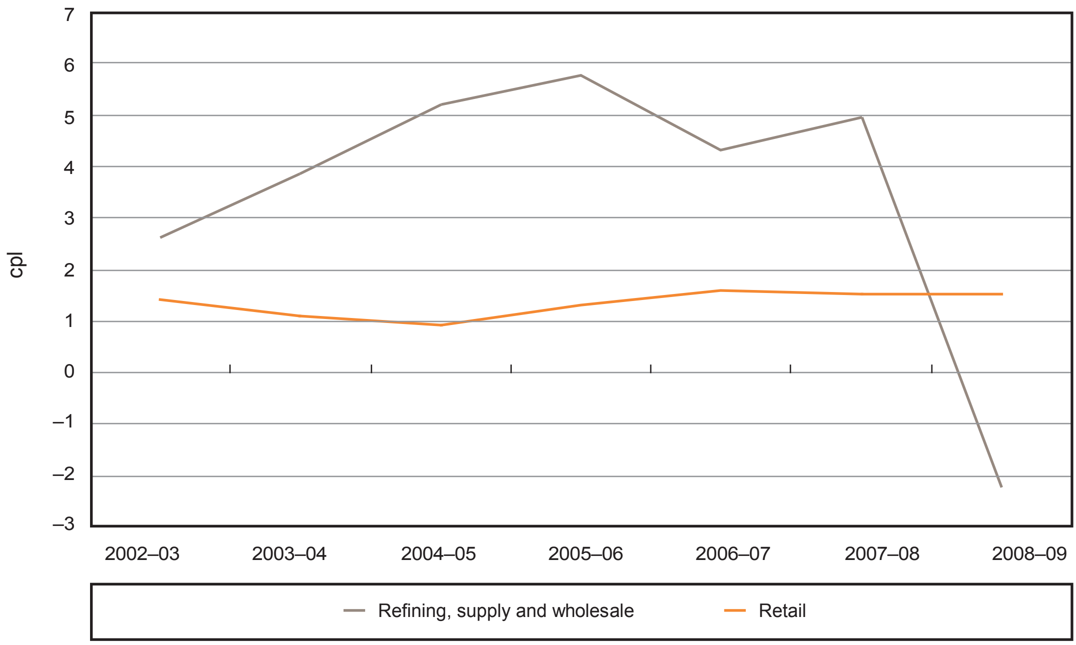


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

The industry loss in 2008–09 was primarily due to the refining, supply and wholesale sector, which contributed –$1.2 billion to the aggregate result. By contrast, in 2007–08 refining, supply and wholesale and wholesale contributed more than $2.9 billion in overall profits. The retail sector was profitable in all years. Net profits from retail rose from $161 million in 2005–06 to $226 million in 2008–09.

Chart 12.15 shows the annual average return on sales for each sector, while chart 12.16 shows the return on assets. Retail experienced improving but relatively constant levels of profitability. Overall, retail earned profits at an annual average return on sales of 1.3 per cent, while wholesale and refining and supply earned an annual average return on sales of 3.5 per cent. Excluding the 2008–09 result, the annual average return on sales for refining, supply and wholesale was 4.5 per cent between 2002–03 and 2007–08, and the retail annual average return on sales was 1.3 per cent.

Chart 12.15 Return on sales by sector: 2002–03 to 2008–09

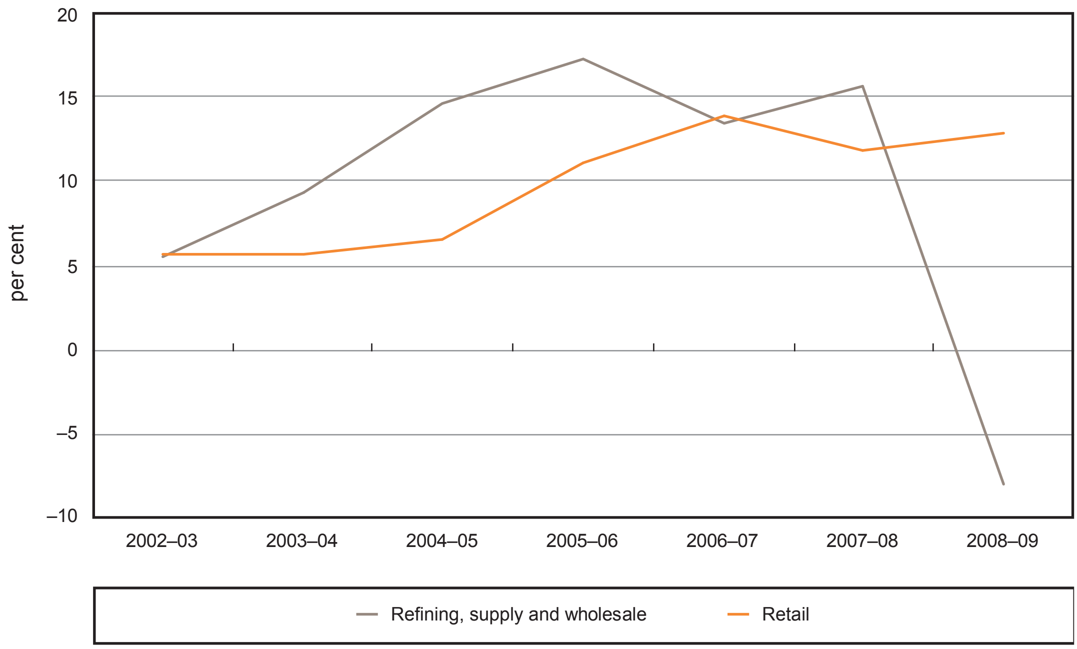


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

Refining, supply and wholesale reported a combined negative return on assets of –8 per cent in 2008–09, while retail's return on assets has improved. Refining, supply and wholesale had an annual average return on assets of 9.7 per cent, and retail also earned a return on assets of 9.7 per cent. Excluding the 2008–09 result, the annual average return on assets for refining, supply and wholesale was 12.6 per cent between 2002–03 and 2007–08, and the return on assets for retail was 9.1 per cent.

Chart 12.16 Return on assets by sector: 2002–03 to 2008–09



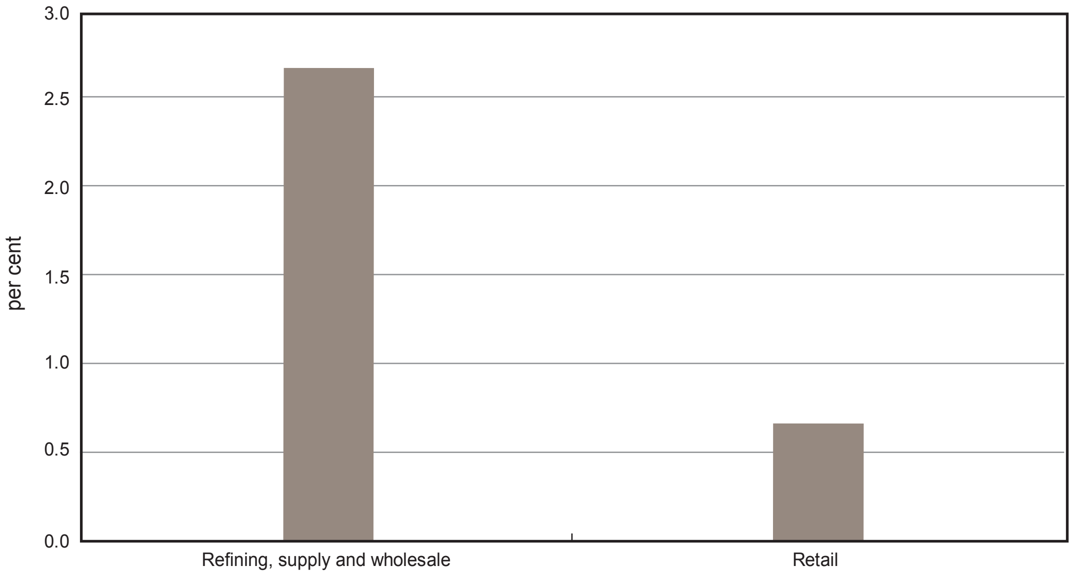
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

12.7 Petrol profits by sector

The ACCC has also estimated net profit from petrol as a share of sales by sector. Chart 12.17 reports the annual average return on sales for petrol. The annual average return on sales for petrol in refining, supply and wholesale was 2.7 per cent, and in retail it was 0.7 per cent.

Excluding the 2008–09 result, the annual average return on sales for refining, supply and wholesale was 3.6 per cent between 2002–03 and 2007–08, while the annual average return on sales for retail was 0.7 per cent over the same period.

Chart 12.17 Average annual indicative petrol returns on sales by sector: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

12.8 Downstream profitability in perspective

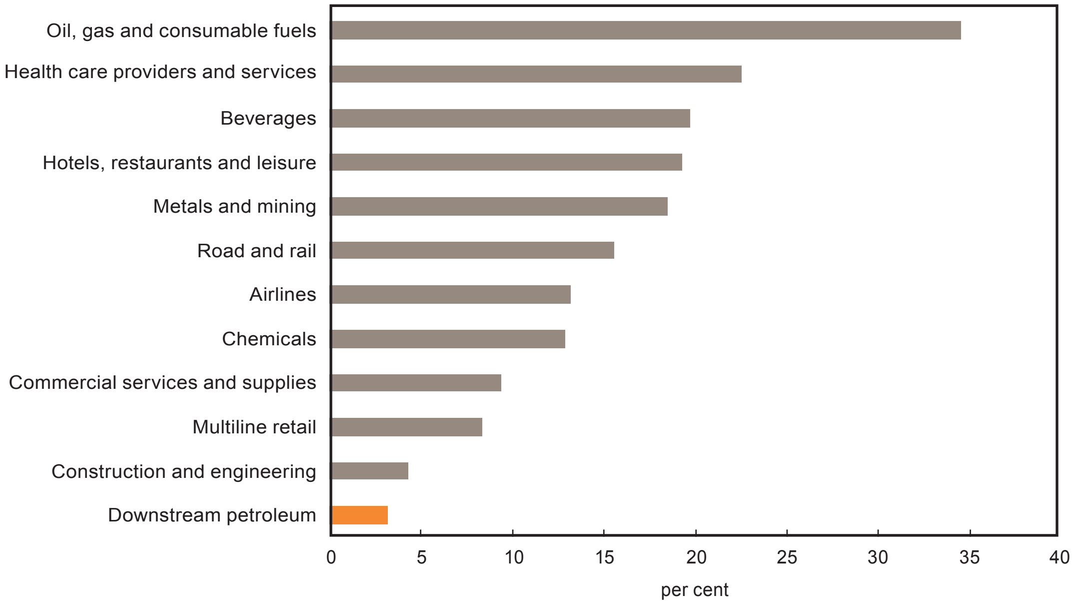
While it is important to measure the Australian downstream petroleum sector's profitability, it is also important to put those results in context. To provide some context for the industry's results, the ACCC has compared the performance of the Australian petroleum industry to Australian companies operating in other sectors and to petroleum companies overseas.

12.8.1 Australian comparisons

The profitability of Australian downstream petroleum companies can be compared to Australian industries more broadly. The ACCC has reviewed the performance of companies listed on the Australian Securities Exchange (ASX), companies operating in the Australian upstream oil and gas industry, and other major Australian enterprises.

Australian downstream industry profits are lower than profits from many other manufacturing industries and from other retailing and wholesaling activities. Charts 12.18 and 12.19 compare the Australian petroleum industry to major industry sectors represented in the S&P/ASX 100.[12] The charts show that profitability in the petroleum industry is at the lower end of profit outcomes compared to those other sectors in terms of both annual average return on sales and return on assets. Excluding the 2008–09 year from the downstream petroleum profit results does not change that observation.

Chart 12.18 S&P/ASX 100 Australian industries return on sales: 2002–03 to 2008–09

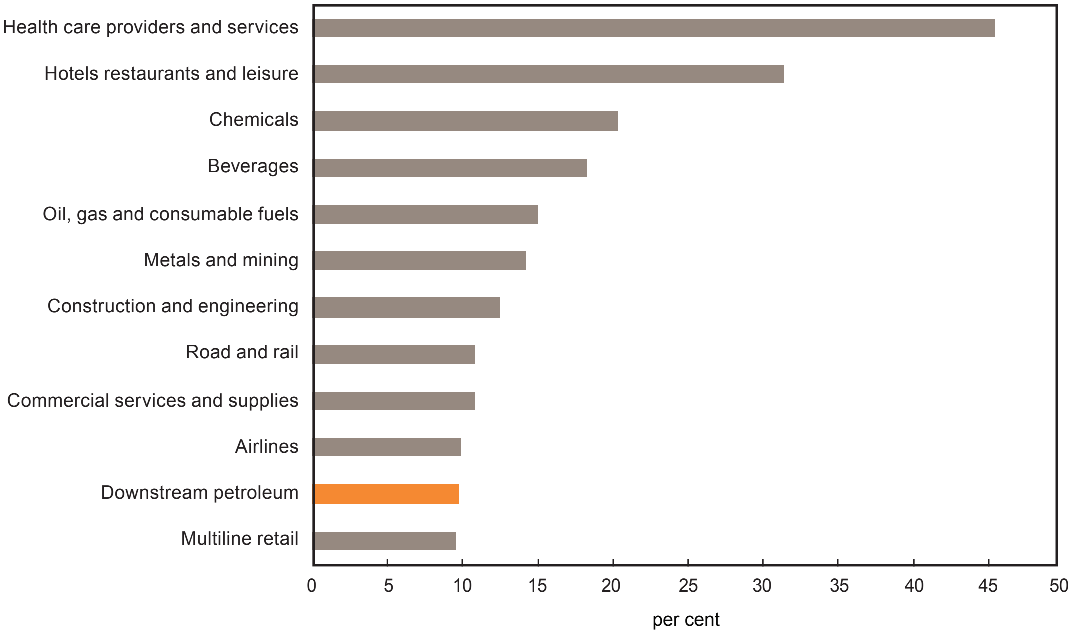


Source: Bloomberg, ACCC calculations.

In chart 12.18 the oil, gas and consumable fuels sector reported an average return on sales of more than 30 per cent. The oil and gas sector is the upstream side of the petroleum industry. It is engaged in the production of crude oil, liquefied petroleum gas (LPG) and other petroleum products. It supplies downstream refineries with crude oil, the pricing of which is a fundamental element of international prices for petrol.

12 The ACCC has calculated the annual average return on sales and return on assets for S&P/ASX 100 companies according to ASX industry sector.

Chart 12.19 S&P/ASX 100 Australian industries return on assets: 2002–03 to 2008–09



Source: Bloomberg, ACCC calculations.

12.8.2 Australian Government bond yields

The Australian Government bond yield indicates the return an investor would receive from owning government bonds, generally considered by professional investors to be a measure of a risk-free rate of return. The bond yield may be the minimum return an investor would expect to receive. As would be expected, table 12.1 shows that the return on assets results of downstream petroleum companies on average exceeds the Australian Government bond yield.

Table 12.1 Australian Government bond yields: 2002–03 to 2008–09

%	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	Average
3-year	4.8	5.3	5.3	5.4	6.0	6.5	4.2	5.3
5-year	5.0	5.5	5.3	5.4	6.0	6.4	4.5	5.4
10-year	5.3	5.7	5.4	5.4	5.8	6.2	4.9	5.5
Downstream petroleum return on assets	5.6	8.9	13.8	16.6	13.5	15.2	–5.7	9.7

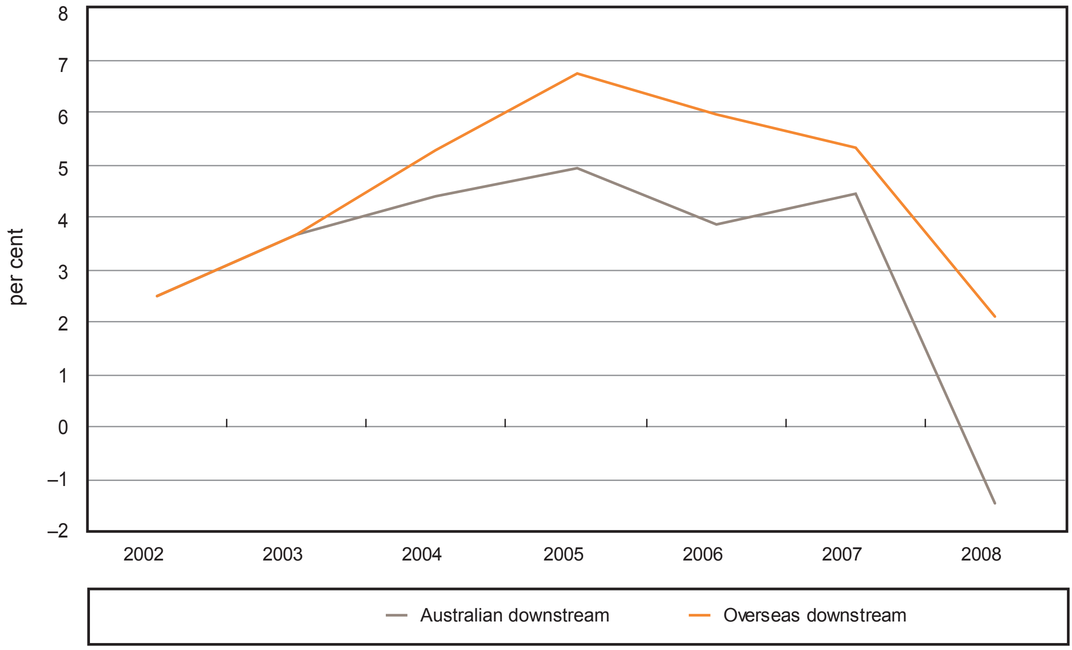
Source: Reserve Bank of Australia, ‘Capital market yields—government bonds’ (table F02), ACCC calculations.

12.8.3 International comparisons: downstream oil and gas profitability

In the Australian downstream market, Caltex is the only refiner–marketer listed on the ASX. Also, there are no independent wholesalers of the size of the four majors operating in our market. International downstream companies operating in overseas markets with more diverse competitors can provide another point of comparison of the profitability of Australian companies.

The ACCC has identified a number of overseas downstream petroleum companies[13] and calculated their profitability on a basis consistent with the ACCC's approach to measuring profits in the Australian downstream industry. These companies' results are reported in charts 12.20 and 12.21. The results indicate that the profits earned by the Australian downstream sector have recently been less than those of international downstream petroleum companies.

Chart 12.20 Downstream companies return on sales: 2002 to 2008



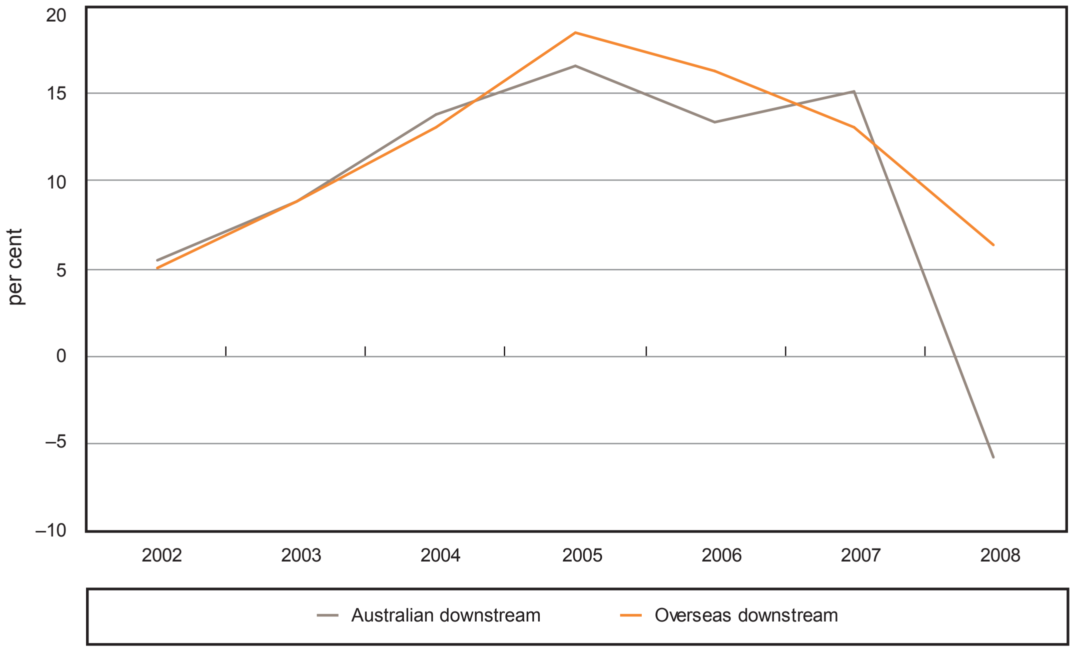
Source: Bureau van Dijk Orbis database, ACCC calculations.

Notes: Revenues exclude excise and GST.

Orbis data is based on the closing month of the companies' financial reports. Data obtained from the Australian petrol companies by the ACCC is provided on a financial year basis. In this chart the ACCC has presented the Australian petrol company result on the same basis as Orbis.

13 The ACCC has used the Bureau van Dijk Orbis database to identify overseas integrated refiner–marketing companies based in OECD countries that are not also involved in upstream industry activities. The ACCC searched for refiner–marketers of a size similar to Australian refiner–marketers and reviewed their business activities for similarity to the Australian industry.

Chart 12.21 Downstream companies return on assets: 2002 to 2008



Source: Bureau van Dijk Orbis database, ACCC calculations.

Note: Orbis data is based on the closing month of the companies' financial reports. Data obtained from the Australian petrol companies by the ACCC is provided on a financial year basis. In this chart the ACCC has presented the Australian petrol company result on the same basis as Orbis.

12.8.4 Global downstream results of refiner–marketers operating in Australia

The net profit results of the global parents of the refiner–marketers operating in Australia can be compared to those of the Australian downstream petroleum sector as a whole. Tables 12.2 and 12.3 report the profit results from those companies' global refining and marketing activities. The Australian downstream petroleum profit results have been within the range of results for the global refining–marketing activities of Chevron, Shell, BP and ExxonMobil.

Table 12.2 Downstream sectors of global refiner–marketers return on sales: 2003 to 2008

%	2003	2004	2005	2006	2007	2008	Average
ExxonMobil—non-US	1.9	2.4	2.2	2.2	2.5	2.6	2.3
ExxonMobil—US	3.4	5.0	6.2	6.2	5.4	1.8	4.7
Royal Dutch Shell	2.0	3.9	4.6	2.9	4.0	0.2	2.9
BP Global	2.0	3.7	3.1	2.0	2.2	–0.7	2.0
Chevron	1.8	3.5	2.5	3.6	2.6	2.4	2.7
Australian downstream							3.2

Source: Company annual reports, ACCC calculations.

Note: Revenues exclude excise and GST.

Table 12.3 Downstream sectors of global refiner–marketers return on assets: 2003 to 2008

%	2003	2004	2005	2006	2007	2008	Average
ExxonMobil—non-US	6.5	9.4	11.6	11.4	12.7	20.5	12.0
ExxonMobil—US	14.6	27.4	39.4	39.8	34.2	14.6	28.3
Royal Dutch Shell	5.6	16.3	19.9	9.9	11.2	0.9	10.6
BP Global	4.7	10.0	10.0	6.6	6.5	–3.1	5.7
Chevron	6.5	15.0	11.3	15.7	10.3	12.8	11.9
Australian downstream							9.7

Source: Company annual reports, ACCC calculations.

12.9 Themes arising from total downstream revenues, costs and profits

From an analysis of the revenues, costs and profits of the downstream petroleum industry, and petrol in particular, the following themes have emerged:

- Overall, the profits in downstream petroleum have been lower than the profit outcomes of international companies operating in downstream petroleum.
- From a motorist's perspective, the ACCC has estimated that in recent years net profits from petrol have typically been in the range of 2 cpl and 6 cpl of petrol, with an annual average profit of 3.1 cpl (including the loss in 2008–09). However, the ACCC estimates that in 2008–09 the industry made a loss on petrol of almost 6 cpl.
- In 2008–09 the industry made a total loss of around $1 billion due to the rapid devaluation of crude oil and petrol prices, and of the Australian dollar.
- Most volatility in industry profits has been due to volatility in the results for refining, supply and wholesale. This volatility reflects its exposure to refinery margins, international petrol price movements, changes in the value of the Australian dollar and contractual pricing arrangements with key commercial customers. In contrast, the retail sector profits from petrol have been relatively stable.
- The average annual profits in the downstream petroleum industry between 2002–03 and 2008–09 were 3.2 per cent for return on sales and 9.7 per cent for return on assets.
- Australian downstream petroleum profits are in line with the results of international companies in the downstream petroleum sector.

13 Refining and supply revenues, costs and profits

The refining sector in Australia consists of seven refineries, located in Melbourne, Perth, Geelong, Sydney and Brisbane. Each refinery refines crude oil into unleaded petrol, diesel and a range of other petroleum products. The volume of petrol[1] produced depends on the chemical make-up of the crude oil used in the process. The type of equipment installed at the refinery also affects the extent to which a barrel of crude oil can be converted into petrol.

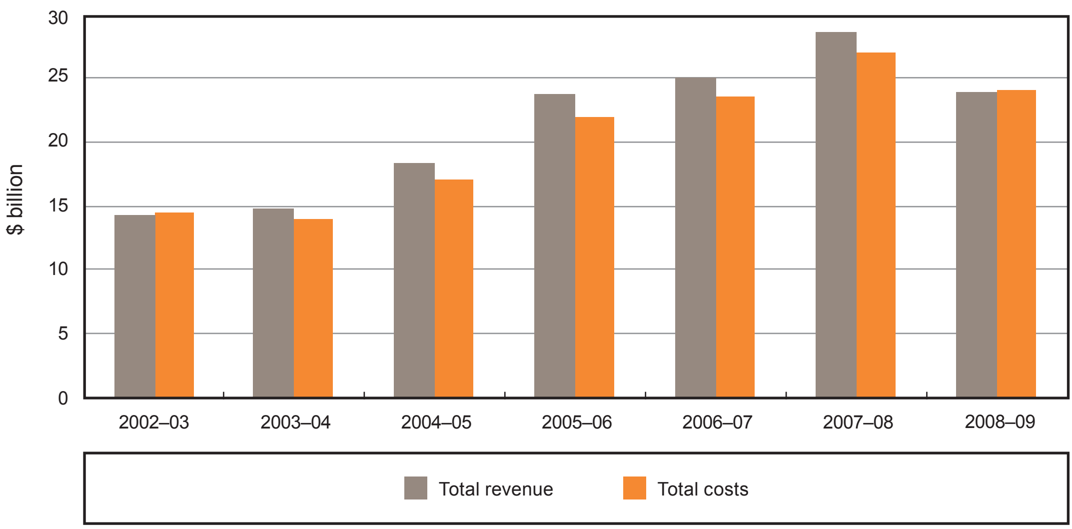
The supply sector imports crude oil for supply to the refineries, as well as fuel products; supply also sells locally refined product to other refiner–marketers under buy–sell arrangements. Refining and supply is the combined refining and supply sectors. This chapter reports the revenue, costs and profits of the refinery sector and those of refining and supply on a historical cost basis.

13.1 Refining revenues and costs

Refinery revenues come from the sale of petrol products such as regular unleaded (RULP) and premium unleaded petrol (PULP), other fuels such as diesel, aviation fuels and liquefied petroleum gas (LPG), and other products such as lubricants and bitumen.

Total refinery revenue increased by more than half from 2002–03 to 2007–08. It peaked in 2007–08 at $28.5 billion. Total refinery revenue fell in 2008–09. That decline reflects lower prices of refined product in that year. Chart 13.1 shows the total revenues and costs of the refinery sector. Total revenue has generally moved in line with international fuel prices and refinery processing volumes.

Chart 13.1 Refining total revenues and costs: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues and costs exclude excise and GST.

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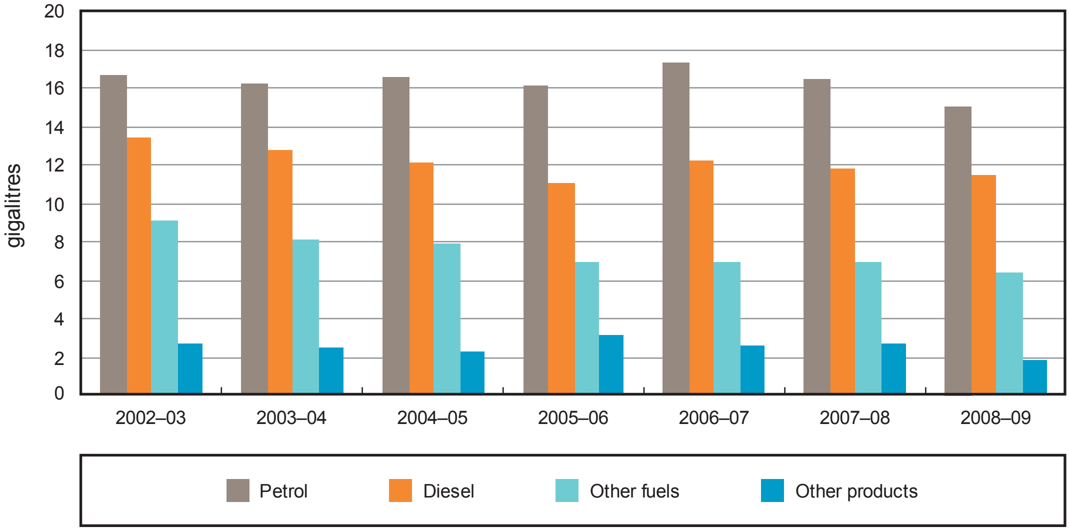
1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

The major cost for refineries is the cost of crude oil and other additives used in the refining process. Crude oil alone accounts for 90 to 95 per cent of total production costs. Other important costs include energy, labour and maintenance. Total costs followed a similar pattern to total revenue between 2002–03 and 2007–08, following crude oil prices.

However, in 2008–09, costs exceeded revenues. In part, that result is due to the purchase price of crude oil having been higher than the price received for petrol after importation and refining. The Australian Institute of Petroleum (AIP) estimates that the time taken to purchase crude from overseas, ship it to Australia and process it can be more than 30 days.[2] In that time, the price of petrol can vary significantly. This timing factor affects the extent to which petrol costs can be matched by equivalent or greater revenues.

Refinery product sales volumes fell between 2002–03 and 2008–09. In 2002–03, total refinery volumes sold were more than 42 billion litres, but this declined to 34.6 billion litres in 2008–09 because of the closure of the Port Stanvac refinery and temporary refinery shutdowns for maintenance and repairs. Product volumes are shown in chart 13.2.

Chart 13.2 Refining sales volumes by product: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

13.2 Refining petrol revenues and costs

Revenues from the sale of petrol by the refineries are relatively easy to identify. These revenues are shown in chart 13.3. They were highest in 2007–08 and fell in 2008–09 because of reductions in petrol volumes and international petrol prices.

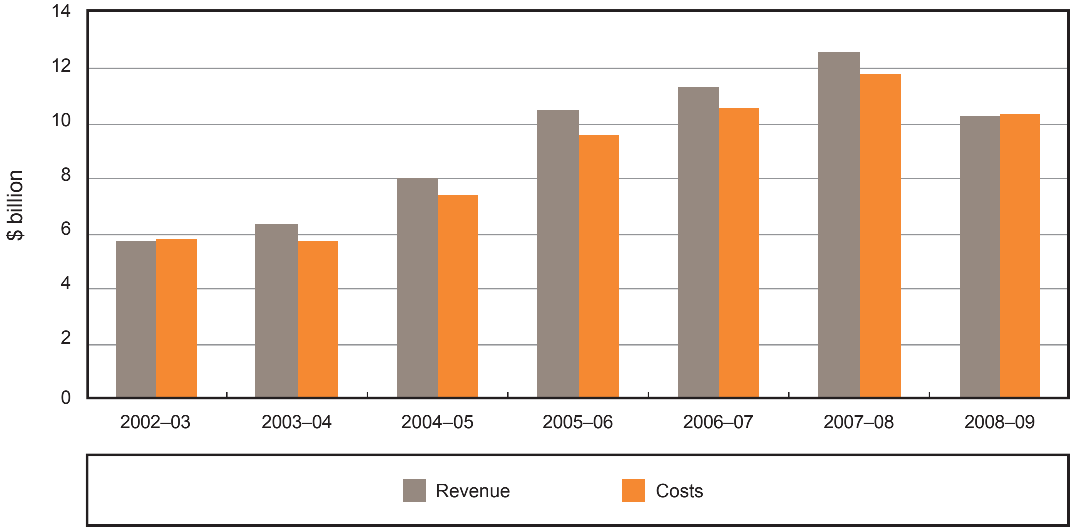
However, costs incurred in producing unleaded petrol are not easy to measure. The difficulty is that petrol is produced jointly with other petroleum products, using common facilities and from the same barrel of crude oil. To obtain an indication of the costs associated with the refining of petrol, the ACCC has allocated common costs to specific products. The ACCC has generally allocated

2 AIP, *Maintaining supply reliability in Australia*, 2008.

costs to specific products according to the sales volume of each product. This method provides an indication of the costs and profits associated with petrol.

In 2008–09, total estimated petrol costs exceeded petrol revenue. This also occurred in 2002–03.

Chart 13.3 Refining indicative revenues and costs of petrol: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues and costs exclude excise and GST.

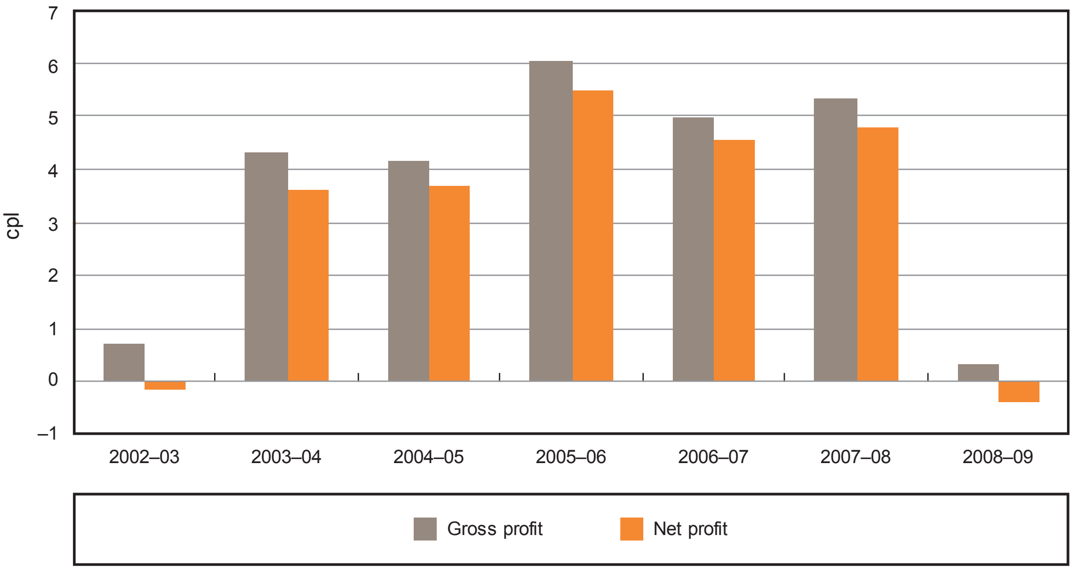
13.3 Refinery profitability from a motorist's perspective

Refining profits have been calculated by deducting costs from revenues. The ACCC has measured profits using earnings before interest and taxes (EBIT) but has also removed non-operating incomes and other costs to calculate adjusted EBIT. More detail on the calculation of adjusted EBIT (net profit) is provided in box 12.1.

The ACCC has estimated that the gross profit paid by the motorist and received by the refinery sector was generally between 4 and 6 cents per litre (cpl) in total. The estimated gross profit and net profit for the seven Australian refineries are reported in chart 13.4.

The ACCC has estimated that the gross profit of the refinery sector was not sufficient to cover the refineries' other operating expenses in 2002–03 and 2008–09. For instance, the net profit per litre of petrol was highest in 2005–06 at 5.5 cpl, but –0.4 cpl in 2008–09.

Chart 13.4 Refining estimated petrol gross and net profits: 2002–03 to 2008–09

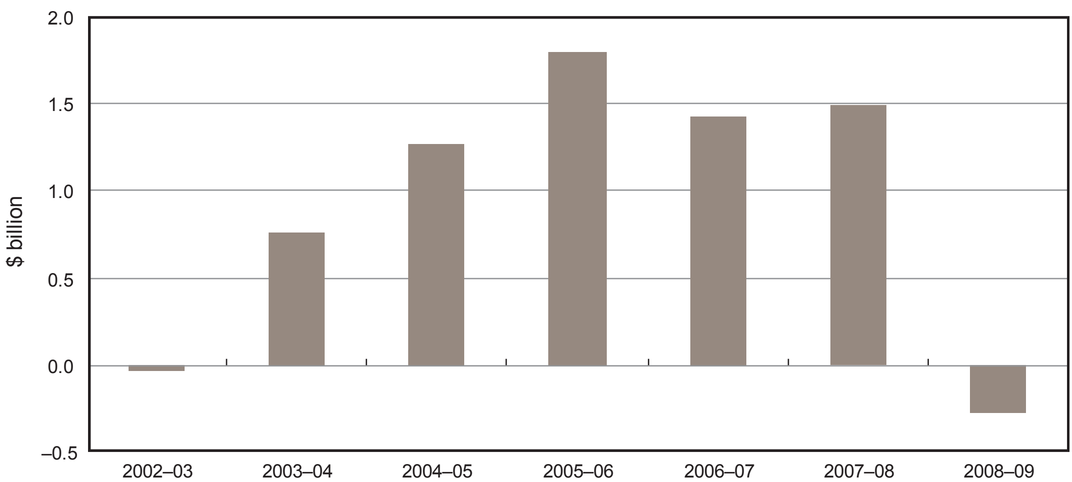


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

13.4 Refinery profitability from a shareholder's perspective

Estimated profits in the refining sector, on a net profit basis, were highest in 2005–06, at $1.8 billion, while a net loss of $277 million was incurred in 2008–09. Total refining profits are shown in chart 13.5. The profit estimates should be treated with caution because each refiner's internal accounting arrangements affect the reported revenues and costs. Those estimates can affect estimated profits.

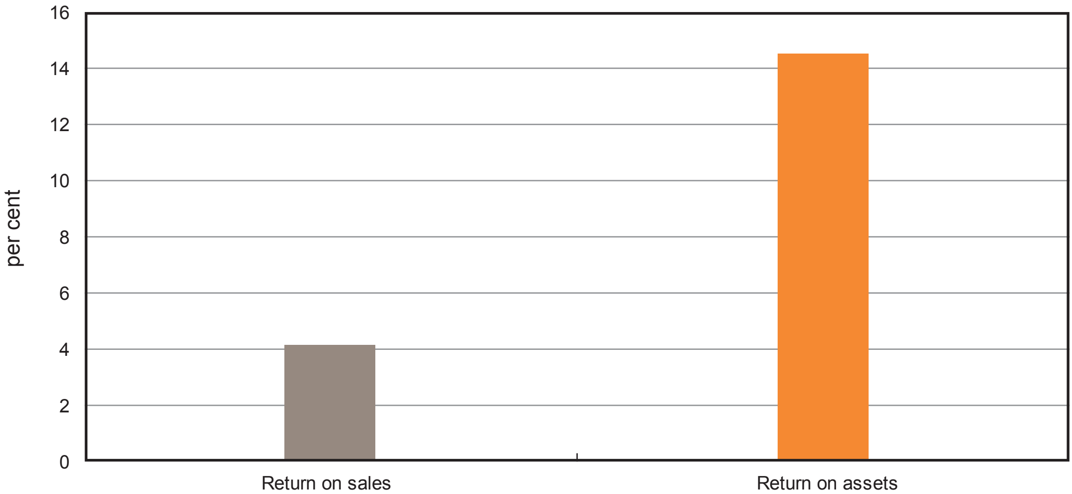
Chart 13.5 Refining net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Profitability can also be measured by comparing net profit to sales and assets. These annual average indicators are reported in chart 13.6. The return on assets result has been affected by changes in the value of inventory and accounts receivables, as well as the allocation of those assets between refining and supply. The return on assets measure can be affected significantly when crude oil prices—the basis for valuing product inventories—are changing rapidly.

Chart 13.6 Refining return on sales and return on assets: 2002–03 to 2008–09



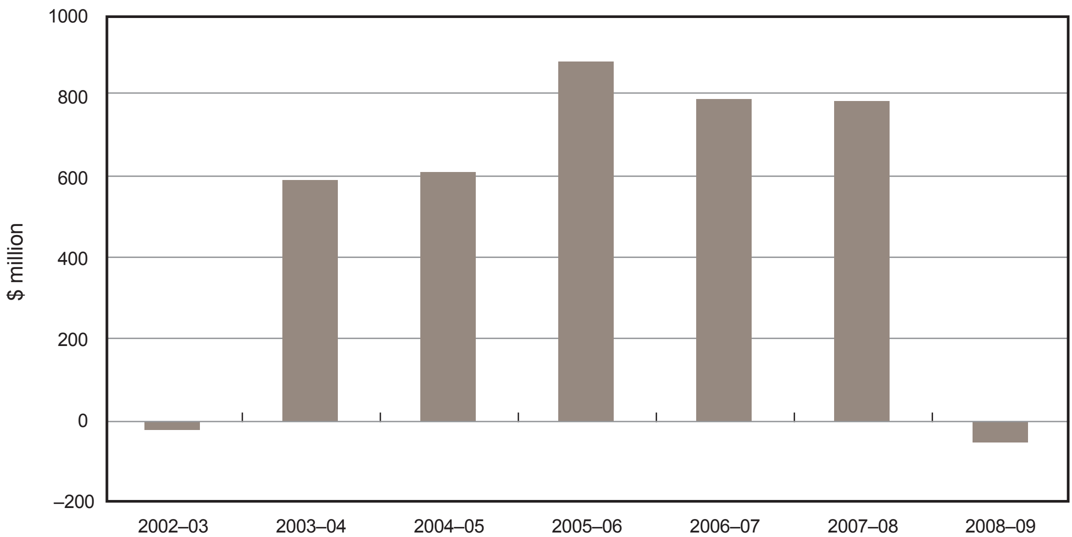
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

13.4.1 Refining petrol profits

Similar to total refining profits, the ACCC has derived indicative refinery profits on petrol. This has included an allocation of operating expenses to each product to calculate net profit.

Indicative petrol profits in the refining sector were highest in 2005–06, at $880 million, while a net loss of $54 million was incurred in 2008–09. Total refinery petrol net profit is shown in chart 13.7.

Chart 13.7 Refining indicative net profit for petrol: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

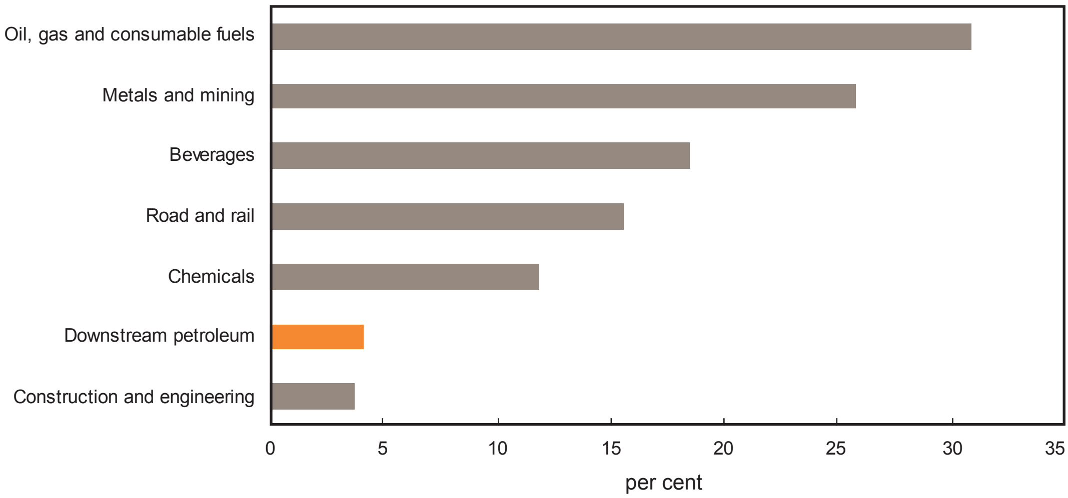
13.5 Refinery sector profitability in perspective

The Australian refinery sector's profitability can be compared to that of other companies operating refineries as part of their downstream petroleum operations. The refinery sector's profits can also be compared to the profits of major Australian companies and, in particular, other Australian manufacturing industries.

13.5.1 Australian industry profitability

Chart 13.8 shows refining return on sales compared to other Australian manufacturing companies listed on the S&P/ASX 100.[3] The chart indicates that the return on sales for refining has been lower than for most other manufacturing activities.

Chart 13.8 S&P/ASX 100 Australian manufacturing industries return on sales: 2002–03 to 2008–09

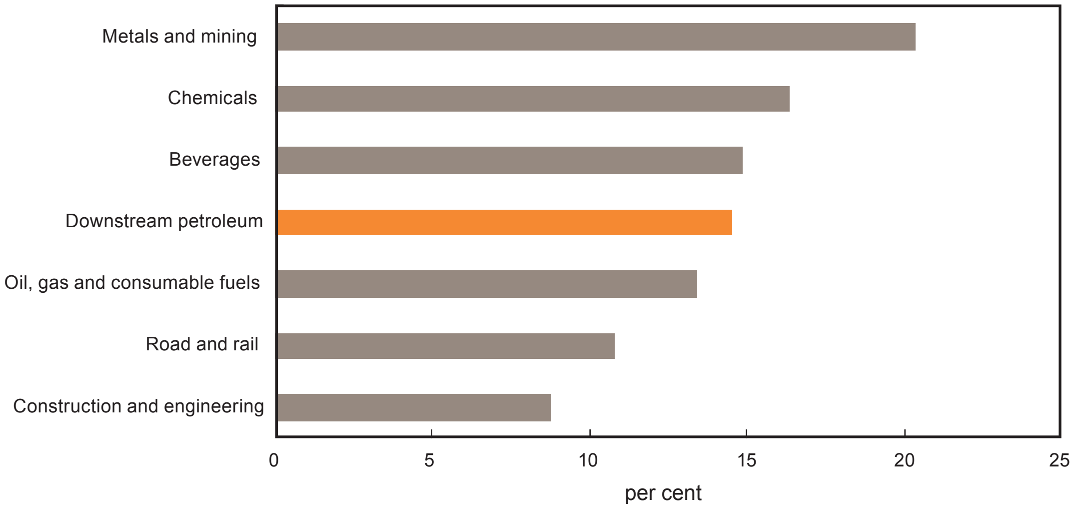


Source: Bloomberg, ACCC calculations.

3 The ACCC has calculated the annual average return on sales and return on assets for companies listed on the S&P/ASX 100 according to industry sector. Caltex Australia Ltd has been excluded from the oil, gas and consumable fuels sector to which it otherwise belongs.

On a return on assets basis, refining profits are lower than those in the chemical industry and several others, as shown in chart 13.9. The chemical industry is a particularly relevant comparison since it uses some products sourced from the refining industry.

Chart 13.9 S&P/ASX 100 Australian manufacturing industries return on assets: 2002–03 to 2008–09



Source: Bloomberg, ACCC calculations.

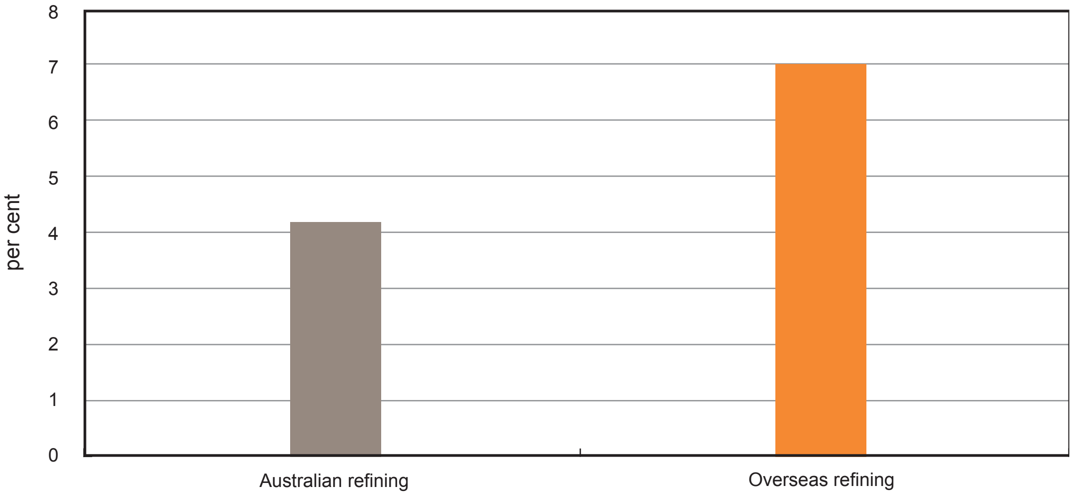
13.5.2 International comparisons of oil refineries

The ACCC has identified several independent refineries in other Organisation for Economic Co-operation and Development (OECD) countries. However, it has not been possible to identify businesses that undertake refining as a stand-alone activity. Refineries are more often associated with wholesale and retail activities akin to the operations of the Australian refiner–marketers. The ACCC has been able to identify several independent refiners[4] with some marketing activities but without significant upstream activities.

4 The ACCC has used the Bureau van Dijk Orbis database to identify independent refinery operators based on OECD countries that are not involved in upstream industry activities. The selected overseas refining companies were of a similar size to Australian refiners and undertook similar business activities to Australian companies.

The average net profit to sales and adjusted assets for the identified companies are reported in charts 13.10 and 13.11, along with the results of the Australian refiners. The comparison needs to be undertaken carefully since the international companies undertake more activities than refining alone. However, the results show the profit indicators for Australian refining to be slightly lower for net profit to sales and higher for net profit to assets than those for the international companies.

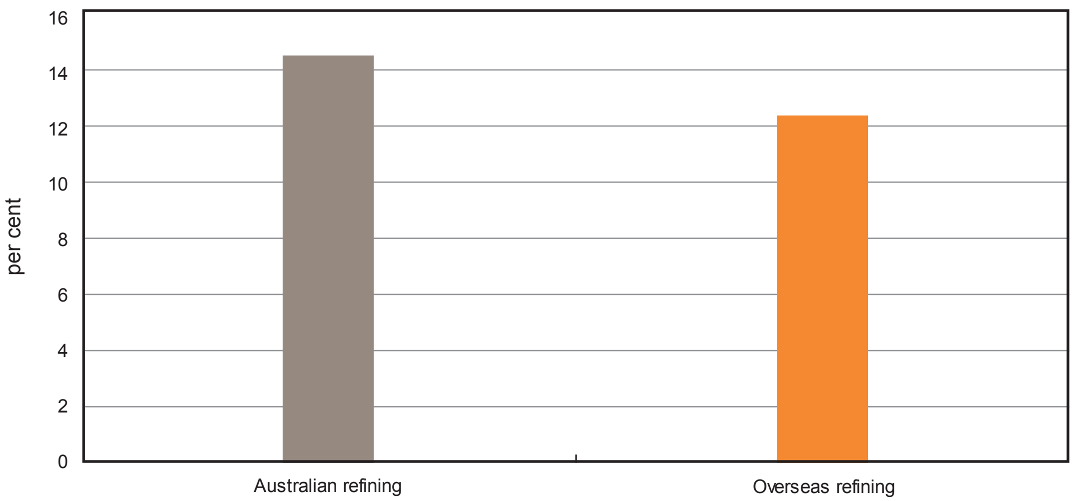
Chart 13.10 Australian and international refineries return on sales: 2002–03 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

Note: Revenues exclude excise and GST.

Chart 13.11 Australian and international refineries return on assets: 2002–03 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

13.6 Refining in detail

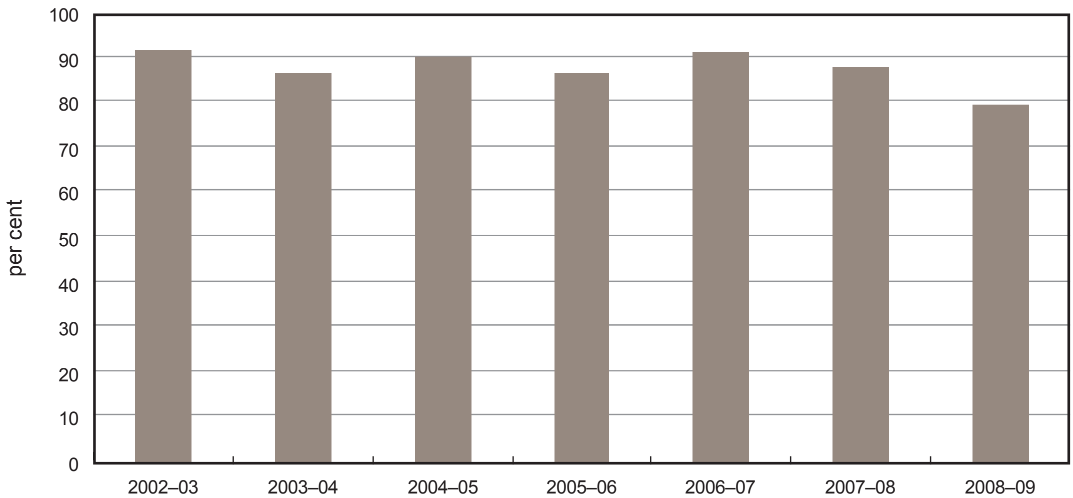
13.6.1 Refinery utilisation rate

The refinery utilisation rate shows the extent to which the capacity of a refinery has been used to process crude oil. Chart 13.12 shows estimated total refinery utilisation rates for the past seven years.[5]

Between 2002–03 and 2007–08 most Australian refineries operated at about 80–90 per cent capacity, but with some variation by individual refinery.

Maintenance and refinery upgrades can affect capacity utilisation since they prevent operation of the refinery at full capacity. Unplanned refining interruptions also affect refining throughput. It is likely that the temporary shutdown at Shell's Clyde refinery during 2008–09 would have affected local production capacity. However, any effect that the Clyde refinery shutdown had on local production is likely to have been made up for by increases in imports of refined product.

Chart 13.12 Refining utilisation rate of Australian refineries: 2002–03 to 2008–09



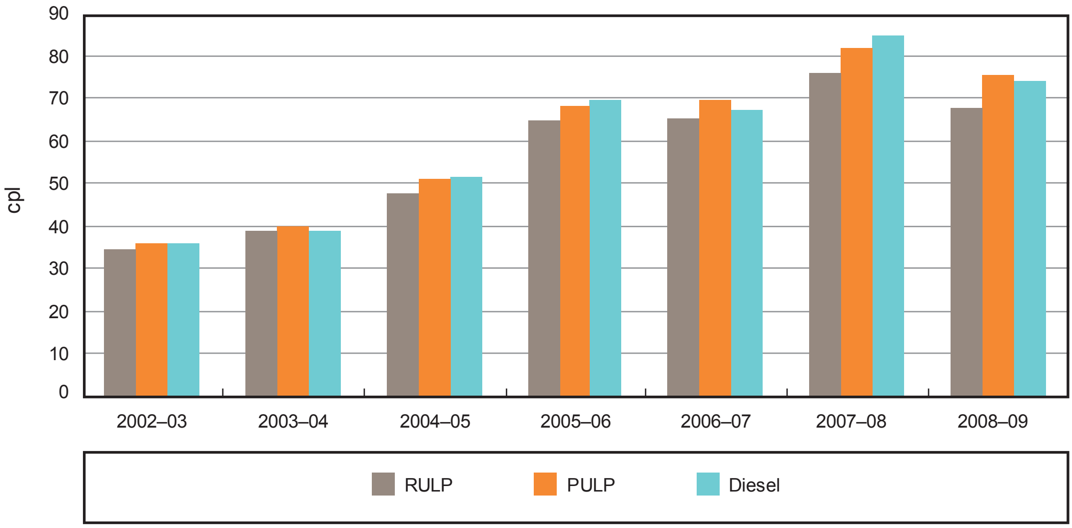
Source: AIP downstream petroleum reports, ACCC calculations.

5 The estimates of refinery utilisation rates are based on theoretical capacities and refinery sales volumes. Detailed analysis of refinery utilisation rates is performed by Australian refiners and may show slightly higher or lower utilisation rates by refinery.

13.6.2 Average refinery prices for petrol

Average revenue (or average sales prices) per litre for RULP increased for all years except 2008–09. This pattern appears consistent with international prices. Revenues per litre for RULP, PULP and diesel are shown in chart 13.13. Ethanol blended petroleum is not included in the chart because this product is normally blended by the supply or wholesale sectors rather than by the refinery sector.

Chart 13.13 Refining average revenue from petrol and diesel: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

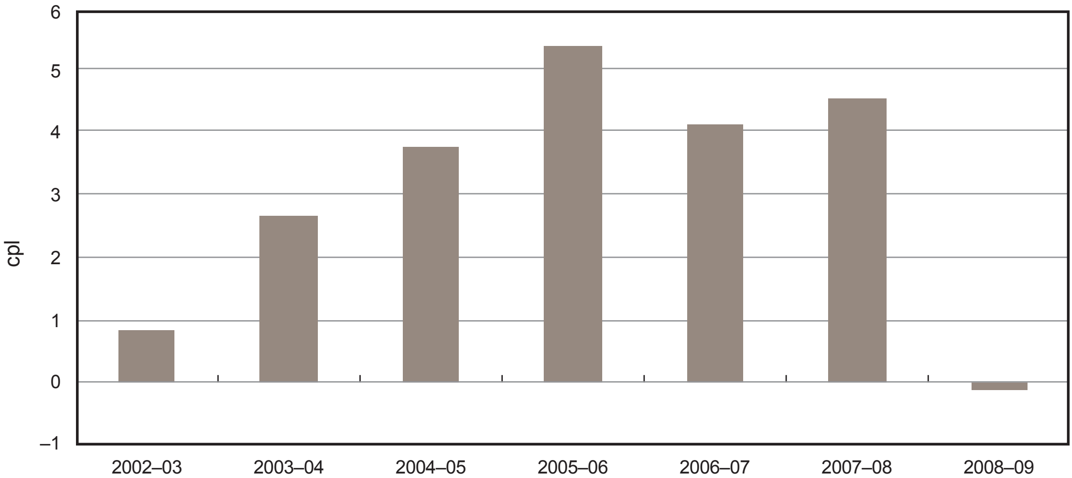
Note: Revenues exclude excise and GST.

13.6.3 Australian refining margins

Refining margins are a measure of profitability that refineries use to guide key operating decisions. Refineries use their estimate of refining margins to decide how much crude oil should be processed, what type of crude should be purchased and how much of a particular crude should be purchased, as well as to decide the volumes of particular petrol and other petroleum products the refinery intends to produce. Refining margins help refineries plan their sales and purchases to maximise profits.

The ACCC has estimated refining margins of the Australian refineries. Refining margins are broadly equivalent to gross profit margins but are reported as cpl or dollars per barrel. These estimates are reported in chart 13.14. From ACCC calculations, all refineries reported positive margins up to 2008–09, when the industry's refining margins were estimated to be negative. That result is consistent with overall refining profitability.

Chart 13.14 Estimated refining margin: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

13.7 Refining and supply

Several refiner–marketers operate a supply sector to coordinate the supply of crude to their refineries and the importation of petrol and diesel. Supply also purchases refined product from its related refineries and resells that product to the wholesale sector and to other refiner–marketers under buy–sell arrangements. At times when refinery production is lower than normal because of maintenance, supply is able to coordinate fuel supplies across the business. In this way supply coordinates the refinery outputs with imports and with supplies received under buy–sell arrangements.

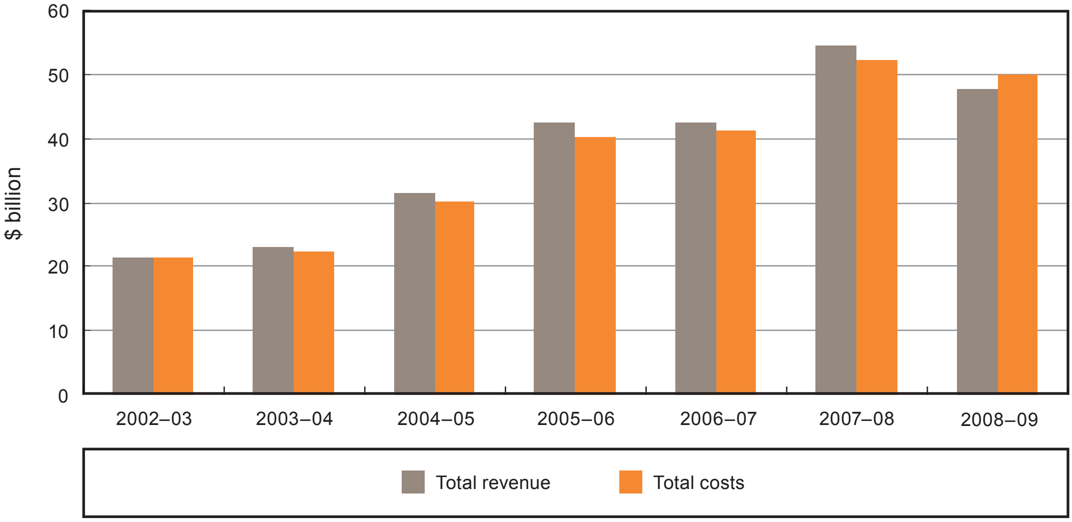
While all refiner–marketers undertake supply activity, some operate supply within the refinery business. For the purposes of this report, the ACCC has combined supply with refining within a refining and supply sector.

13.8 Refining and supply revenues and costs

Revenues in refining and supply include sales of petrol, diesel, aviation and marine fuels, bitumen, and a wide range of other petroleum products produced by the refineries. Some of these products are sold to chemical and bitumen companies.

Revenues and costs of refining and supply are shown in chart 13.15.

Chart 13.15 Refining and supply revenues and costs: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

Costs in refining and supply primarily relate to the purchase of crude oil, imported product and fuel products from other refiner–marketers under buy–sell arrangements. Most costs in refining and supply relate to crude oil for the refineries and imported fuels. Prices of most products are tied to international market prices, and revenues and costs generally follow those closely.

However, the timing of revenues and costs can lead to significant differences in the costs of fuels compared to the prices that can be obtained for those fuels. Since international prices for crude oil and petrol products, for example, are highly volatile, the time needed to convert crude oil into refined product or to import petrol from Singapore or Korea can mean that prices for the refined product have changed by the time of sale. The reported revenues and costs reflect the impact of this important timing difference.

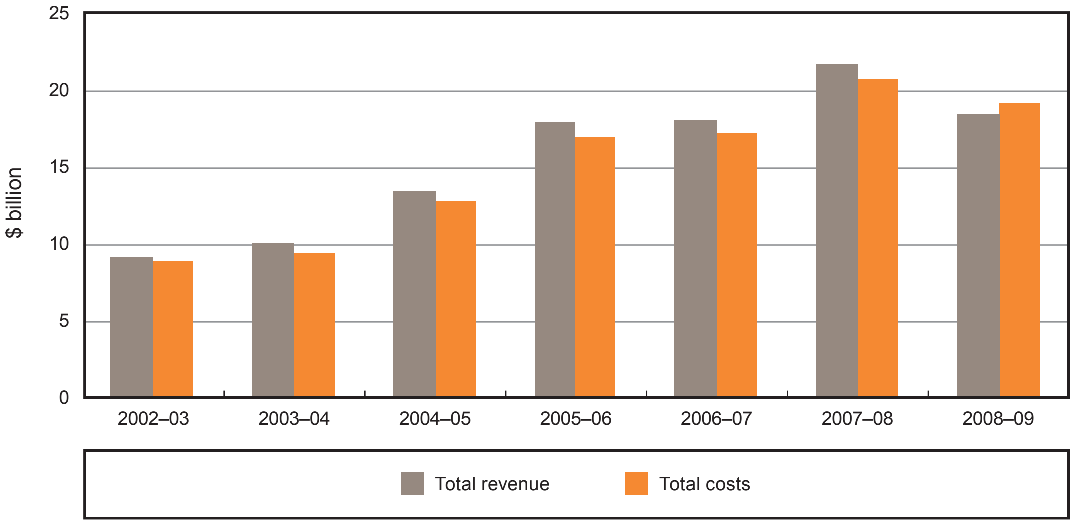
There are significant other costs. Refining and supply's foreign exchange transactions have been substantial. While in most years the net result of foreign exchange gains or losses is relatively small, that is not always the case. In 2008–09 losses associated with movements in the value of the Australian dollar across refining and supply were more than $650 million.

13.9 Refining and supply petrol revenues and costs

Revenues from the sale of petrol by refining and supply are relatively easy to identify. Total revenue from petrol products peaked in 2007–08 at $21.7 billion and then declined in 2008–09. The costs in refining and supply reflect the purchase of product from the refinery and imported sources, as well as an allocation of common costs to specific products.

Refining and supply petrol revenues and costs are presented in chart 13.16.

Chart 13.16 Refining and supply indicative petrol revenues and costs: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

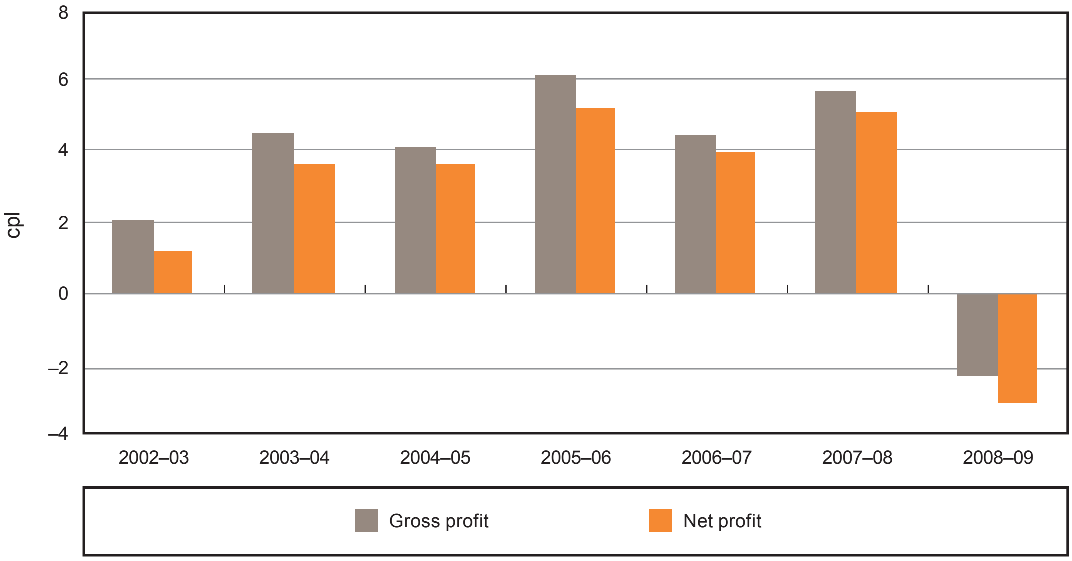
Note: Revenues exclude excise and GST.

13.10 Refining and supply profitability from a motorist's perspective

From the motorist's perspective, the ACCC estimates that on average over the seven years to 2008–09 more than 3.5 cpl from each litre of petrol purchased by motorists was received as gross profit in refining and supply. However, in 2008–09 gross profit for refining and supply was negative.

Gross profit is used by the industry to cover operating expenses. Net petrol profit per litre was greatest in 2005–06, when it was 5.2 cpl. The estimated gross profit and net profit for the supply sector are reported in chart 13.17.

Chart 13.17 Refining and supply petrol gross and net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

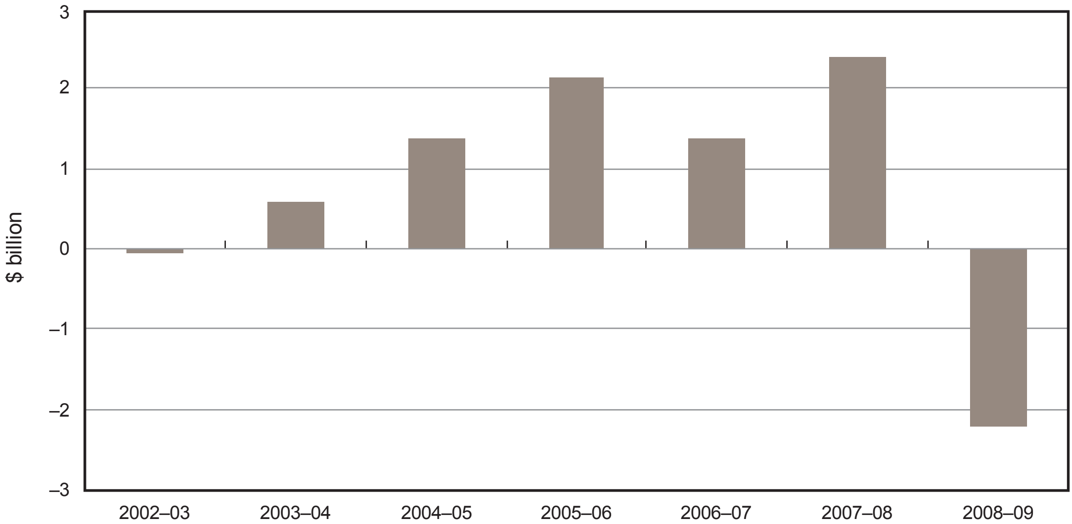
13.11 Refining and supply profitability from a shareholder's perspective

The previous section reported profitability from a motorist's perspective. This section reports the financial performance of companies in the industry from the shareholders' perspective.

Refining and supply reported its largest profit in 2007–08, at a time of peak economic activity and rising crude oil prices. Chart 13.18 shows refining and supply earned a net profit between 2002–03 and 2007–08, and incurred a loss of $2.2 billion in 2008–09.

The loss was primarily due to the effect on inventories of falls in international prices of petrol and other products. Losses arising from foreign exchange movements were also substantial.

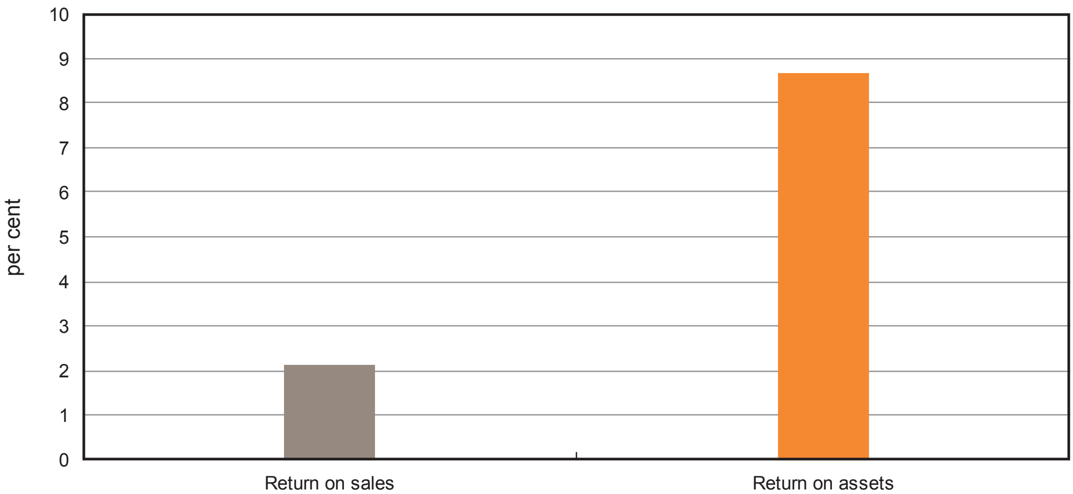
Chart 13.18 Refining and supply net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Chart 13.19 shows that the annual average return on sales from 2002–03 to 2008–09 was 2 per cent. The average return on assets over the same period was 9 per cent. The return on assets profit indicator can be affected by changes in inventory values, as well as the allocations of assets between refining and supply and wholesale.

Chart 13.19 Refining and supply return on sales and return on assets: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

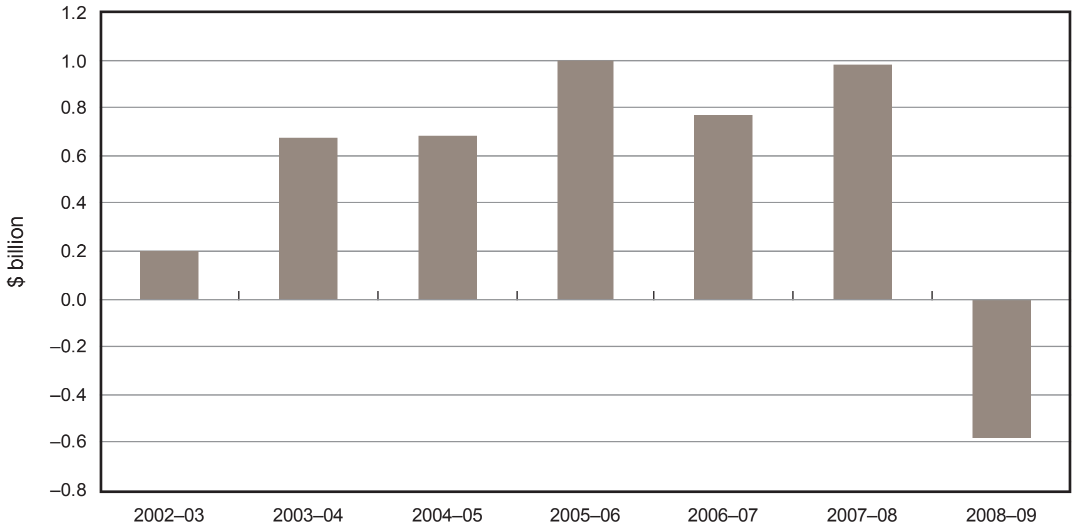
Note: Revenues exclude excise and GST.

13.11.1 Refining and supply petrol profits

The ACCC has estimated profits on petrol from refining and supply by deducting costs in refining and supply from its revenues. As with the refining sector, net profit (adjusted EBIT) has been used to calculate profits.

Indicative petrol net profits in refining and supply were highest in 2005–06, at $1 billion, and petrol incurred a net loss of $580 million in 2008–09, as shown in chart 13.20.

Chart 13.20 Refining and supply indicative petrol net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Refining and supply indicative return on sales has averaged just over 2 per cent for the monitored period.

13.12 Refining and supply profitability in perspective

To provide some context for the profit results of refining and supply, the ACCC has identified businesses that undertake similar activities in downstream petroleum.

For comparison purposes, the results of Australian manufacturing industries remain relevant. The ACCC has also compared refining and supply's results to those of independent refiners in other countries, using the same companies as in the refining analysis at 13.5.2 This is likely to provide a more reliable analysis of the profitability of refining and supply, since those comparable companies undertake more activities than stand-alone refining. The international refineries often have other sector activities such as wholesaling or marketing, making a refinery-only comparison difficult.

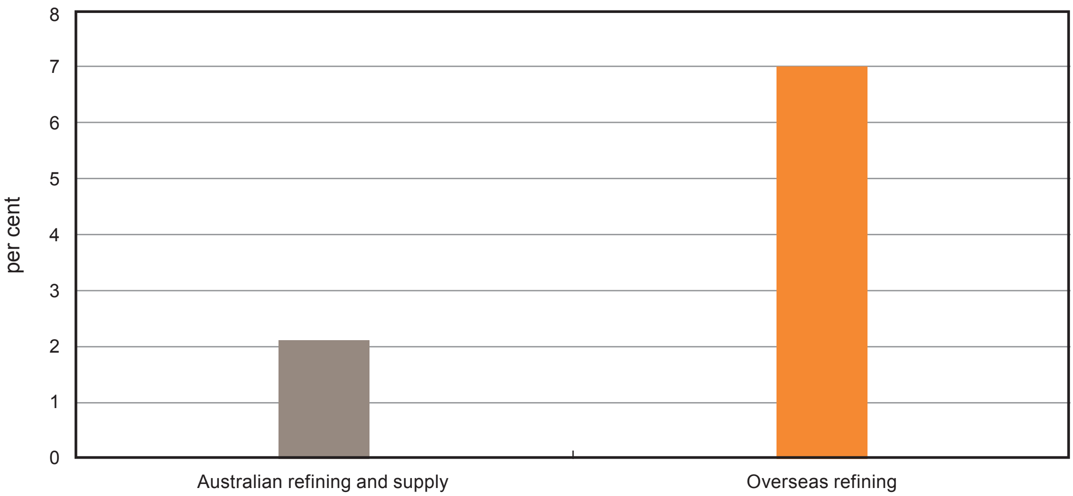
13.12.1 Australian company profitability

The results for Australian manufacturing industries are reported in charts 13.8 and 13.9. From those results, it appears that on a return on sales and a return on assets basis refining and supply is at the lower end compared to other sectors.

13.12.2 International comparisons

The annual average return on sales and return on assets in refining and supply do not appear to be higher than the profits of comparable overseas petroleum companies. Charts 13.21 and 13.22 show the results for refining and supply and overseas refineries.

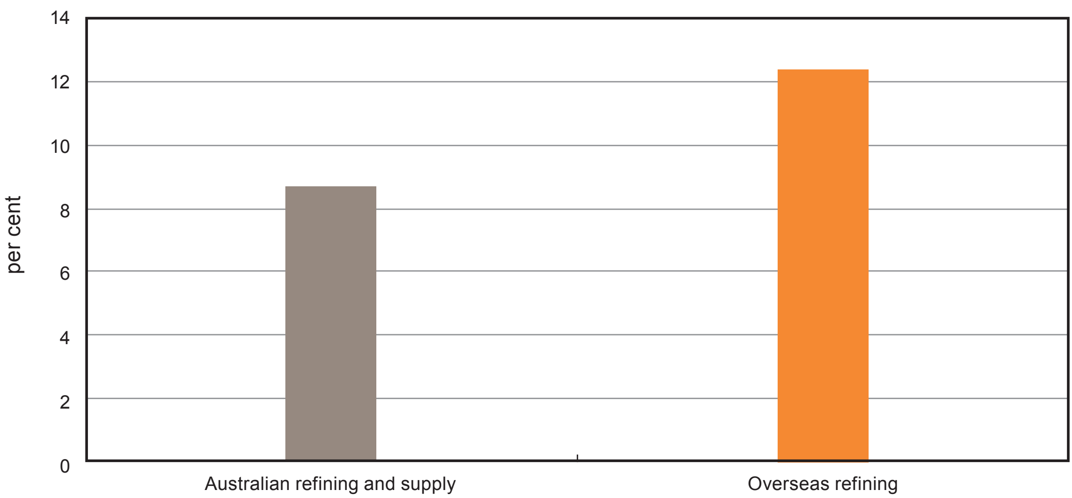
Chart 13.21 Refining and supply and international refineries return on sales: 2002–03 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

Note: Revenues exclude excise and GST.

Chart 13.22 Refining and supply and international refineries return on assets: 2002–03 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

13.13 Refining and supply in detail

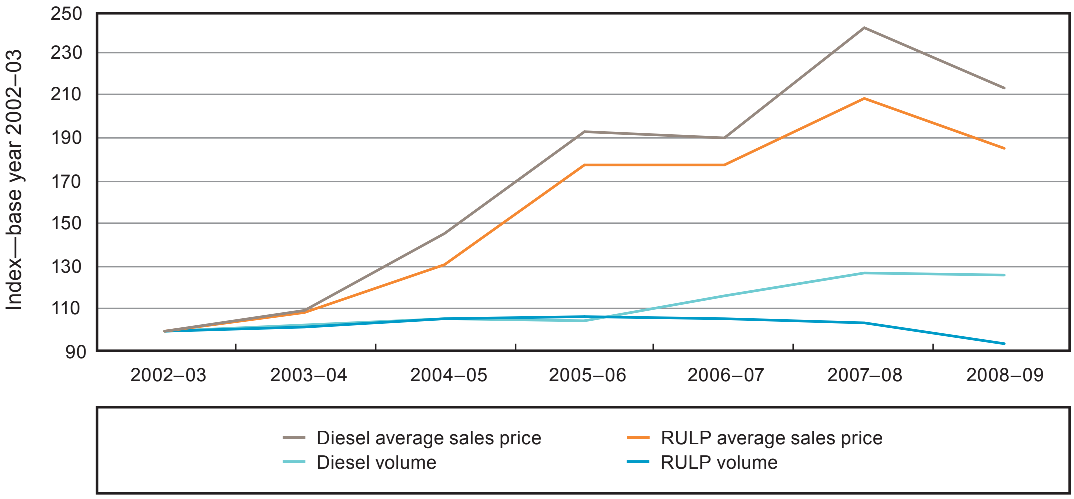
13.13.1 Changes in product mix

Two factors affecting refining and supply's revenues are changes in the volumes of products sold as well as the price of those products. Changes in the sales volume of individual products can affect revenues even where there are no price changes.

Chart 13.23 presents RULP and diesel indexed average revenues per litre and volumes from 2002–03 to 2008–09, with 2002–03 as the base year. Diesel revenues per litre at the end of 2008–09 were 117 per cent above 2002–03 revenues, whereas their volume increased by 26 per cent over the same period.

RULP average revenues per litre have increased by 80 per cent over the same period, whereas volumes of RULP sold by refining and supply decreased by 6 per cent. Revenues for both products peaked during 2007–08. The combined impact of price and volume changes affects revenues received by refining and supply.

Chart 13.23 Index of refining and supply RULP and diesel revenues and volumes: 2002–03 to 2008–09

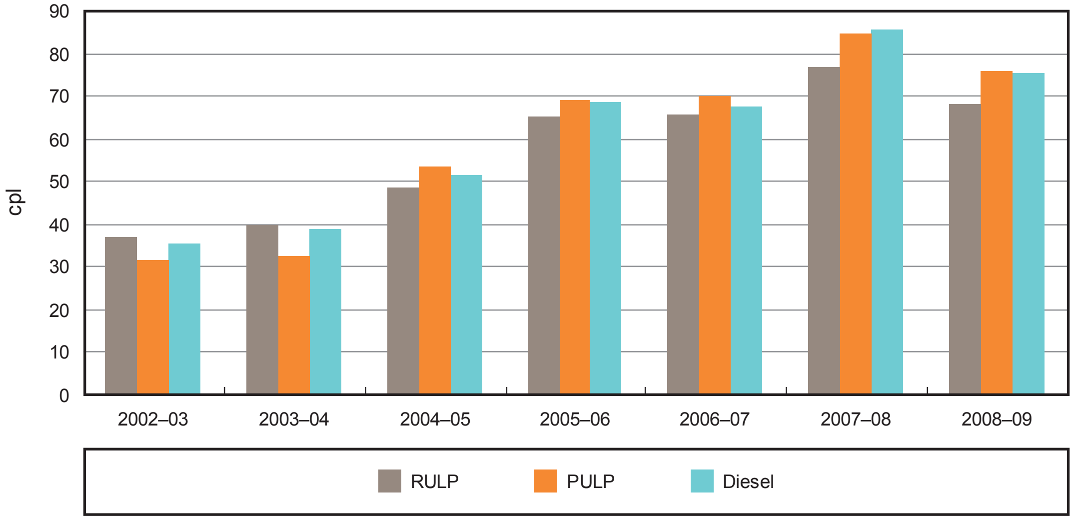


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

13.13.2 Average sale prices earned by refining and supply

From the sales and volumes results, the ACCC has estimated the average revenue per litre of petrol and diesel. These prices may be indicative of wholesale purchase prices (see chart 13.24).

Chart 13.24 Refining and supply average revenue by product: 2002–03 to 2008–09



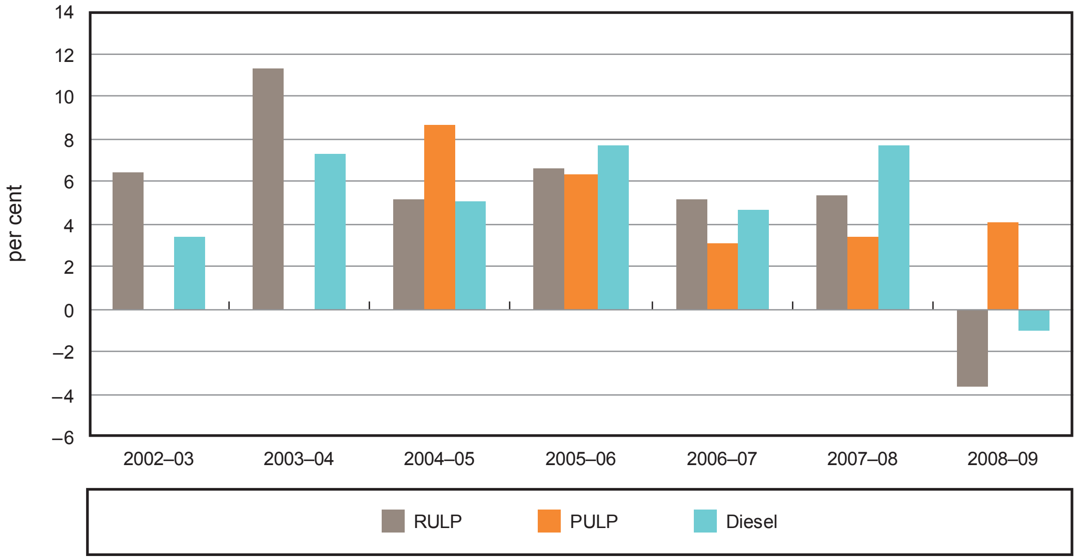
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

Chart 13.25 shows the estimated gross profit per litre for petrol and diesel.[6] In 2008–09, RULP reported a negative gross profit. While it is difficult to see a specific trend in the data, diesel has been increasing its gross profit in cpl while RULP has remained relatively steady with an average gross profit of 5 cpl.

Key factors affecting these results are the refinery gross profits on each product and the impact of the time lag between importing and reselling refining product. As the industry does not generally allocate refinery costs to specific products, and because of the refiner–marketers' accounting treatment of revenues and costs between refining and supply and wholesale, the estimates of product gross profits should be interpreted carefully.

Chart 13.25 Refining and supply petrol and diesel gross profit margins: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.[7]

Note: Revenues exclude excise and GST.

6 Some data covering PULP has been excluded from chart 13.25 to protect confidentiality of the results.

7 PULP data has only been included for 2004–05 to 2008–09.

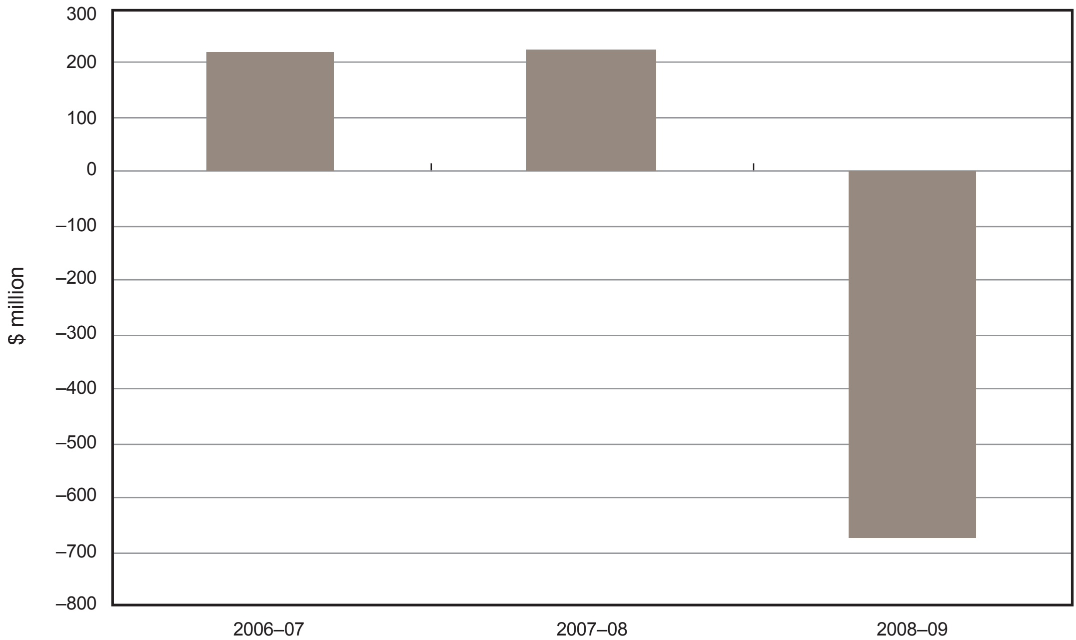
13.13.3 Foreign exchange gains and losses

A key part of refining and supply's activities is its international purchases of crude oil and refined petroleum products. Since those transactions are often priced in US dollars, changes in the exchange rate can create foreign exchange gains and losses. Depending on its tolerance for risk, a business may decide to hedge foreign currency movements. The ACCC understands from the industry that many companies do not use foreign exchange derivatives to manage those risks.

The foreign exchange gains and losses are shown in chart 13.26. The industry made foreign exchange gains of around $200 million in 2006–07 and 2007–08.

In 2008–09 the industry incurred foreign exchange losses of more than $650 million.

Chart 13.26 Refining and supply foreign exchange gains and losses: 2006–07 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

13.14 Themes in this chapter

Key themes in this chapter are:

- From a motorist's perspective, profit on petrol for 2008–09 was –0.4 cpl in the refinery sector, and around –3 cpl in refining and supply.
- Total refinery revenues and costs rose each year from 2002–03, except for 2008–09. The same pattern occurred with petrol revenues and costs.
- Total refinery sales volumes fell between 2002–03 and 2008–09.
- Total refinery net profit peaked in 2005–06. But in 2008–09 refining reported a loss of $277 million and refining and supply in total reported a loss of $2.2 billion.
- Net profit for petrol in the refining sector peaked in 2005–06 and incurred a loss of nearly $54 million in 2008–09. The loss in refining and supply on petrol was almost $583 million.
- The returns on sales and assets of refining and supply appear to be in line with Australian manufacturing industries and overseas companies.

14 Wholesaling and retailing revenues, costs and profits

The wholesaling of petroleum products involves purchasing and reselling refined product to retail and commercial customers. The wholesale sector supplies fuel and other products to commercial users such as primary producers and aviation and mining companies, as well as to retailers and other wholesalers. Each refiner–marketer has a substantial wholesale network. Similarly, independent wholesalers also supply their own retail outlets, independent retailers and other smaller wholesalers. Some wholesalers import directly from overseas sources.

In the retail sector more than 6000 individual service stations are supplied by wholesalers. These include the large branded service station chains, supermarket-branded sites and small independents. Retailers provide petrol, diesel, liquefied petroleum gas (LPG) and other products. Revenues from convenience store products, car wash services, restaurant services, access to automatic teller machines, and shop/site rental income are increasingly important to retailers.

14.1 Wholesale revenues and costs

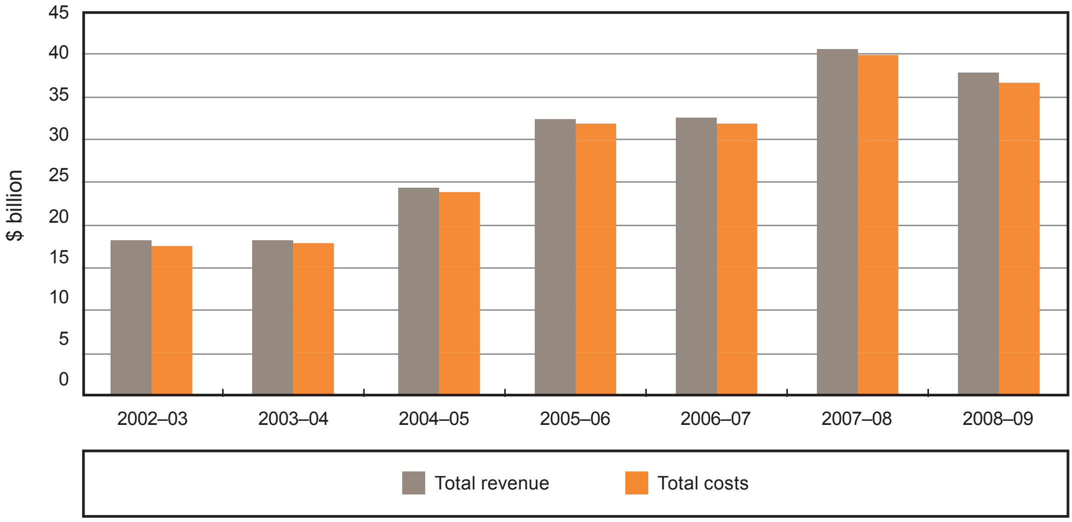
Revenues earned by wholesalers reflect the prices and volumes of fuel products sold to service stations and commercial buyers. Most revenues come from the sale of unleaded petrol[1] and diesel products, but LPG is another important product.

In most instances petroleum revenue is relatively simple to measure. However, some petroleum wholesalers offer price support to their retail customers, usually in the form of a rebate or discount on the wholesaler's invoice price. In some years, price support can be a substantial discount to retailers. To calculate wholesale revenues received by the petroleum companies, price support has been deducted from revenues. Excise and GST have also been excluded.

Overall wholesale revenues of the petrol companies surveyed for this report doubled between 2002–03 and 2008–09 to more than $37 billion. Wholesale revenue growth averaged 14 per cent per annum from 2002–03 to 2008–09. Since volume increased at around 2 per cent per annum, the primary cause of wholesale revenue increases appears to be wholesale price increases in line with international benchmark prices. Chart 14.1 reports revenues and costs in wholesale.

1 The terms 'unleaded petrol' and 'petrol' are used interchangeably in this report.

Chart 14.1 Wholesale revenue and costs: 2002–03 to 2008–09



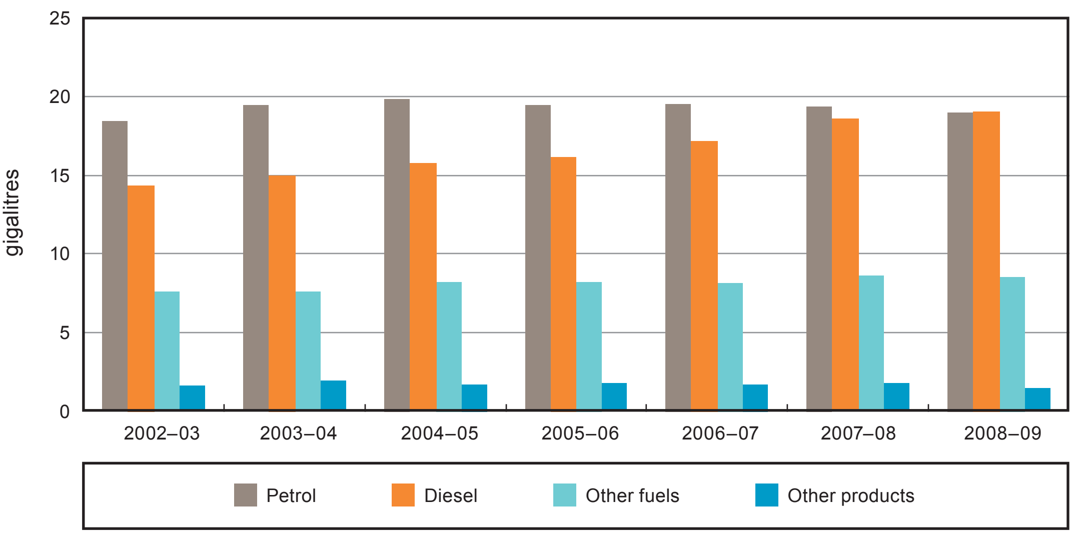
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues and costs exclude excise and GST.

Most costs in wholesale relate to the purchase of petrol, diesel and other products for resale. Other costs relate to the purchase of ethanol for blending with regular unleaded petrol (RULP), and to storage, transport and other selling expenses. Costs were lower than revenue in all years.

Petrol is no longer the highest volume product sold by wholesalers. Wholesale volumes of diesel have increased from 2002–03 to 2008–09, whereas petrol volumes have fallen since 2004–05, as shown in chart 14.2. In 2008–09 total volumes of diesel and other fuels (such as LPG) increased.

Chart 14.2 Wholesale sales volumes by product: 2002–03 to 2008–09



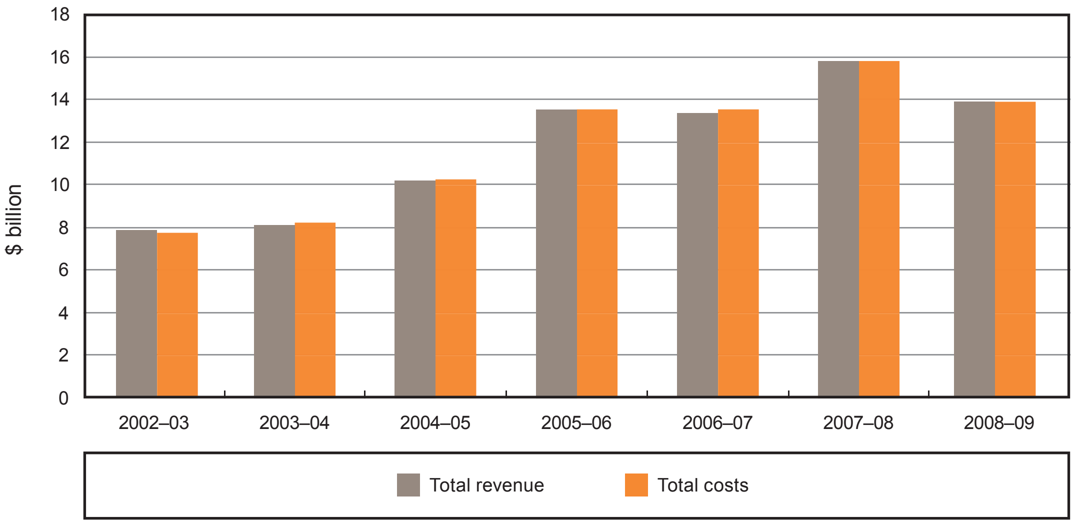
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

14.2 Wholesale petrol revenues and costs

In the wholesale sector, common facilities are used to store and transport the different petroleum products and manage the business. Depending on the accounting procedures used by individual companies, costs common to a number of products can be substantial. In estimating petrol costs, the common costs have been allocated to individual products by the ACCC. Consequently, the estimates in this section should be treated with caution.

Nevertheless, because it is relatively easy to identify the wholesale revenues and product purchase costs for each product, it is easier to allocate common costs to particular products in wholesale than in the refining sector. The ACCC has allocated these common costs according to the volume of individual products sold and chart 14.3 shows wholesale petrol revenues and costs.

Chart 14.3 Wholesale petrol revenue and costs: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

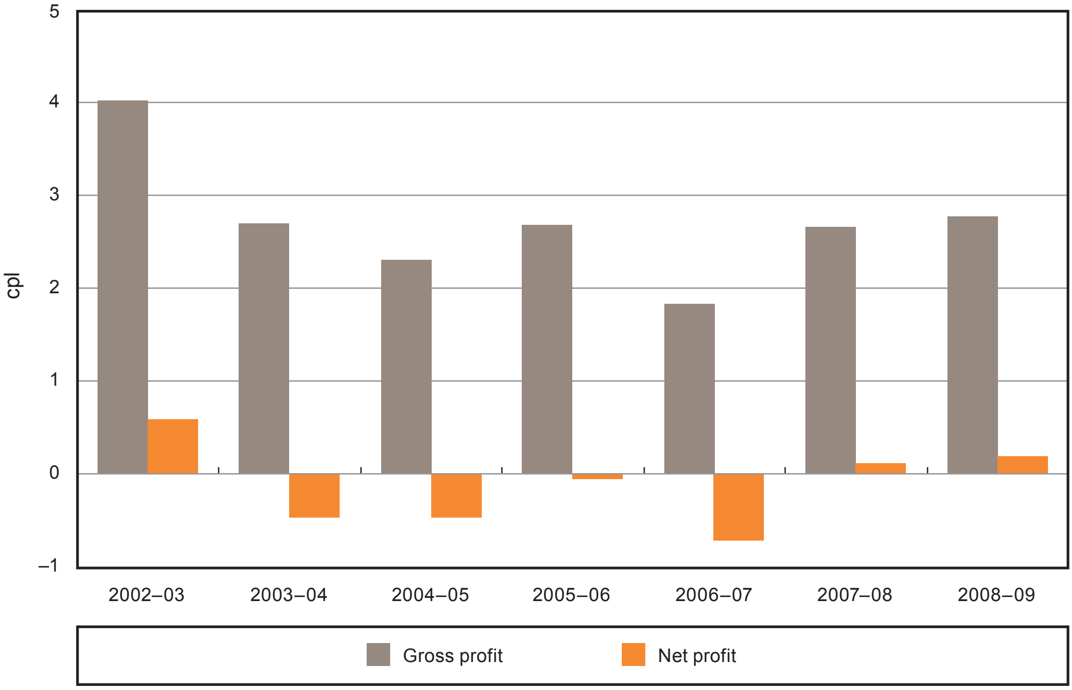
Note: Revenues and costs exclude excise and GST.

Petrol generates significant revenues in wholesale. Petrol revenues are estimated to have made up 43 per cent of total wholesale revenues in 2004–05, and 37 per cent in 2008–09. The decrease since 2004–05 was because of relatively lower petrol wholesale prices and volumes compared to non-petrol fuel prices and volumes. Diesel has increased its share of revenues and volumes, making up nearly 40 per cent of total wholesale revenues and volumes in 2008–09, as can be seen in chart 14.2.

14.3 Wholesale profitability from a motorist's perspective

The ACCC has estimated that for each litre of petrol sold to motorists and other users the wholesale sector usually received a gross profit of around 2 to 3 cents per litre (cpl) between 2002–03 and 2008–09.[2] That gross profit is used to cover operating expenses and after deducting those expenses the wholesale sector made a net loss on average.

Chart 14.4 Wholesale petrol gross and net profit: 2002–03 to 2008–09



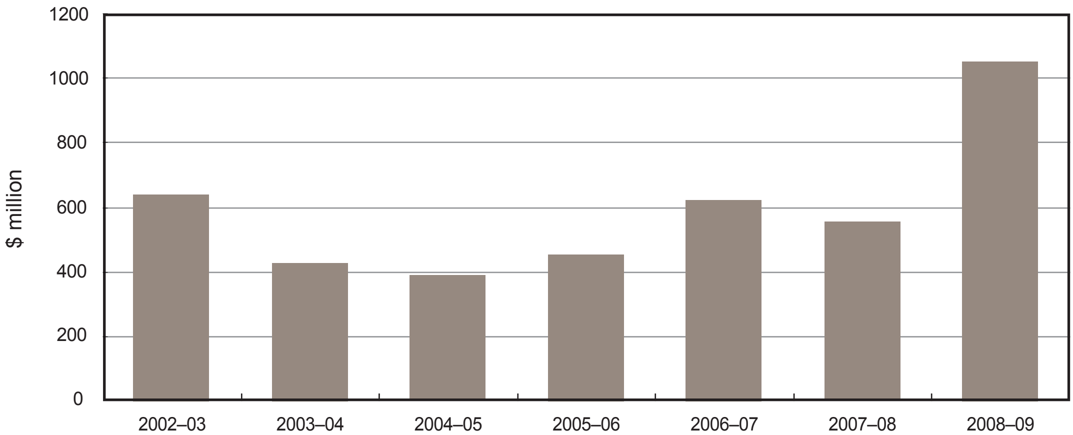
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

2 This calculation is based on the volume of petrol purchased by wholesalers and sold to retailers and other users. This method removed any double counting of volumes sold by one wholesaler to another.

14.4 Wholesale profitability from a shareholder's perspective

The difference between wholesale revenues and costs is wholesale profit. Wholesale net profit is shown in chart 14.5.

Chart 14.5 Wholesale net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

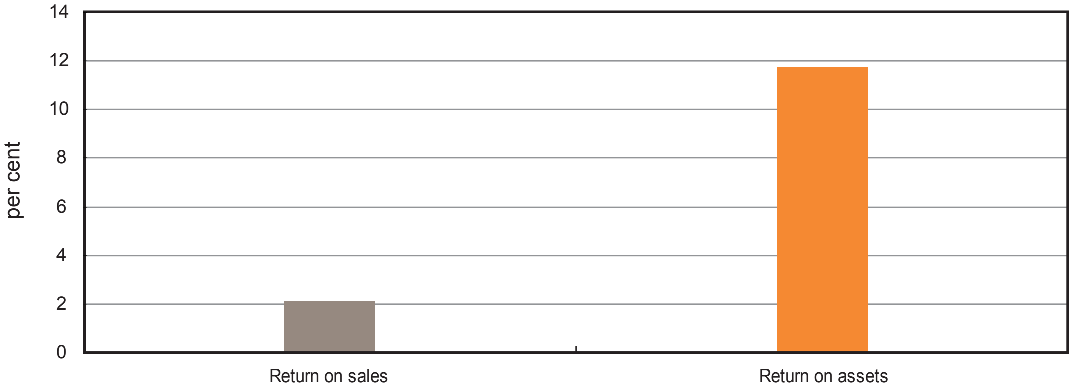
Net profit for the wholesale sector averaged around $500 million per year from 2002–03 to 2007–08 and increased to $1 billion in 2008–09. The ACCC requested additional information from petrol wholesalers to explain this increase in profit.

Wholesalers provided several explanations for the increase. Some indicated that it was due to the nature of their contractual arrangements with large commercial buyers of diesel. Specifically, under these contracts diesel prices were based on average prices from a period before the date of the transaction. In the context of falling prices, the effect of this price arrangement was to make revenues higher than if the price on the transaction date had been used, creating profits in wholesale. Wholesalers also mentioned that their profits were affected by some contractual arrangements with buyers that limited immediate price changes. Exchange rate changes and cost reductions were other explanations. The impact on profits of price changes and foreign exchange movements should even out over time.

Other factors that may have caused the result are the companies' own accounting methods. For companies operating in more than one sector, their internal accounting procedures can affect the revenues and costs—and therefore profits—allocated to wholesale.

Using the return on sales profit measure, profits in the wholesale sector averaged 2.1 per cent of sales over the seven years to 2008–09 and were relatively consistent from year to year. The annual average return on assets for the wholesale sector averaged 11.7 per cent over the same period (see chart 14.6).

Chart 14.6 Wholesale return on sales and return on assets: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

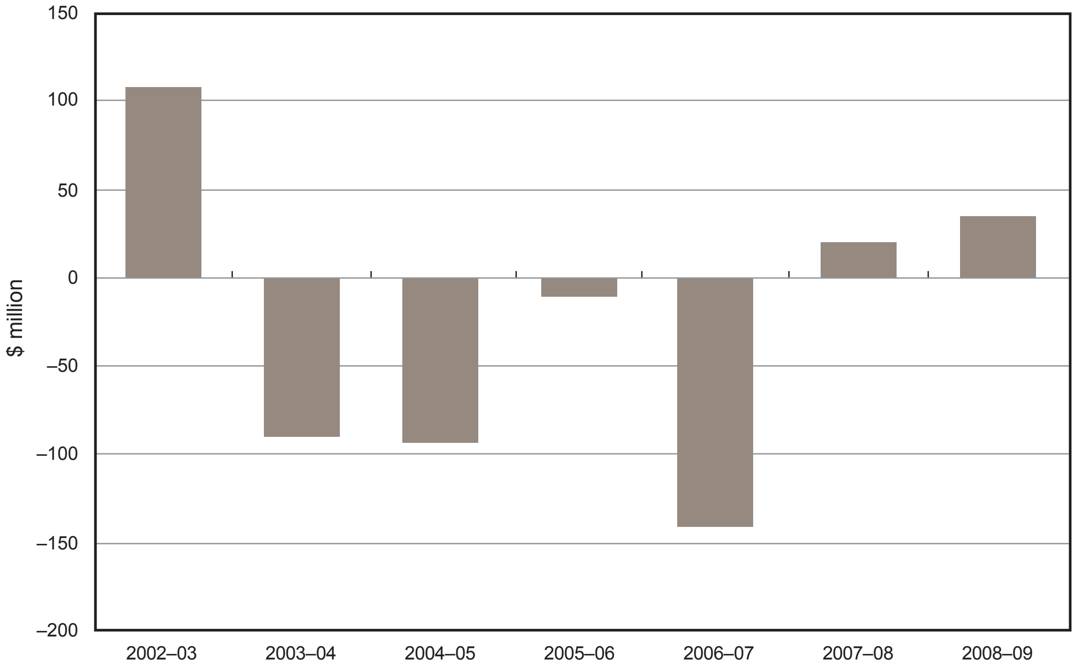
Note: Revenues exclude excise and GST.

14.4.1 Wholesale petrol profits

In 2002–03, estimated profits from the sale of petrol accounted for almost one-fifth of the profits of the wholesale sector (see charts 14.5 and 14.7). However, that was no longer the case as the majority of wholesalers have reported losses for RULP which are larger than the net profits derived from premium unleaded petrol (PULP) and ethanol blended petroleum (EBP). In contrast, diesel appears to have generated more profits than petrol, through increased volumes and higher gross profit margins.

Between 2003–04 and 2006–07, petrol profits in the wholesale sector overall were negative. Also, the annual average return on sales for petrol in wholesale from 2002–03 to 2008–09 is slightly below zero per cent. While the wholesale sector overall has reported profits, and some companies have made profits on petrol, other companies have reported significant losses on petrol. However, that result should be interpreted carefully as the accounting practices adopted by companies operating with both wholesale and supply or retail sectors may have affected the allocation of revenues, costs and profits between those sectors.

Chart 14.7 Wholesale petrol net profit: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

14.5 Wholesale profitability in perspective

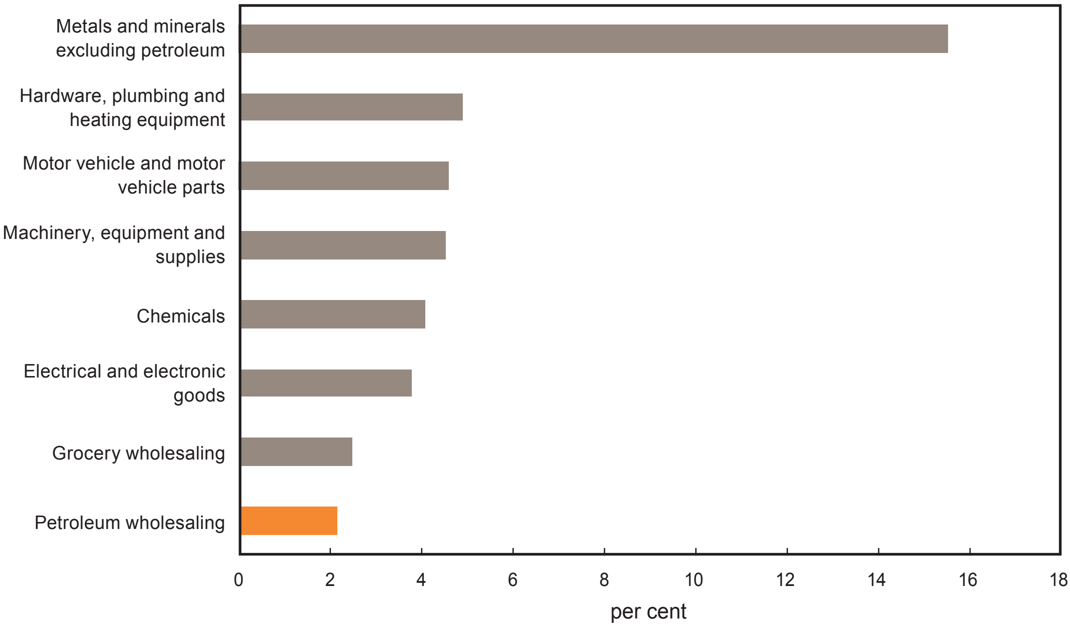
To provide some industry context for the Australian petroleum wholesale sector, the ACCC has compared the results from that sector to those of companies in other industries that also perform wholesale activities.

14.5.1 Australian wholesale profitability

As a basis for comparison, the ACCC has identified Australian wholesale companies[3] across a number of different industries. Charts 14.8 and 14.9 show return on sales and return on assets for the petroleum wholesalers and wholesalers in other sectors. In general, the return on sales results for petroleum wholesalers is at the bottom, whereas return on assets is ranked towards the top of the range.

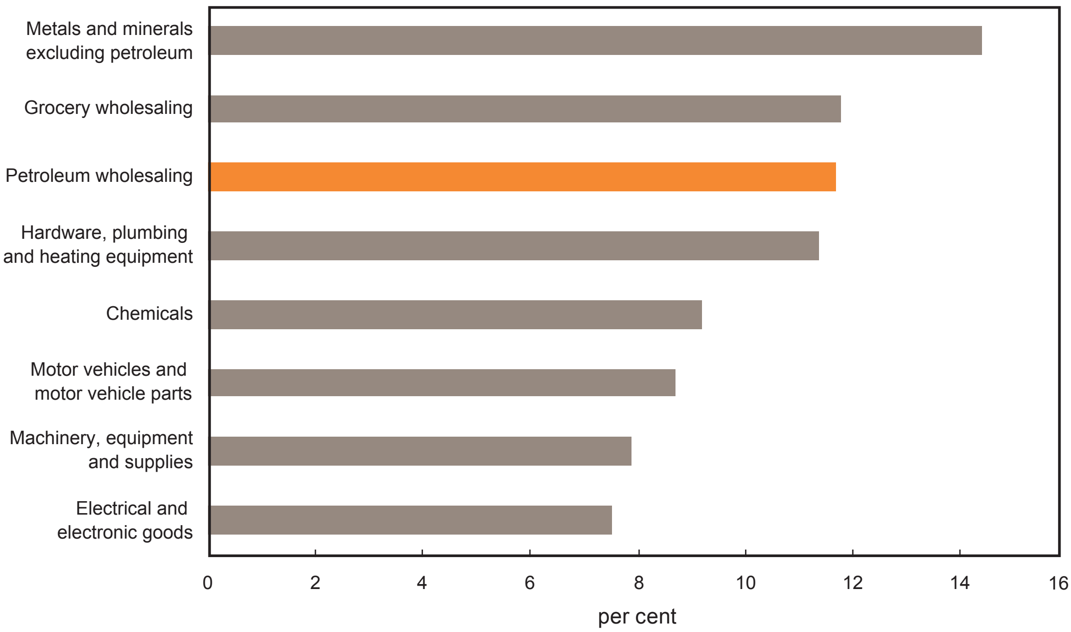
3 The ACCC has used the Bureau van Dijk Orbis database to identify Australian companies involved in different wholesaling sectors.

Chart 14.8 Selected Australian wholesale industries return on sales: 2002–03 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

Chart 14.9 Selected Australian wholesale industries return on assets: 2002–03 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

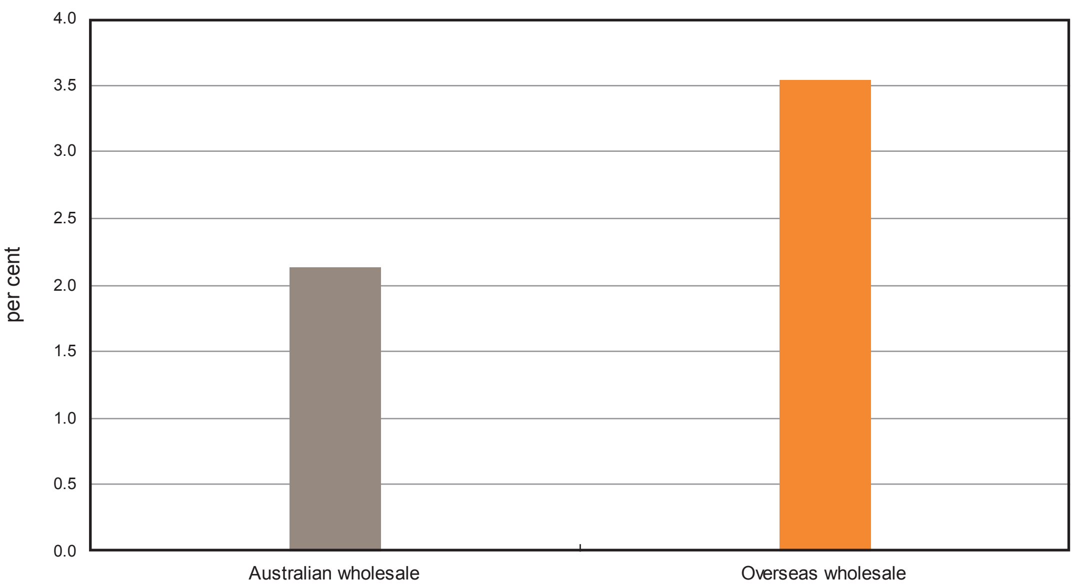
14.5.2 International comparisons

The ACCC has compared the Australian wholesale petroleum sector with petroleum wholesalers operating in other Organisation for Economic Co-operation and Development (OECD) countries. This comparison provides a perspective on the performance of the Australian wholesalers compared to companies performing similar activities with similar products. The profit results of the international firms[4] reflect the impact of international petrol price movements, as well as their local situations. For these companies the ACCC has calculated the ratios of return on sales and return on assets.

The returns on sales for the international petroleum wholesalers are on average slightly better than those of the Australian petroleum wholesalers. Over the seven-year period to 2008–09, selected international companies achieved an average return of 3.5 per cent on sales (compared to 2.1 per cent for the Australian companies), while their return on assets was 6 per cent (compared to 11.7 per cent for the Australian companies). These results are shown in charts 14.10 and 14.11. On a return on assets profit indicator, the Australian wholesale industry appears to be more profitable than its international counterparts, which may reflect a more efficient use of assets or different accounting arrangements.

The overseas companies used for that comparison are stand-alone wholesalers, while the largest wholesalers in the Australian industry operate as part of a larger refiner–marketing business. The asset allocations to the wholesale sector may not be on the same basis as the stand-alone international companies and the return on assets calculation needs to be interpreted with caution.

Chart 14.10 International and Australian petroleum wholesale companies return on sales: 2002–03 to 2008–09

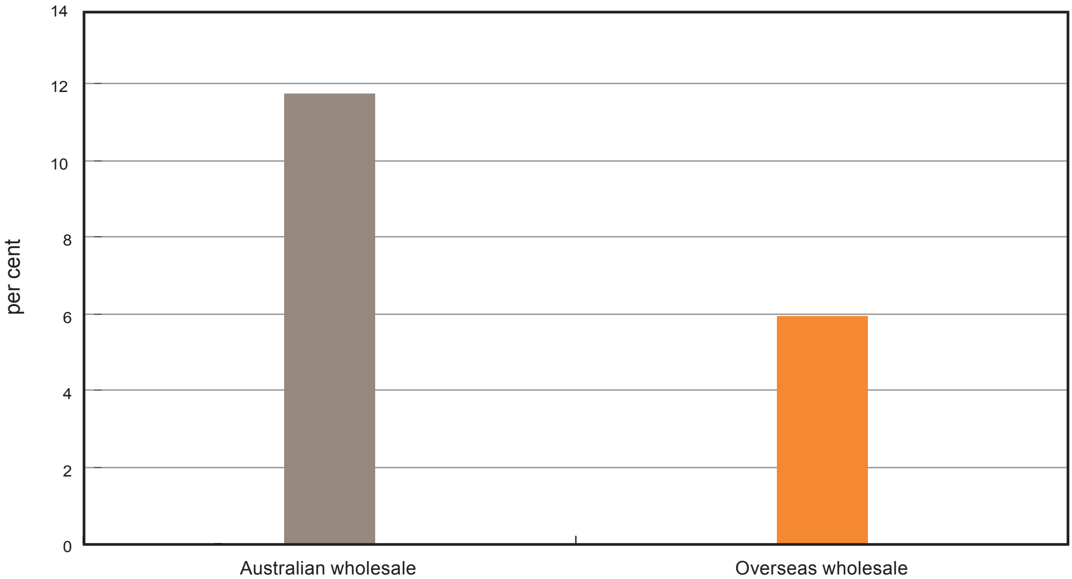


Source: Bureau van Dijk Orbis database, ACCC calculations.

Note: Revenues exclude excise and GST.

4 The ACCC used the Bureau van Dijk Orbis database to identify petroleum wholesalers in other OECD countries. The ACCC searched for petrol wholesalers that were of broadly similar size to Australian wholesalers and undertook business activities similar to Australian companies.

Chart 14.11 International and Australian companies wholesale return on assets: 2002–03 to 2008–09



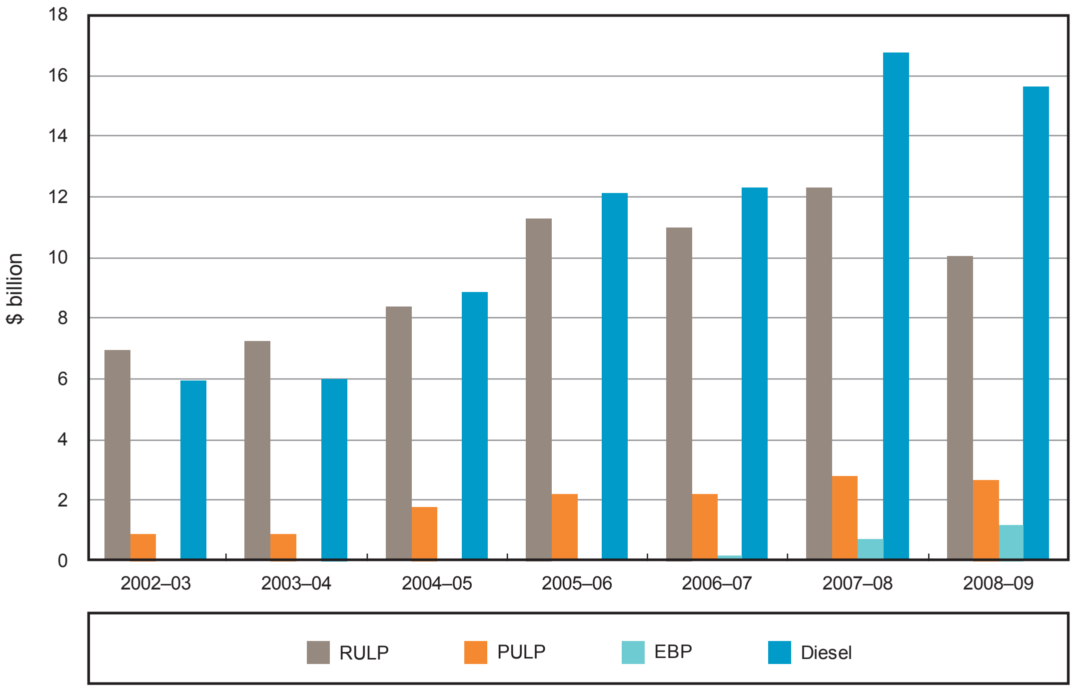
Source: Bureau van Dijk Orbis database, ACCC calculations.

14.6 Wholesale in detail

14.6.1 Petrol revenues and volumes

Wholesale revenue from petrol accounted for approximately 40 per cent of total revenues in 2002–03, but this fell to 37 per cent in 2008–09. The mix of products provided by wholesalers has been changing. Diesel is increasingly being sold in higher volumes, leading to increased revenues in 2007–08 and 2008–09 (see chart 14.12).

Chart 14.12 Wholesale petrol and diesel revenue: 2002–03 to 2008–09



Source: Data provided to the ACCC by the monitored companies.

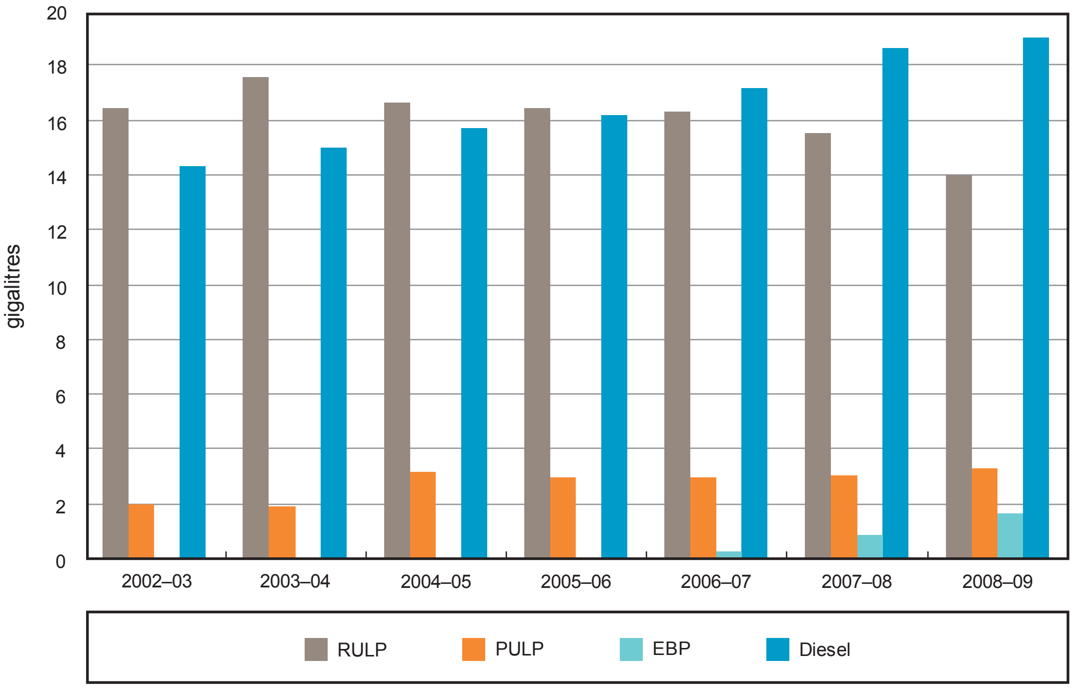
Notes: Revenues exclude excise and GST.

EBP is ethanol blended petrol.

Diesel sales revenue first exceeded the sales revenue from RULP in 2004–05. This change reflects not only increased demand for the product by the resources and commercial sectors but the rise in petroleum product prices generally.

The volumes of product sold also affect product revenue. The overall trend in wholesale is declining sales of petrol after 2005–06 and increasing diesel sales since 2002–03 (see chart 14.13). Increased sales volumes of PULP and EBP have not been sufficient to maintain overall petrol sales volumes.

Chart 14.13 Wholesale petrol and diesel sales volumes: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

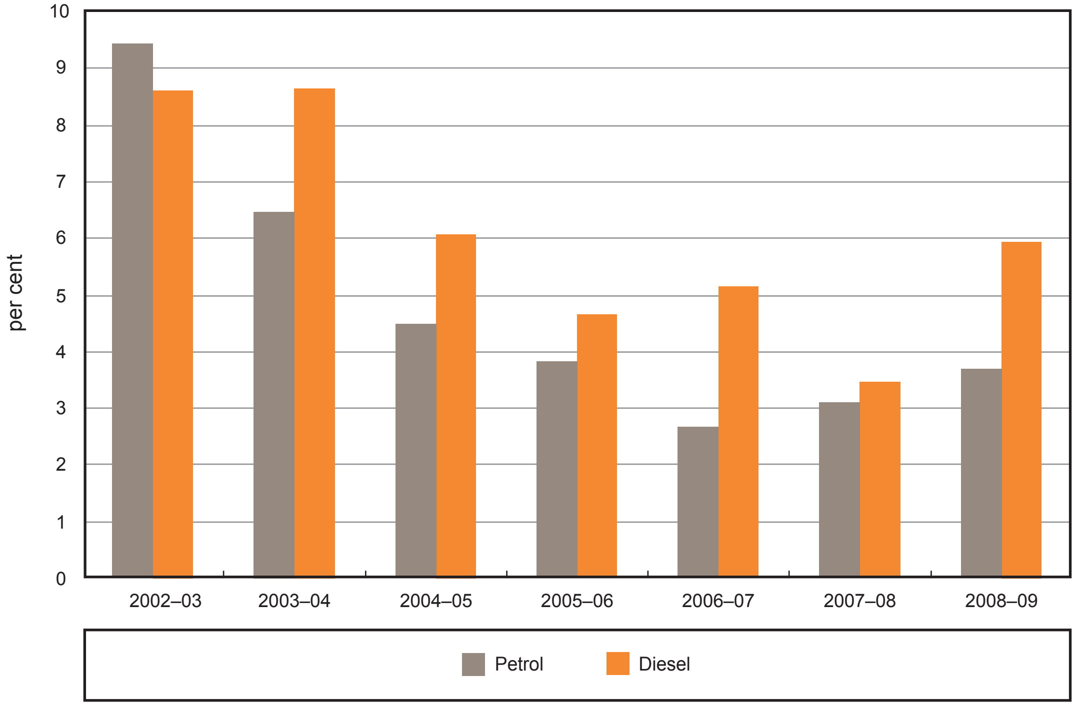
14.6.2 Gross profit on petrol and diesel

Gross profit takes into account revenues received, the cost of purchasing the product and other direct costs involved in bringing the fuel to sale. As such, gross profit does not take into account operating expenses that are not product-specific and reflects the gains from buying and selling the physical product. The average reported gross profit margins on petrol and diesel are shown in chart 14.14.[5]

Wholesale gross profit margins on diesel have exceeded the gross profit margins on petrol since 2003–04. On average diesel margins have been 1 per cent higher than petrol for the seven years. Gross margins for diesel were 6 per cent in 2008–09 and less than 4 per cent for petrol.

5 These calculations of gross margin are based on deducting the IPP based purchase price from wholesale revenues but also take into account transport and freight and other costs of purchase.

Chart 14.14 Wholesale petrol and diesel gross margins: 2002–03 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

14.7 Retail revenues and costs

Since 2002–03 the retail market share of the firms covered by the ACCC's survey has increased substantially. This was especially the case up to 2005–06 when the market shares of Coles and Woolworths were expanding rapidly. In this context, the ACCC does not consider the survey results between 2002–03 and 2004–05 to be as representative of the retail sector as those in the later years, and has excluded that period from this chapter except where the analysis requires a longer time frame.

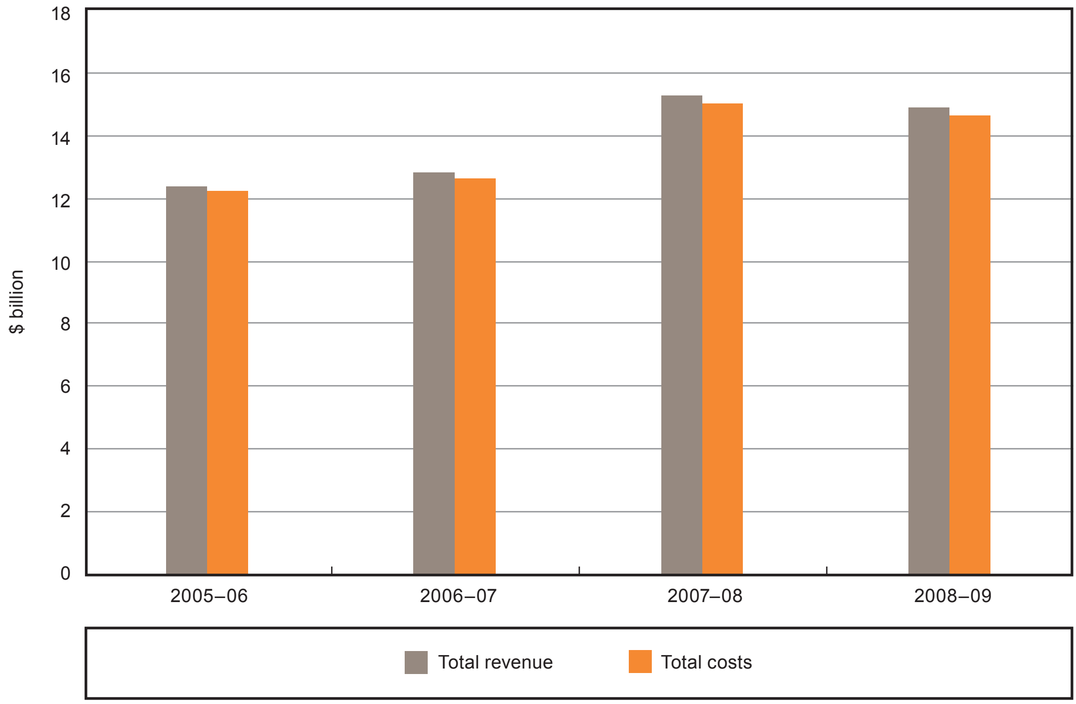
Fuel retailers derive revenues from the sale of petrol, diesel, LPG and other products to consumers and businesses. Some refiner–marketers offer a fuel card to encourage customer loyalty to the same fuel brand.

While the vast majority of revenue comes from the sale of fuel, revenues from non-fuel products and services are important. Some retailers have established 24-hour fuel and convenience store businesses to improve customer traffic, site utilisation and spend per visit. Other non-fuel revenues come from ATM hosting, car-wash services, trailer hire, barbecue gas bottle exchange schemes and site hire to other businesses, including fast-food franchises.

Retail revenues and costs are shown in chart 14.15. Overall revenues and costs increased by around 20 per cent between 2005–06 and 2008–09, primarily reflecting the increased price of fuel.

In 2008–09 convenience store sales for petrol retailers averaged 15 per cent of total retail sales.

Chart 14.15 Retail revenues and costs: 2005–06 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

Total retail costs have generally moved in line with retail revenues. Changes in costs over this period primarily resulted from changes in the wholesale purchase price of fuel, reflecting import parity prices.

The cost of petrol, diesel and other fuels generally represents the most significant cost, at around 80 per cent of total retail costs. Other costs include merchandise for convenience stores, salaries and employee benefits, rent and leasing, depreciation, and repairs and maintenance.

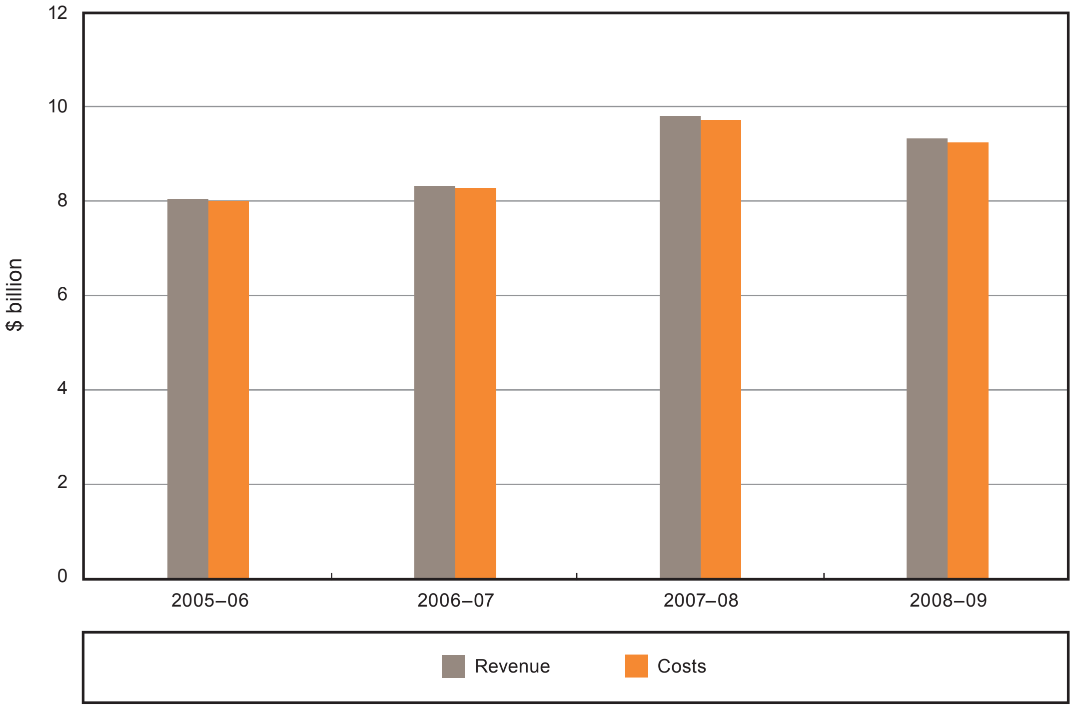
14.8 Retail petrol revenues and costs

Estimating the costs of petrol is difficult in retail. While the revenues and costs of individual products are clearly specified on the price board or on the delivery invoice, some costs are not directly attributable to one product specifically. As in the supply and wholesale sectors, the retail sale of petrol uses facilities and services in common with other fuels and products. It also often uses the same shopfront and counter staff as the sale of convenience store merchandise. Other costs—like repairs and maintenance, site leasing and salaries and wages—are not directly allocated by the industry to a particular fuel product.

To estimate profits from petrol in retail, the ACCC first allocated operating expenses to fuel and non-fuel products and services. Costs allocated to fuel were then apportioned to specific fuel products on the basis of volume.

The estimated revenues and costs of petrol are shown in chart 14.16. The chart shows that estimated revenues from petrol are consistently greater than the costs associated with petrol.

Chart 14.16 Retail petrol revenues and costs: 2005–06 to 2008–09



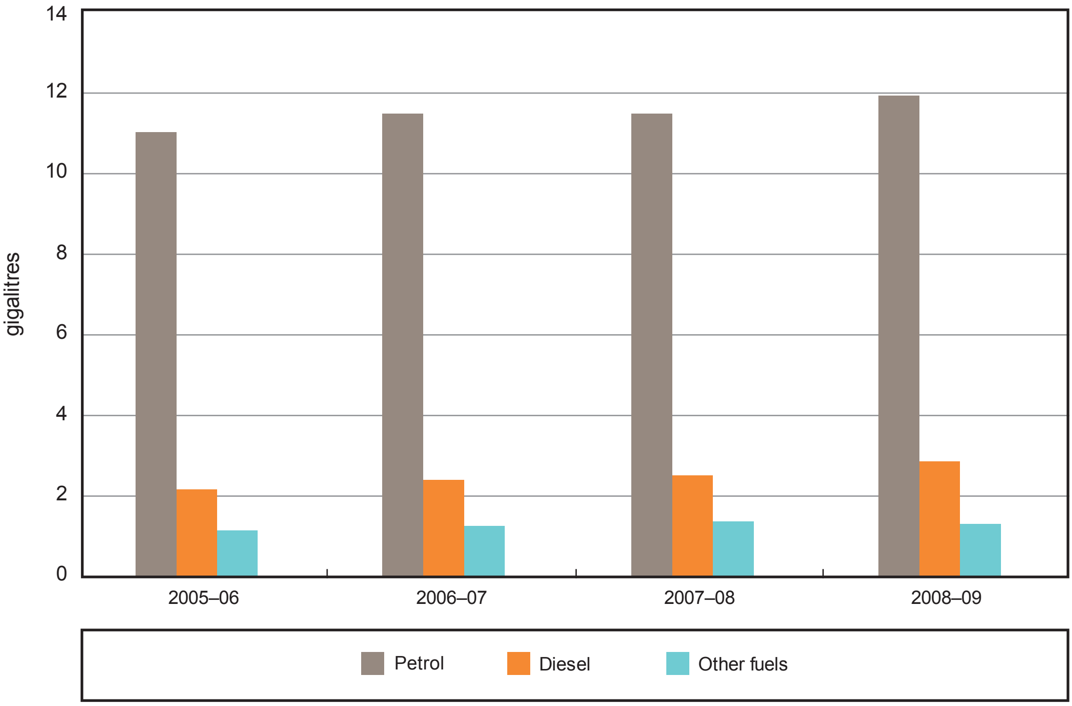
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

However, petrol revenues are now a slightly lower share of total retail revenues than they have been. Petrol revenues amounted to 65 per cent of total revenues in 2005–06, falling to 63 per cent in 2008–09.

Changes in revenues are attributable to changes in both prices and sales volumes of petrol, diesel and other products. Chart 14.17 shows petrol, diesel and other volumes. Petrol volumes made up 77 per cent of total retail fuel volumes in 2005–06 and then declined to 74 per cent in 2008–09. Diesel volumes increased from 15 to 18 per cent of total fuel volumes in 2008–09, while other fuels[6] provided relatively minor volumes.

Chart 14.17 Retail petrol, diesel and other fuels sales volumes: 2005–06 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

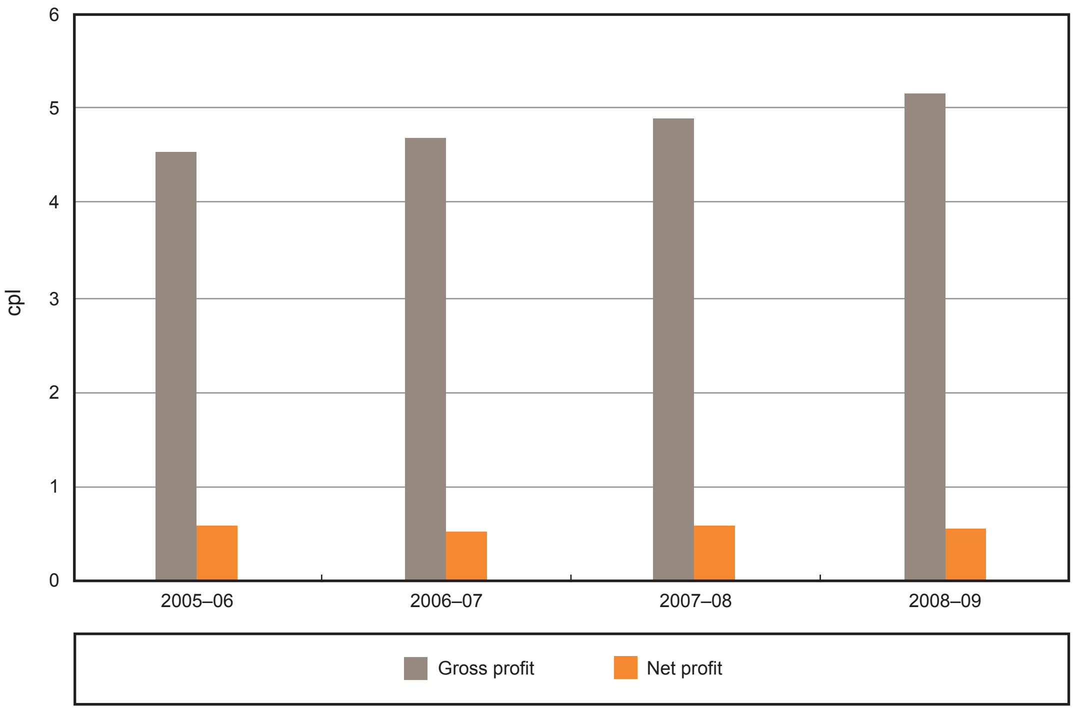
6 'Other fuels' includes lead replacement fuel, LPG and kerosene.

14.9 Retail petrol profitability from a motorist's perspective

From a motorist's perspective, the ACCC has estimated that around 5 cpl of petrol purchased was received by the retailer as gross profit. Gross profit for petrol increased slightly from 4.5 cpl in 2005–06 to 5.2 cpl in 2008–09, as shown in chart 14.18.

Not all of that gross profit was retained by the retailer, as each retailer has to cover operating expenses from that margin. After deducting operating expenses, the net profit for petrol was relatively steady at about half a cent per litre over the four years to 2008–09.[7]

Chart 14.18 Retail gross and net profit on petrol: 2005–06 to 2008–09



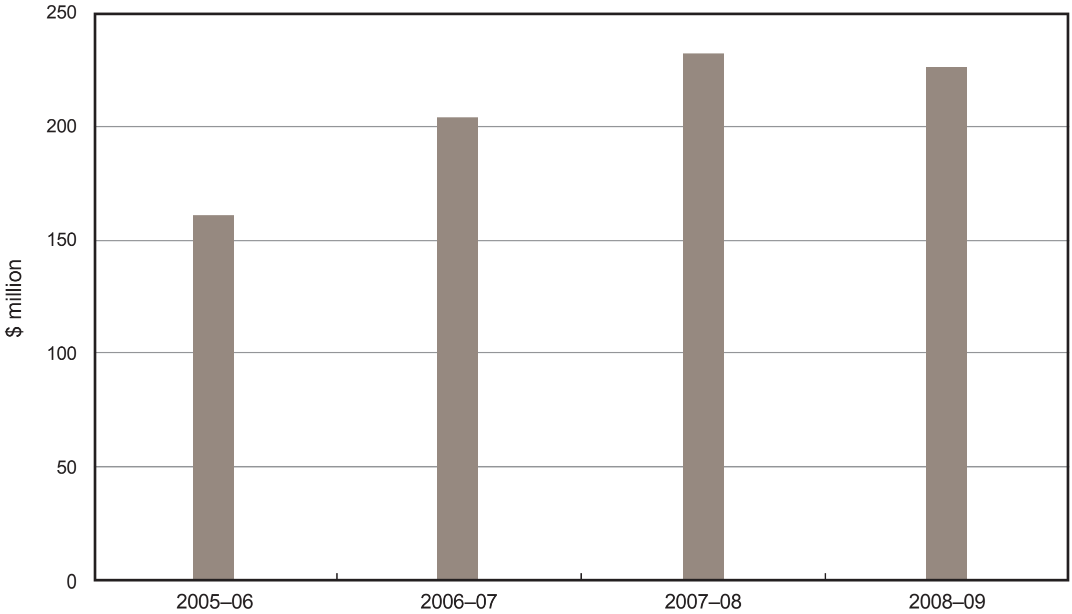
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

7 The net profit on petrol over the four years from 2005–06 to 2008–09 is slightly higher than the average net profit over the seven years reported in the summary.

14.10 Retail profitability from a shareholder's perspective

Using the same measures of profit as in other sectors, the ACCC has calculated net profit for retail overall. Total retail net profit, as shown in chart 14.19, has been in the order of $160 million to $230 million per annum.

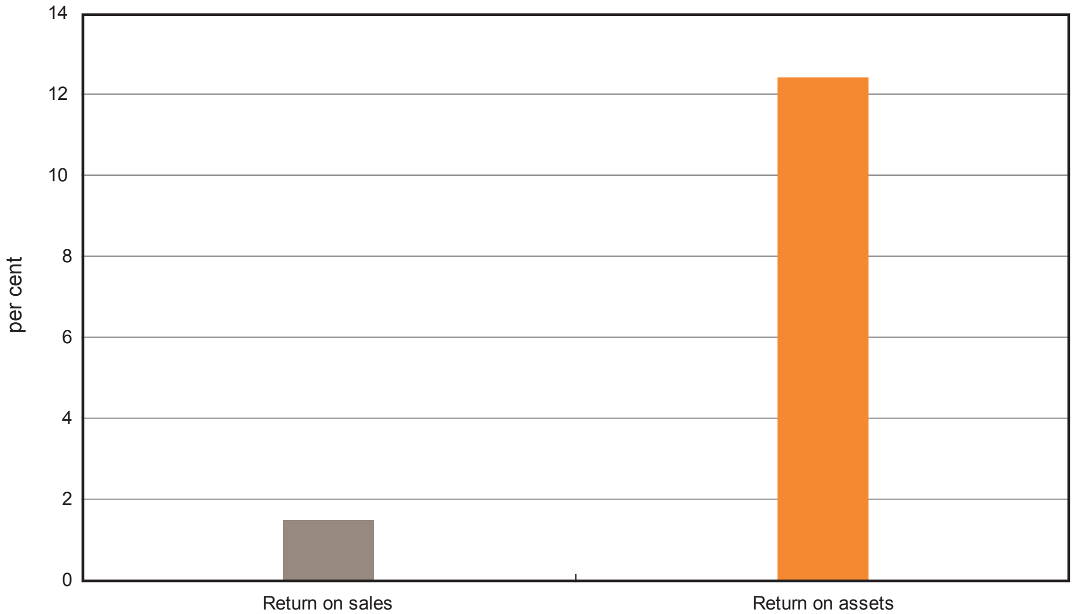
Chart 14.19 Retail net profit: 2005–06 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Using profit indicators of return on sales and return on assets, the ACCC has estimated that the retail sector as a whole has earned profit at an annual average rate of 1.5 per cent of sales, and 12.4 per cent of assets over the four years to 2008–09. The average annual results are shown in chart 14.20.

Chart 14.20 Retail return on sales and return on assets: 2005–06 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

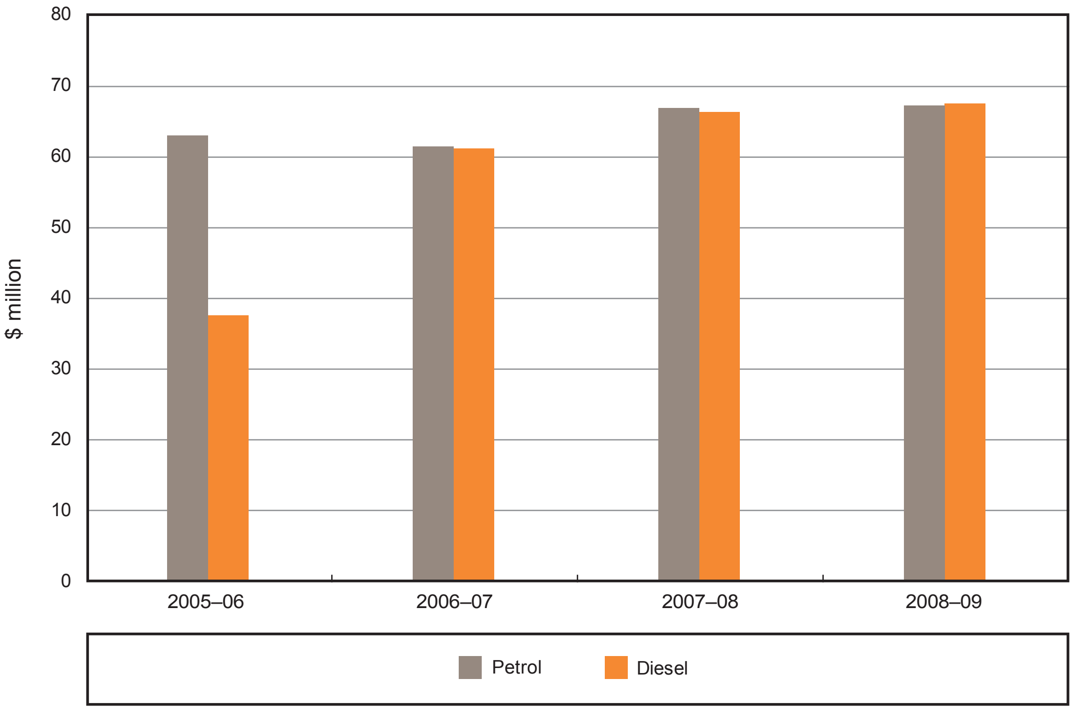
While the annual industry return on sales was relatively consistent from one year to the next, the annual return on assets varied above and below the annual average return. While an important reason for the variation in return on assets is the change in retail net profit, another reason is changes in the values of the product inventory and accounts receivable assets—for example, from sales to fuel card holders. Since the values of petrol, diesel and other fuel products change quickly, the values of a retailer's product inventories and receivables also change. Some retailers may have decided to lease—rather than own—petrol sites or equipment to reduce the assets used in the business.

14.10.1 Retail petrol profits

The ACCC has also calculated net profit for petrol. Petrol revenues and costs for the retail sector have been estimated in order to identify profits on petrol and other products. Since retailers basically operate a fuel activity and a non-fuel activity (that is, a convenience store), costs not already allocated to specific products were first allocated to fuel products and non-fuel products and services according to their share of gross profit. The operating expenses that were allocated to fuel products were then allocated to individual fuel products, like RULP and diesel, according to their relative volume. Indicative petrol profits in retail are shown in chart 14.21.

Indicative petrol net profit was approximately 39 per cent of retail net profit in 2005–06. By 2008–09 petrol's share of retail profits declined to an estimated 30 per cent. In contrast, an increase in indicative diesel net profit over the period has meant that diesel is contributing a similar level of profit to the retail sector as petrol.

Chart 14.21 Retail petrol and diesel net profit: 2005–06 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

The ratio of estimated petrol net profit to petrol sales is very low, and retailers require significant volumes to report a substantial profit. Indicative petrol net profit as a percentage of petrol sales remained relatively steady between 2005–06 and 2008–09, at an annual average rate of 0.7 per cent, equal to profit as a percentage of sales in 2008–09 at an estimated 0.7 per cent. This was less than the annual average estimated profit as a percentage of sales from diesel of 2.7 per cent.

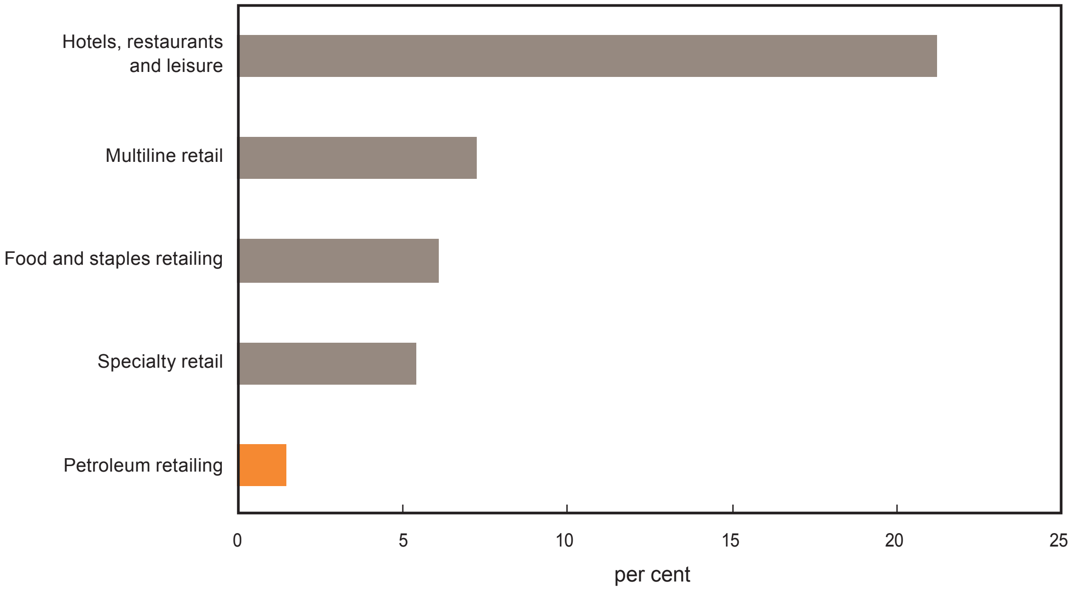
14.11 Retail sector in perspective

14.11.1 Australian retail profitability

The ACCC has compared profits in the petroleum retail sector with those of companies in a range of other retail sectors listed on the Australian Securities Exchange (ASX). In this comparison, petroleum retailing had the lowest annual average return on sales and the second-lowest return on assets of any sector. Charts 14.22 and 14.23 show the annual average results of S&P/ASX 100 listed retailers.[8]

8 The ACCC has calculated the annual average return on sales and return on assets for S&P/ASX 100 companies according to ASX industry sector.

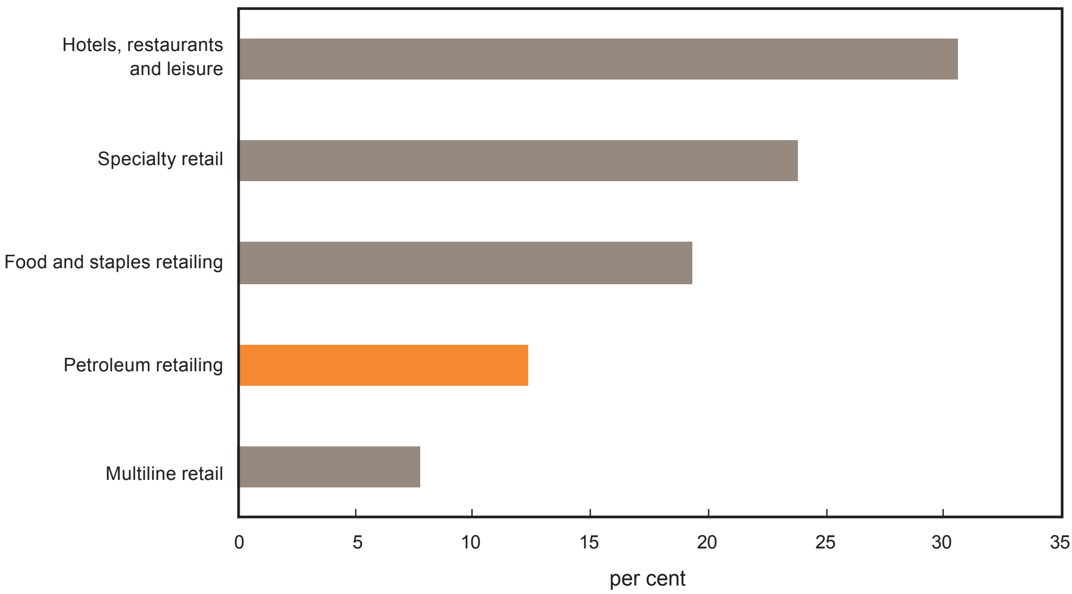
Chart 14.22 S&P/ASX 100 retailers compared to petrol retailing return on sales: 2005–06 to 2008–09



Source: Bloomberg, ACCC calculations.

Note: Revenues exclude excise and GST.

Chart 14.23 S&P/ASX 100 retailers compared to petrol retailing return on assets: 2005–06 to 2008–09



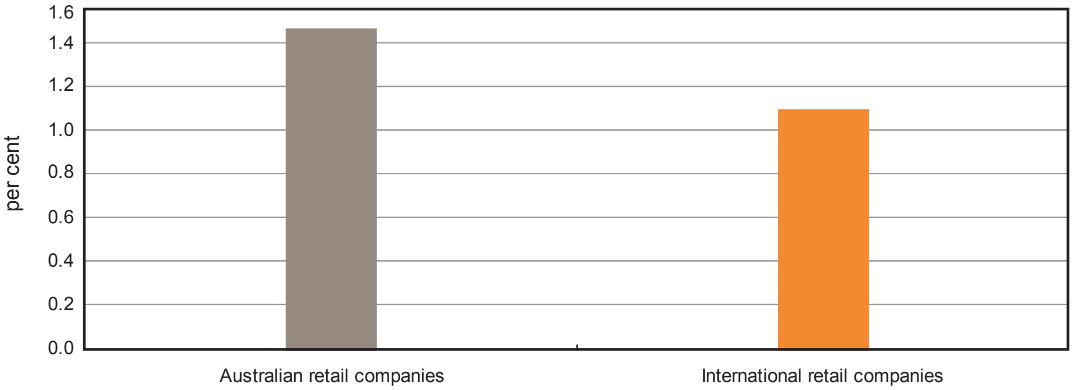
Source: Bloomberg, ACCC calculations.

14.11.2 International comparisons

To provide an international comparison, the ACCC identified several petrol retailing companies in other OECD countries. The profit results of these companies reflect the profits from retailing petrol and other similar products, as well as their individual operating context. The ACCC calculated the profits of the international companies on a similar basis as for Australian retailers. The annual average return on sales and return on assets in retail are shown in charts 14.24 and 14.25.

Broadly, the profit results of these international petrol retailing companies[9] are similar to the results reported by the Australian downstream retailers. The international companies' annual average return on sales of 1.1 per cent is slightly lower than the Australian retail sector's 1.5 per cent.

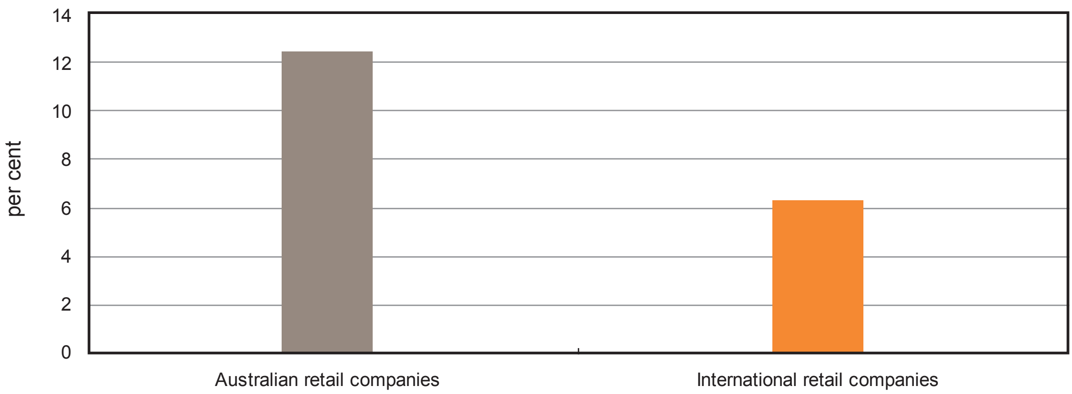
Chart 14.24 International and Australian petroleum retail companies return on sales: 2005–06 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

Note: Revenues exclude excise and GST.

Chart 14.25 International and Australian petroleum retail companies return on assets: 2005–06 to 2008–09



Source: Bureau van Dijk Orbis database, ACCC calculations.

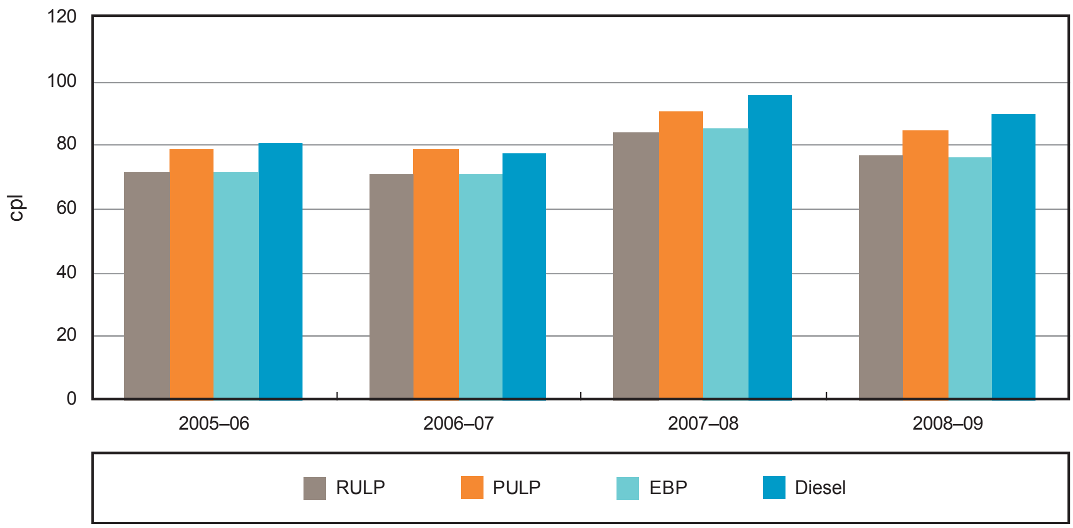
9 The ACCC has used the Bureau van Dijk Orbis database to identify overseas petroleum companies based in OECD countries that are also not significantly involved in other petroleum activities. The ACCC searched for petrol retailers that were of broadly similar size to Australian retailers and undertook business activities similar to Australian petrol retailers.

14.12 Retail in detail

14.12.1 Retail average sales revenues

The ACCC has calculated the average retail revenue per litre for petrol and diesel, excluding excise and GST (see chart 14.26). Over the four years to 2008–09, average revenue in cpl increased by 8.1 per cent in total for the four products. Over this period, diesel rose by the highest rate (11.2 per cent), followed by PULP (up by 7.1 per cent) and RULP (up by 6.7 per cent). EBP increased by 6.2 per cent.

Chart 14.26 Retail average revenue by product: 2005–06 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

14.12.2 City and country service stations

The ACCC often receives complaints that country stations have higher priced petrol and that, consequently, country stations are more profitable than their city counterparts. To investigate this, the ACCC asked the downstream petroleum industry to provide information on the differences between city and country service stations.

From the information provided, the ACCC has been able to illustrate the profitability of city and country service stations, using indicative volumes, revenues and costs.

Table 14.1 shows the impact of differences in the prices and volumes of petrol, and convenience store revenues and operating costs. The model shows that, while country petrol prices are 4 cpl higher than city prices, this difference does not lead to a higher net profit. According to the model, the country store earns the same rate of profit—in terms of both percentage of sales and cpl—but generates a lower net profit (that is, $148 000 compared to $246 000).

The principal driver of this result is the lower fuel volumes and convenience store sales at country service stations. Country service stations need to charge higher fuel prices to earn a similar profit to city service stations.

Table 14.1 Illustrative case study: impact of volume and price differences between city and country stores

($ 000)	City	Country	Comments
Volume (000 litres)	10 000	6 000	
Average sell price	1.15	1.19	Country is 4 cpl higher than city
Fuel revenue	11 500	7 140	
Convenience store sales	800	285	
Total revenue	12 300	7 425	
Cost of fuel	11 000	6 690	Country cost is 1.5 cpl higher than city
Cost of merchandise	560	210	
Total cost of goods sold	11 560	6 900	
Gross profit	740	525	
Gross margin on fuel	5.0	7.5	Country is 2.5 cpl higher than city
Gross margin on convenience stores	30%	26%	
Operating expenses	494	377	
Net profit	246	148	Country makes less profit than city
Return on sales	2%	2%	Country and city are the same
Net profit per litre	2.46	2.46	Country and city are the same

Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

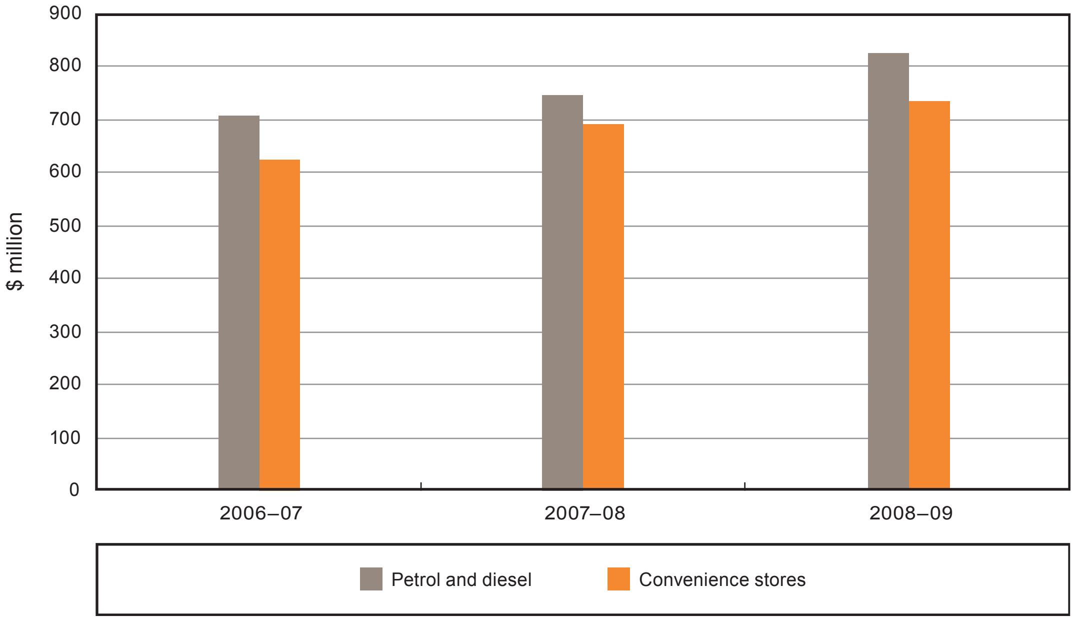
Notes: Revenues and costs exclude excise and GST.

Prices and volumes are indicative.

14.12.3 Convenience store profitability

Convenience store revenues are not as large as petrol and diesel revenues for most petrol retailers. However, they are an important source of profits, sometimes earning as much gross profit as petrol and diesel sales. The estimated shares of gross profit from petrol and diesel and from convenience store sales are shown in chart 14.27.

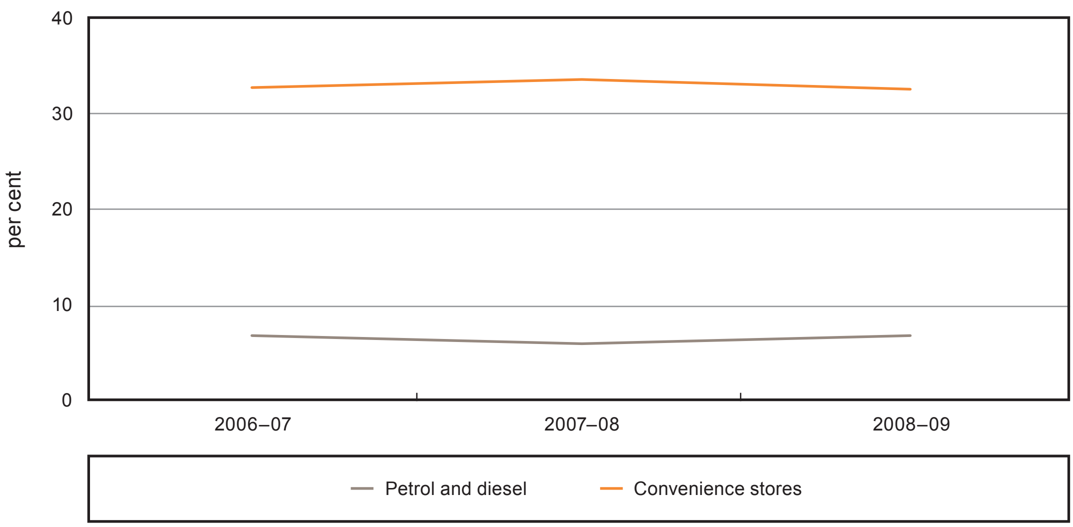
Chart 14.27 Retail petrol and diesel and convenience store gross profit: 2006–07 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

While estimated convenience store gross profits are large, they are lower than profits from petrol and diesel sales. On a gross margin basis, convenience store sales contribute more to retailers' profitability than sales of petrol and diesel, as shown in chart 14.28.

Chart 14.28 Retail petrol and diesel and convenience store gross margin: 2006–07 to 2008–09

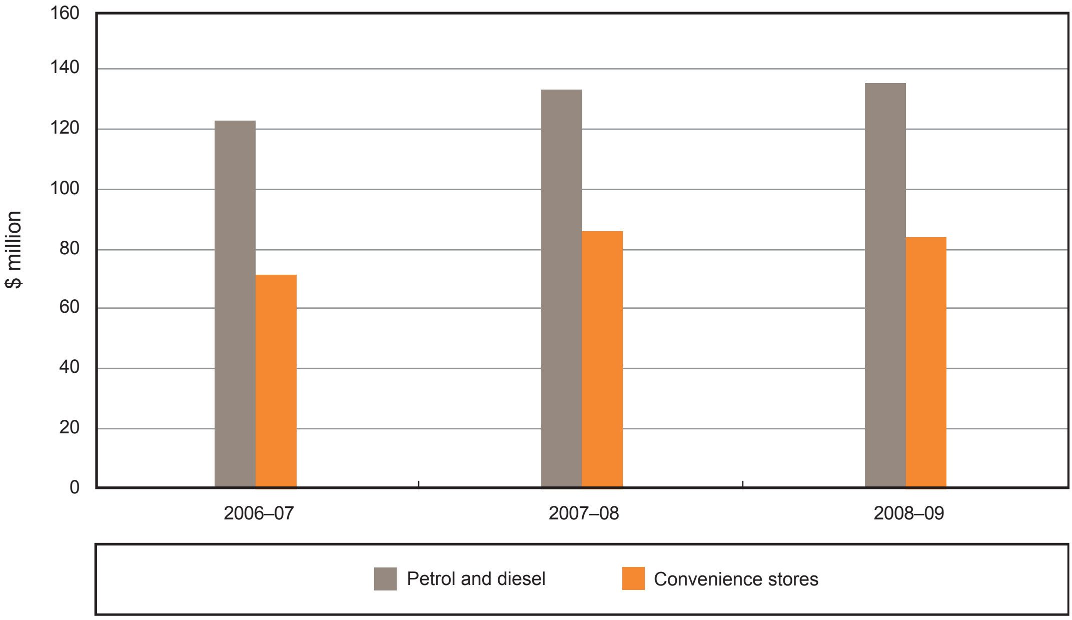


Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

Note: Revenues exclude excise and GST.

The net profit data for petrol and diesel and convenience store sales are shown in chart 14.29. Over the three years to 2008–09, petrol and diesel net profits rose by an estimated 9.7 per cent, compared to a rise in net profits for convenience stores of 18.3 per cent.

Chart 14.29 Retail petrol and diesel and convenience store net profit: 2006–07 to 2008–09



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process.

14.13 Themes in wholesale and retail

It is evident that:

- While wholesalers reported negative net profits and negative net profits from petrol in some years before 2007–08, total wholesale net profits were positive and increased between 2007–08 and 2008–09. However, those profit estimates need to be treated with caution. The improvement has been due to some price lags built into the sector's pricing arrangements, changes in foreign exchange rates, and cost reductions. Total profits in retail were fairly steady between 2005–06 and 2008–09.
- In the wholesale sector, diesel sales volumes now exceed petrol volumes. In 2008–09 sales of diesel continued to earn higher gross margins than those earned on petrol.
- In retail, petrol revenues have fallen slightly as a share of total revenues but are still substantial. Diesel has also become slightly more important in volume terms. Diesel contributed more net profit than petrol in 2008–09.
- The retail sector has about the same profitability as overseas petrol retailers but is less profitable than other kinds of Australian retailers.
- In retail, the estimated profits generated by convenience store sales were significant compared to the estimated profits from petrol. Petrol gross margins are much lower than the gross margins from the sale of convenience store items.
- Country service stations need to charge higher fuel prices to earn a similar profit to city service stations, due to lower sales volumes and lower convenience store sales.

15 Emerging trends in the Australian petrol industry

This report has outlined the current state of the Australian petroleum industry and presented extensive information on its operation. Within the information presented, significant trends are emerging that are likely to affect Australian motorists. These trends are explored further in this chapter.

Trends include:

- The structure of the retail industry continues to evolve.
- Australia is increasingly reliant on imports of crude oil and on imports of refined products, particularly diesel.
- Despite the short-term effects of the global economic downturn, growing international demand for crude oil and refined products, particularly in the developing world, is placing pressure on prices.
- The supply of alternative fuels is expanding.
- Consumers have been responding to higher fuel prices.

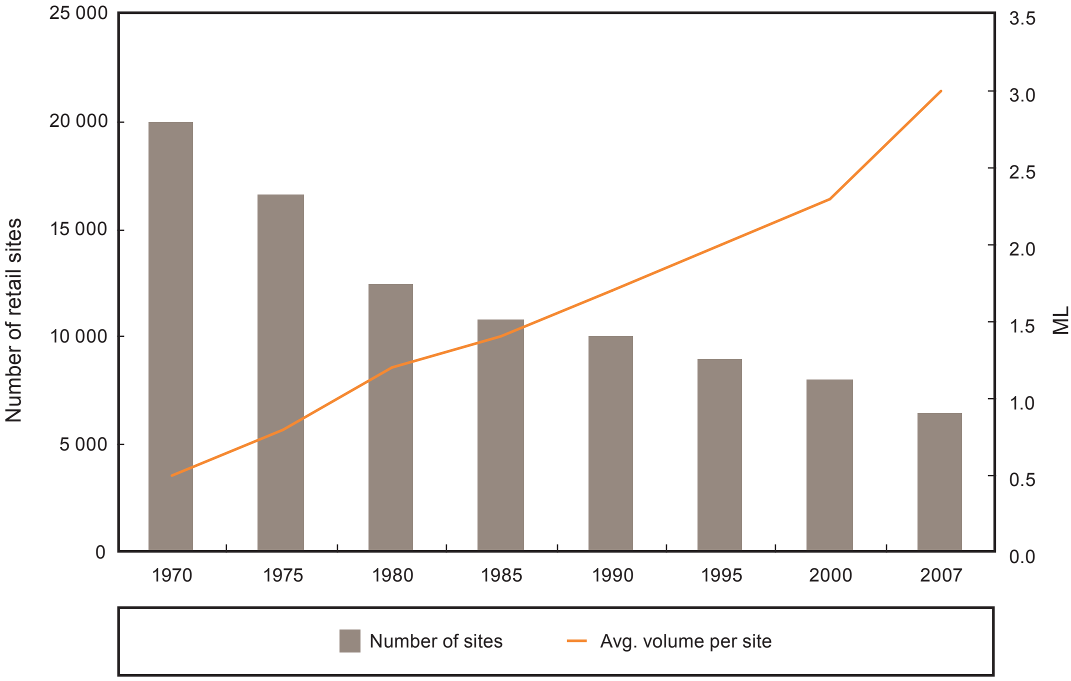
15.1 Evolving structure of the retail industry

The retail petrol industry has been undergoing significant change for the past three decades.

As shown in chapter 3, the most striking trend in petrol retailing has been the reduction in the number of retail sites from around 20 000 in 1970 to around 6500 in 2007 (see chart 15.1).

This trend has led to a consolidation of service stations in busy areas and on highways where there is greater traffic volume, thus reaping economies of scale. With fuel sales increasing over this period, there has been a corresponding increase in the average volume sold at each site. The most recent data indicates that consolidation of retail sites is continuing, although the pace has slowed.

Chart 15.1 Number of retail sites and average volume per site: 1970 to 2007



Source: Reports of the Royal Commission on Petroleum (1976), the Prices Surveillance Authority (1990) and the ACCC (1996 and 2007), combined with data from the Department of Resources, Energy and Tourism (RET) and the Bureau of Infrastructure, Transport and Regional Economics.

In addition to the consolidation in site numbers, there has been an increase in reliance on revenue from non-fuel products such as convenience store sales and car washes. The typical service station is now a larger site than in the past and frequently incorporates a large convenience store.

Gross margins on non-fuel sales have generally been higher than gross margins on fuel sales. For the petrol companies surveyed for this monitoring report, the average gross margin on non-fuel sales was in the order of 32 per cent. By contrast, the gross margin on fuel sales was around 7 per cent.[1]

Another feature of the evolution of the retail sector has been the entry of the large supermarket chains and their introduction of shopper docket schemes. Coles and Woolworths presently operate around 1200 retail sites, which is around 20 per cent of all service stations.

The refiner–marketers have reduced their presence in the retail sector. According to the Australian Institute of Petroleum (AIP) the number of refiner–marketer branded sites has nearly halved since 2000 (see table 15.1). In 2009 Mobil announced its intention to exit the retail sector.

Table 15.1 Number of service stations by type (as reported by AIP): 2000 to 2008

	2000	2004	2005	2006	2007	2008
AIP member company (refiner–marketer) branded sites	7558	4886	4754	4543	4192	3832
Supermarket chain sites	153	872	1065	1083	1104	1127
Subtotal	7711	5758	5819	5626	5296	4959
Non-AIP service stations	659	608	652	696	740	784
TOTAL	**8370**	**6366**	**6471**	**6322**	**6036**	**5743**

Source: AIP.

Note: 2005 to 2007 site data for non-AIP member service stations is estimated (interpolation from 2004 to 2008 actual data).

While the above figures may not include all service stations, it is clear that there is a trend towards fewer, larger volume retail outlets.

1 ACCC analysis based on 2008–09 data provided by refiner–marketers in the monitoring program.

15.2 Increasing reliance on imports of crude oil and refined product

15.2.1 Crude oil

According to data from the International Energy Agency (IEA), between 1980 and 2000 Australia's production of crude oil broadly kept pace with local demand. However, from 2000 a gap opened up between production and demand.[2] Since 2001, Australian imports of oil have continued to grow (see chart 15.2).

Chart 15.2 Australian supply of oil and demand for oil based products: 1984 to 2009

Source: ACCC using data sourced from IEA. Data copyright OECD/IEA 2009.

Note: 2009 figure is an IEA forecast.

2 IEA. Australian supply includes crude oil liquid, natural gas liquids and non-conventional oil.

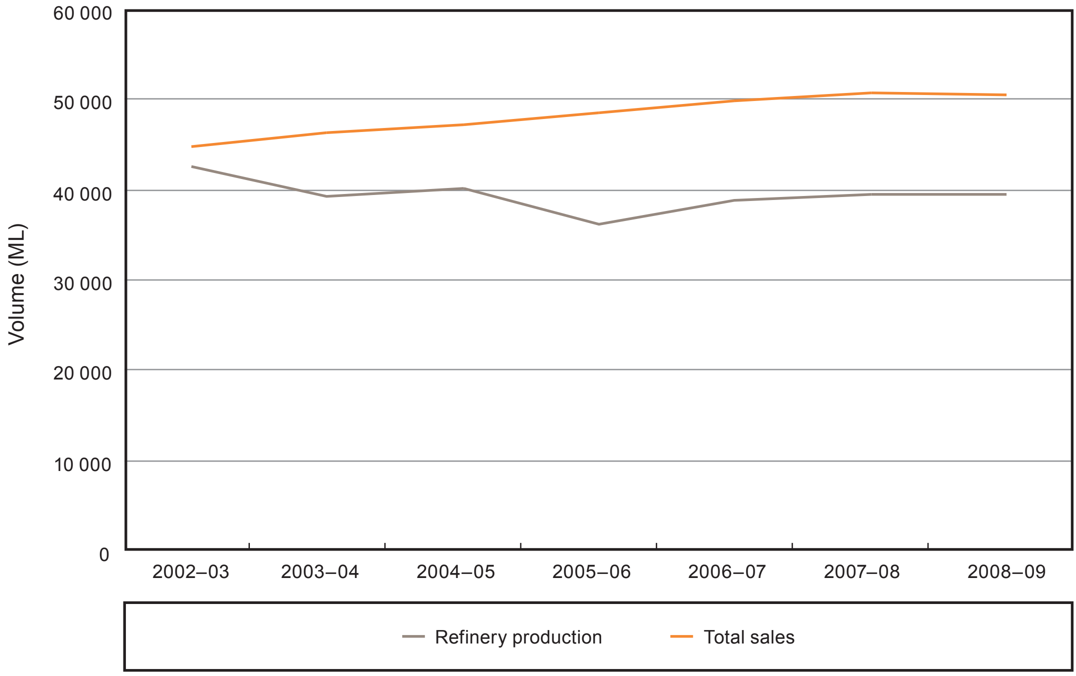
15.2.2 Refined product

In addition to an increasing need for imported oil, Australia has developed an increasing reliance on imports of refined fuels, particularly diesel.

As noted in chapter 3, Australia's domestic refinery capacity has decreased since 2000 with the mothballing and eventual closure of the Port Stanvac facility.

Increased demand for fuel and particularly the growth in diesel demand (which has consumer automotive as well as commercial and electricity generation uses) over this decade has been satisfied through imports.

Chart 15.3 Refinery production and consumption of petroleum products: 2002–03 to 2008–09



Source: Australian Petroleum Statistics, RET.

15.2.3 Increased competition from imports of refined product

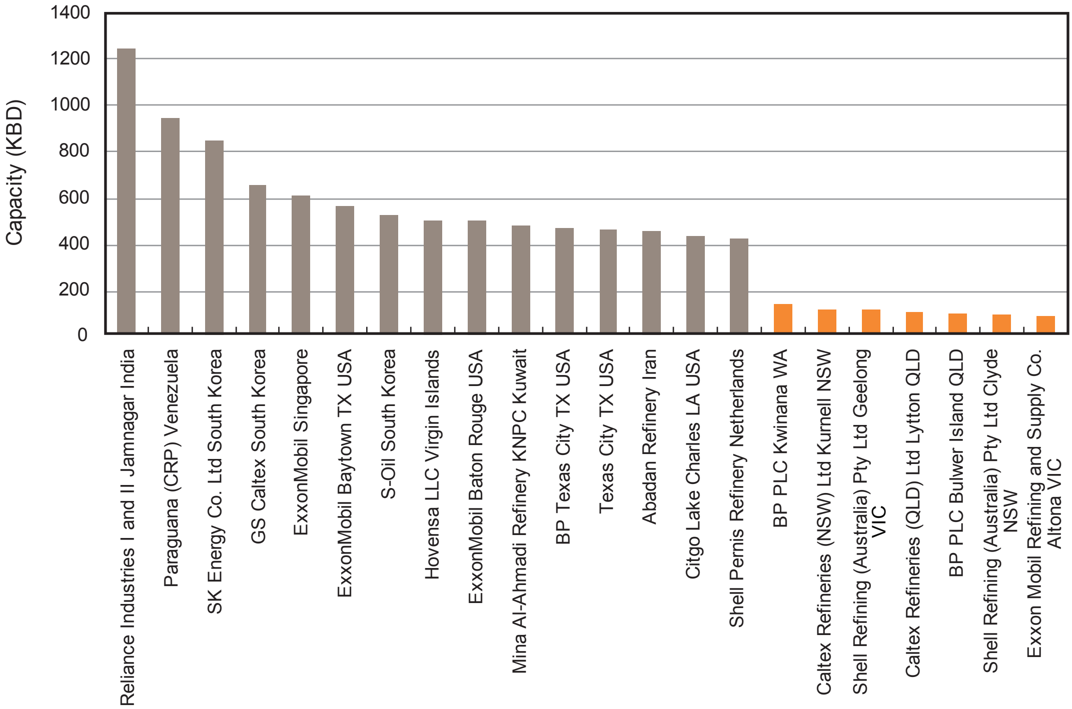
Refining crude oil is a capital-intensive industry with large economies of scale. Australia has a relatively small refining industry by international and regional standards.

Australia's refiners account for just 3 per cent of the total capacity in the Asia-Pacific region, which is dominated by refineries in the big north Asian economies of China and Japan.[3]

3 Based on *Oil and Gas Journal* (OGJ), 'Worldwide refining capacity growth rises again in 2008', 22 December 2008 (foreign refineries); and AIP data (Australian refineries). Note Australian refinery capacity is end-2006 data and will be updated by AIP in *Downstream petroleum 2009*.

Australia's refineries are small compared to many of the world's refineries (see chart 15.4). This means that Australian refineries do not achieve the same economies of scale as some of the larger refineries in the region.

Chart 15.4 Australian refineries compared to the largest refineries in the world



Source: OGJ, AIP.

In the past, domestic refining had some advantages over imports due to:

- Australia's distance from major export markets
- Australia being at the end of many shipping routes
- security of supply
- proximity to local markets
- the differential between the cost of shipping crude oil and the higher cost of 'clean shipping'[4] refined product
- the difference in fuel standards between Australia and regional markets, which has made imports of refined products more expensive.

However, some of the factors that have favoured domestic refining are diminishing.

Refinery capacity in the Asia-Pacific region is growing, with a number of very large refineries either planned or completed. The recently opened Reliance refinery in Jamnagar, India, alone has nearly twice Australia's total refining capacity. Many of these new refineries are state of the art and low cost, and can operate with a wide range of crude oils.

4 Shipping of refined petroleum products ready for consumers needs far more care to prevent contamination of the product than shipping crude oil, which will be filtered and purified at a refinery before delivery to consumers. Thus clean shipping of petroleum is generally more expensive than transporting crude oil. In addition to this, crude oil ships are generally larger than refined petroleum ships, which leads to economies of scale.

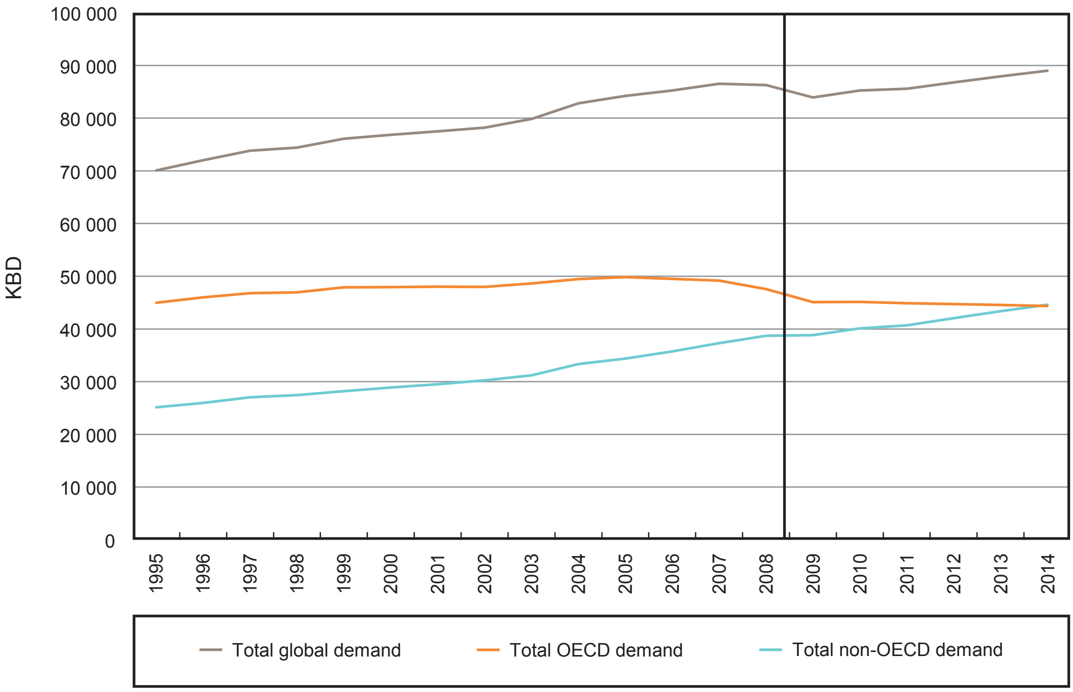
Fuel standards in the region are increasingly converging with Australia's generally higher standards, meaning that more refined product at or near the Australian standard is available.

15.3 Price pressure from growing international demand for crude oil and refined products

15.3.1 Trends in oil demand

Despite the temporary reduction in demand caused by the global financial crisis, there is a longer term growth trend in the demand for oil (see chart 15.5).

Chart 15.5 Global demand for oil (OECD[5] and non-OECD): 1995 to 2008



Source: ACCC using data sourced from IEA. Data copyright OECD/IEA 2009.

Note: 2009–14 figures are IEA forecasts.

Much of the recent growth has come from rapidly industrialising non-OECD countries, and the IEA predicts that this trend will continue.[6]

According to the IEA, economic growth in developing countries is more energy-intensive than growth in OECD countries. Therefore the resilient and rapid industrialisation in large developing countries such as China and India suggests that oil demand will continue to grow. Growing wealth and the increasing availability of cheap 'entry-level' cars such as the $US2000 Tata Nano in India are also factors contributing to oil demand.

5 Organisation for Economic Co-operation and Development.

6 IEA, *Oil Market Report*, October 2009, p. 5.

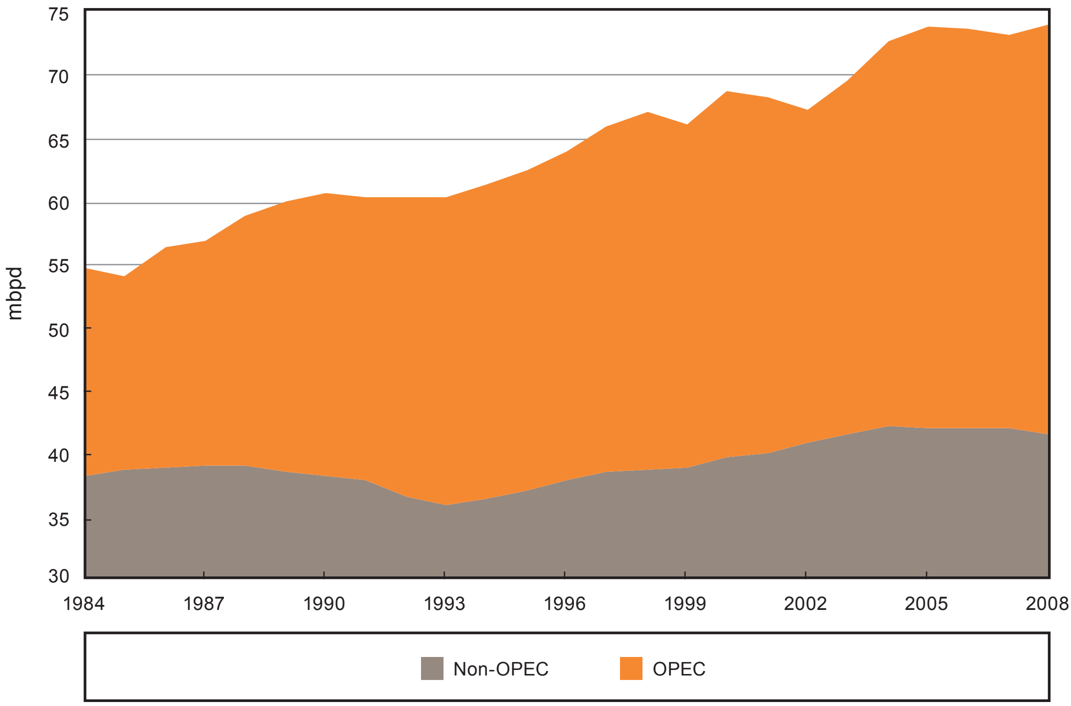
15.3.2 Trends in oil supply

Crude oil has been extracted on a commercial basis for over a century, and many of the most accessible deposits have been depleted. Already many producers of crude have seen significant declines in production even as demand for petroleum products has increased.

For example, in the past 50 years the United States has transitioned from being the biggest exporter of crude to being the biggest importer. In our region Indonesia, long a net oil exporter, has withdrawn its membership of OPEC (Organization of the Petroleum Exporting Countries) as it is now a net importer.

According to the IEA, total non-OPEC conventional oil production has already plateaued and is 'projected to decline by around the middle of the next decade'.[7] In the past 25 years OPEC has been steadily increasing its production (see chart 15.6).

Chart 15.6 Supply of crude oil (OECD and non-OECD): 1984 to 2008



Source: Constructed using data from United States Energy Information Administration (US EIA), *Annual Energy Review 2008*, 'World crude oil production, 1960–2008', July 2009, Table 11.5.

Most of the readily available deposits of crude oil are found in OPEC countries.[8] The world's growing dependence on OPEC may have competition (and price) implications going forward.

Even within OPEC a number of the most easily recoverable (and therefore cheapest) deposits of crude oil have been extracted. Increased exploration expenditure and technological breakthroughs may assist in recovering oil from existing deposits and finding and providing access to new sources of crude. However, it is likely that most of the cheap and easily accessible oil deposits have already

7 IEA, *World energy outlook 2008*, p. 6.

8 According to the Central Intelligence Agency *World Factbook 2008*, eight of the 10 largest proved oil reserves belong to OPEC member countries (Saudi Arabia, Iran, Iraq, Kuwait, the United Arab Emirates, Venezuela, Libya and Nigeria).

been discovered. This leaves the world reliant on increasingly costly alternatives such as deep-sea oil exploration and extraction or a range of non-conventional sources of hydrocarbons.

Deep-sea oil exploration becomes expensive as large vessels, highly sophisticated machinery, geologists, petroleum engineers and mechanics are required to find potential oil deposits. By contrast, land exploration has been able to use drills which can be fitted to the back of tractors and moved relatively easily.

As the less expensive deposits of oil are exhausted and the marginal source of crude supply becomes more difficult to explore and recover, the chances of oil consistently selling below $US40 a barrel (as it did before 2005 and very briefly in December 2008) diminish. According to the United States Energy Information Administration, the average cost of exploring for and developing an oil field (the 'finding costs') for offshore deposits in the US for 2005–07 was about $US50 a barrel. This estimate does not include the costs of bringing the oil to the surface.[9]

As deposits of easier-to-refine light, sweet (low sulphur) crudes are extracted, the oil that is left is likely to be a heavier crude with more contaminants such as sulphur, and thus be more expensive to extract and refine.

Oil from non-conventional sources such as tar sands and shale oil is likely to require additional processing, which will add significantly to costs and may also incur additional environmental impact costs.

15.4 Supply response to higher prices

15.4.1 Increased investment in and production of oil

In response to rising crude oil prices, existing oil suppliers increased production and extracted previously uneconomic deposits. Oil producers increased expenditure on exploration and extraction of conventional crude oil, as well as investigating non-conventional sources such as tar sands and shale oil. Chapter 5 discusses the recent history of and trends in crude oil supply and refining capacity.

In addition to increasing crude oil supply, oil producers directed attention and investment to alternative fuels. While it is out of the scope of this report to deal in depth with alternative fuels, these fuels are beginning to have an impact on consumers. Trends (including legislative trends) are already evident that have implications for competition in the automotive fuel market.

15.4.2 Biofuels

Alternatives to crude oil based fuels are biofuels such as biodiesel and ethanol which can be produced from animal or vegetable products and used to fuel conventional internal combustion engines. These fuels can be used on their own or blended with conventional petrol or diesel.

Biodiesel

Biodiesel is a fuel derived from plant or animal feedstocks containing fatty acids, such as vegetable oils and tallow, or even from microscopic organisms such as algae. Biodiesel can be used on its own or mixed with conventional diesel (distilled from crude oil) to produce a biodiesel-blend fuel

9 US EIA, *Energy information sheet—crude oil production*, 'What affects production costs?', March 2009.

for use in diesel vehicles. Biodiesel blends are currently available from some service stations, and biodiesel makes up about 0.4 per cent of all diesel sales.[10]

Biodiesel is a renewable alternative to conventional transport fuels and may lead to fewer emissions, but there are questions about security of supply and prices of the feedstock for biofuels. Second-generation biodiesel production using micro-organisms may be cheaper and more reliable.

Ethanol

Ethanol is an alcohol created by the fermentation and distillation of vegetable matter, usually sugars.

Ethanol is renewable, and the absorption of carbon dioxide when the feedstock is grown can lead to overall lower carbon dioxide emissions over its life cycle despite its emitting carbon dioxide when burned.

Second-generation ethanol production methods using cellulosic feedstocks such as agricultural and forestry waste products are undergoing research.

Pure ethanol can be used as a transport fuel but is usually used as a blend with regular unleaded petrol (RULP). E85, which is 85 per cent ethanol and 15 per cent petrol, can be used by a number of production cars and is currently used by cars in the V8 Supercar motor racing series.

E10, which is 10 per cent ethanol, is readily available and is used by many (unmodified) cars in Australia. E10 sales constituted 9 per cent of Australian retail petrol sales in 2008–09.

According to the IEA, Brazil can produce ethanol in the range of $US0.25 to $US0.35 a litre of petrol equivalent. This is competitive with petrol when oil is around $US40 to $US50 a barrel.[11] Australian domestic producers of ethanol currently receive a fuel excise rebate which has seen ethanol blends sold at a slightly lower price per litre than RULP.

Since 1 October 2007 the New South Wales government has mandated that petrol companies ensure that 2 per cent of the total amount of petrol sold in the state is ethanol. It intends to increase that to 10 per cent by July 2013. This will lead to the virtual phase-out of RULP in New South Wales. The Queensland government is considering introducing a 5 per cent ethanol mandate by 2010.

The increased demand for ethanol as a transport fuel has led to shortages. Ethanol production capacity has increased and there are plans for new plants, but the current cautious investment environment has delayed some developments.

Manildra Group is currently the largest supplier of ethanol for the domestic market. It produces ethanol from wheat products at its facility in Bomaderry, New South Wales. CSR, which produces ethanol primarily from sugar by-products, is the second-largest producer. A plant at Dalby in Queensland which will use sorghum as a feedstock has just begun production, and a number of other plants are currently planned.

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10 APAC Biofuel Consultants, *Australian biofuels 2009*, September 2009, p. 30.

11 IEA, *Energy Technology Essentials*, ‘Biofuel Production’, January 2007.

15.5 Demand response to higher petrol prices

Total consumer expenditure on automotive fuel consists of:

Fuel price	**X**	**Total fleet size**	**X**	**Average fuel efficiency**	**X**	**Average distance driven**

As prices rise, consumers react by changing one or more of these parameters. Where possible, they:

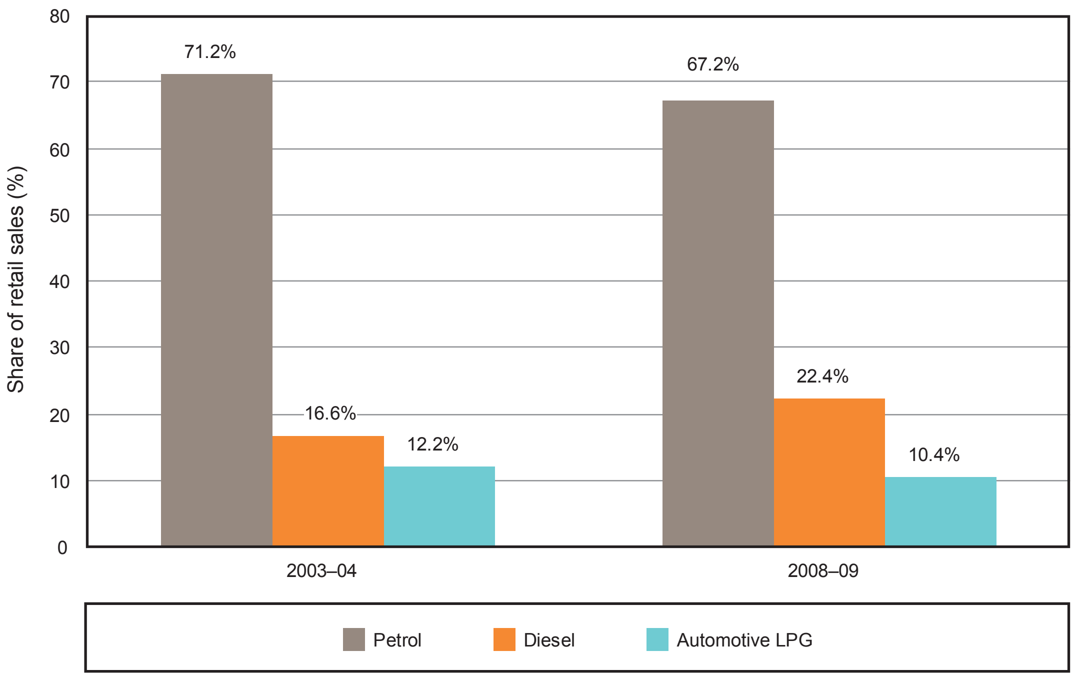
- switch to cheaper fuels
- reduce the number of cars they drive
- purchase more fuel-efficient models
- reduce the distances they travel.

Although Australia's total fleet size would take some time to react to higher fuel prices, there is evidence that consumers have been taking each of the other actions listed above in response to the recent sustained fuel price rises.

15.5.1 Increased use of diesel

As the price of petrol has risen there has been an increase in the automotive use of diesel (see chart 15.7). While the price of diesel may be close to or at times exceed the price of petrol, the better mileage that diesel vehicles routinely achieve has made them increasingly popular.

Chart 15.7 Retail sales of petrol, diesel and automotive LPG, percentage share: 2003–04 and 2008–09

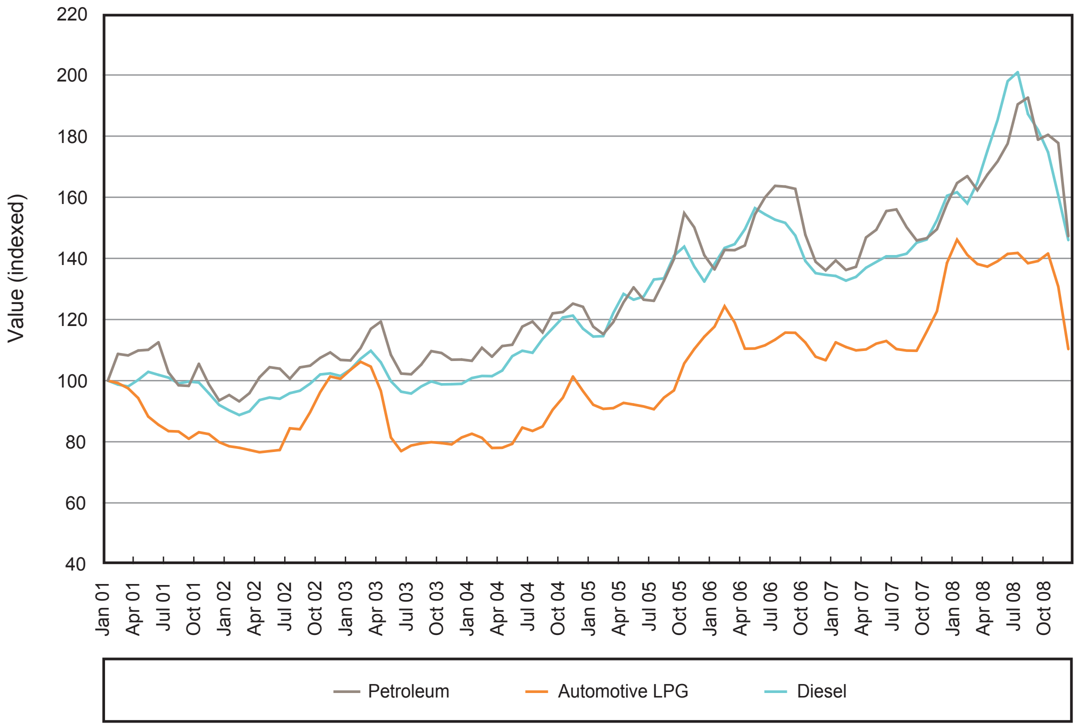


Source: ACCC analysis based on RET data.

LPG, while achieving less fuel economy than petrol, is not subject to excise and thus is significantly cheaper than petrol per kilometre driven. It therefore remains popular in high-use vehicles such as taxis and some private vehicles.

Nevertheless diesel and LPG, as close substitutes for petrol, follow the same broad price trends as petrol (see chart 15.8).

Chart 15.8 Prices of petrol, diesel and automotive LPG: 2001 to 2008



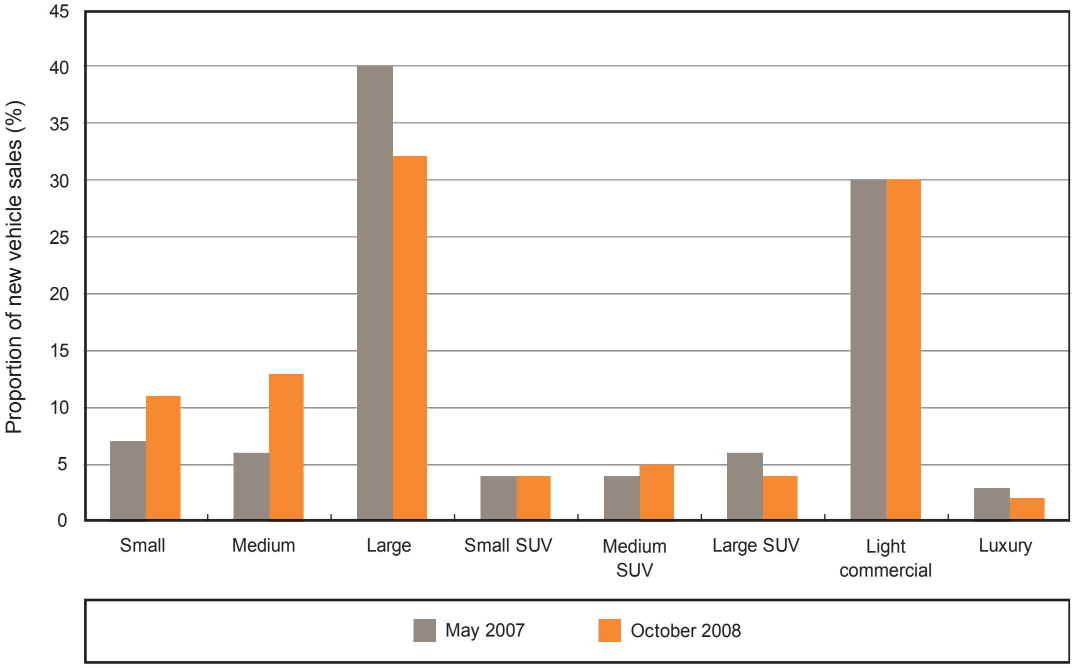
Source: ACCC analysis based on Informed Sources data.

Note: Prices are indexed.

15.5.2 Move to more fuel-efficient vehicles

In response to recent increases in petrol (and diesel) prices, Australians appear to be moving away from large sports utility vehicles (SUVs) and six-cylinder cars in favour of smaller, more fuel-efficient cars.

Chart 15.9 Proportion of Australian new vehicle sales by vehicle type: May 2007 and October 2008



Source: Australian Bureau of Statistics, 2008, *Sales of new motor vehicles, Australia* Oct, Cat. no. 9314.0, viewed 30 June 2009, http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/2937D60BBD6EE582CA257524000A2CED?opendocument

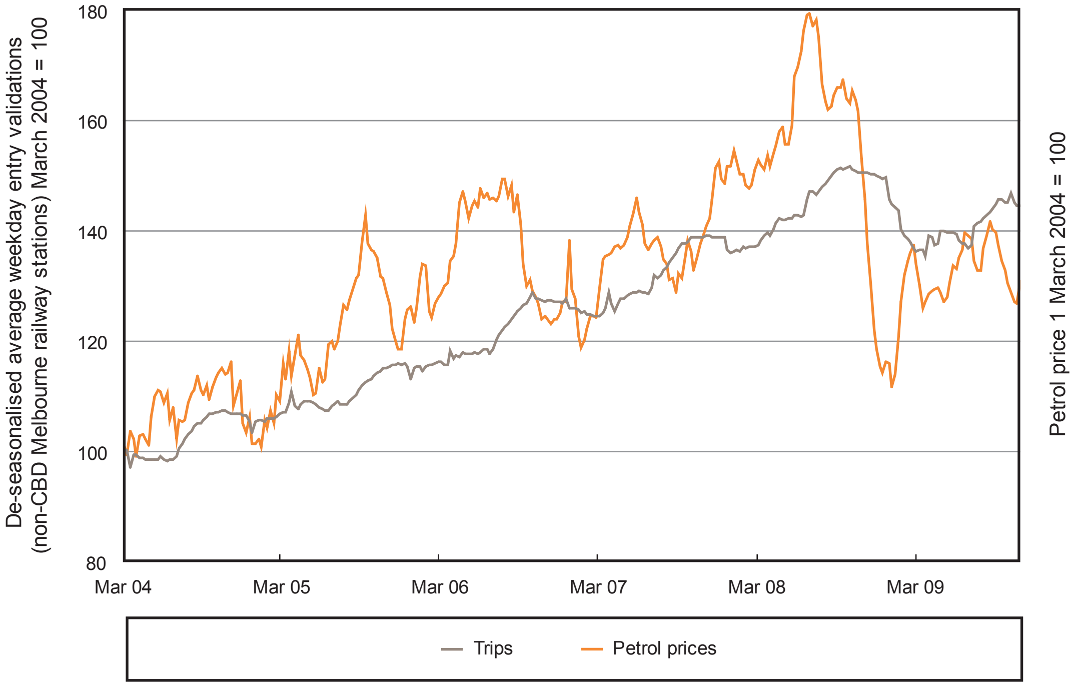
Australian Bureau of Statistics, 2007, *Sales of new motor vehicles, Australia* May, Cat. no. 9314.0, viewed 30 June 2009, http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/890FED8B04542BC3CA25731D001930E2?opendocument

Chart 15.9 indicates that between May 2007 and October 2008, the period in which retail petrol prices peaked, a distinct trend can be seen in favour of smaller cars. This is already having a significant effect on the Australian automotive manufacturing industry, which traditionally concentrated on larger vehicles.

15.5.3 Increased use of public transport

In response to increased fuel prices, consumers seek other forms of transport where these are available. Many locations in Australia have recently experienced an increase in public transport usage. While this increased patronage could be due to a number of factors, it is likely that the recent increase in fuel prices played some part.[12] Chart 15.10 shows that in Melbourne as petrol prices rose there was an increase in the number of train trips.

Chart 15.10 Melbourne train trips versus the retail price of petrol



Source: Victorian Department of Transport.

In the longer run, higher fuel prices may lead to increased demand for public transport infrastructure and services and increased demand for smaller and more fuel-efficient cars.

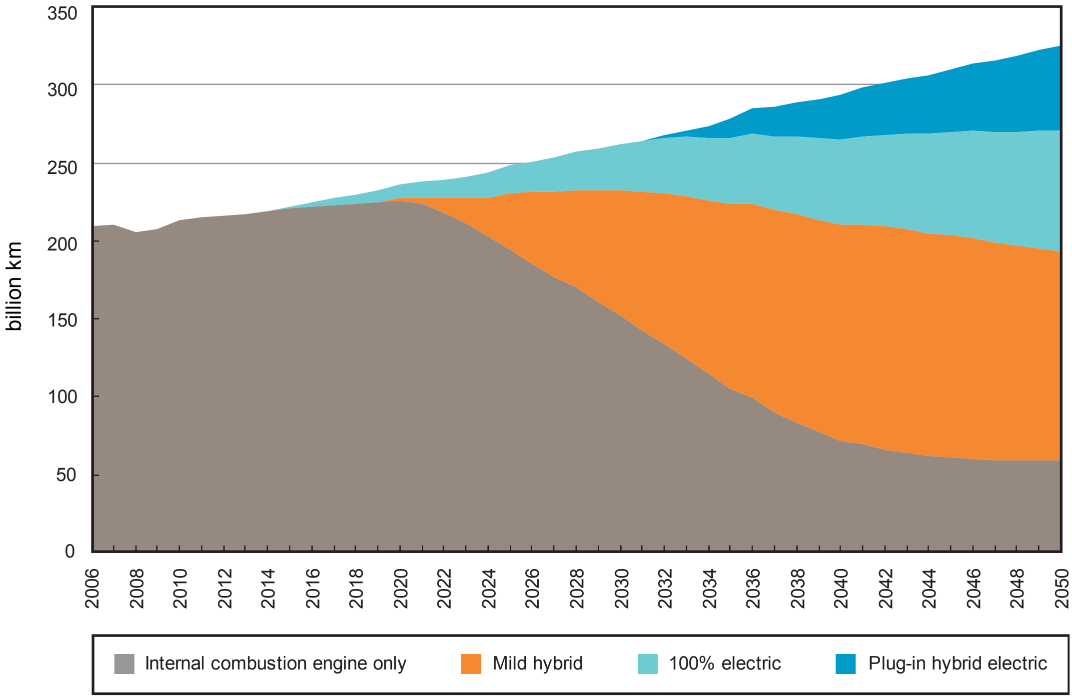
15.5.4 Alternative fuels

In addition to alternative hydrocarbon fuels and liquid biofuels, some other alternatives to petrol and diesel being considered (and in various stages of development) include electricity, hydrogen, and hybrids combining one or more of these technologies to improve the efficiency of a conventional fuel burning engine.

12 According to market research for Metlink (the marketing body for all public transport in Melbourne), 58 per cent of respondents said petrol prices were the reason for their reduced car usage. Sweeney Research, *Quantitative research on transport choices in Melbourne and other Australian cities*, 2008.

According to a scenario developed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), electric vehicles and hybrids are likely to play an increasing role in shaping the fuel industry over the next three decades.[13] This forecast is shown in chart 15.11.

Chart 15.11 Projected increasing electrification of road transport vehicles: US EIA high oil price and 60 per cent below 2000 emission target scenario



Source: CSIRO Future Fuels Forum, June 2008.

Currently there are a few hybrid vehicles available in Australia, including the Toyota Prius, Honda Civic hybrid and Lexus 400h. However, many of the world's major car manufacturers plan to produce hybrid vehicles.

Sales of hybrid vehicles have continued to rise, tripling their market share (though from a very small base) in the last two years (from 0.2 per cent to 0.6 per cent of all vehicles on the road). Hybrid vehicles are considered more environmentally friendly, consuming less petrol and giving off less carbon dioxide and other emissions for each kilometre driven than traditional petrol-powered vehicles.

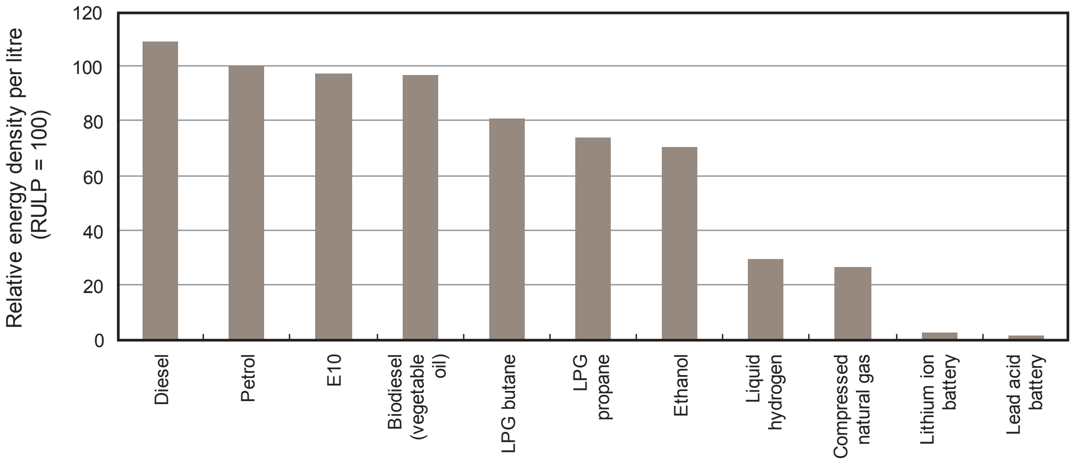
Electric-only cars and plug-in hybrid electric vehicles (which rely on the electricity stored in their batteries before switching to a conventional fuel) can run at a substantially lower marginal cost per kilometre travelled. At a residential electricity price of 12 cents per kilowatt hour, the cost of electricity as a fuel is 4.2 cents per kilometre, which is around a third of the cost of fuel for a petrol vehicle in the same weight class (11.5 cents per kilometre at a petrol price of 128 cpl).[14]

13 CSIRO, *Fuel for thought—The future of transport fuels: challenges and opportunities*, June 2008.

14 CSIRO, *Modeling of the future of transport fuels in Australia*, June 2008, p. 87.

Unfortunately, conventional battery technology is currently not very efficient at storing energy (see chart 15.12 for relative energy densities). This requires purely battery powered cars to contain large banks of expensive batteries and generally limits the range of battery powered cars in comparison to conventionally fuelled cars.

Chart 15.12 Indicative energy densities of automotive fuels by volume (relative to RULP)



Source: ACCC compilation from CSIRO and US EIA data.

Natural gas (methane) can be used to fuel vehicles. Many countries, including Australia, have significant deposits of natural gas. The Adelaide bus system currently runs over 100 buses fuelled by compressed natural gas. Brisbane, Canberra, Perth and Sydney also run or plan to run natural gas powered buses.

Hydrogen can be used as a vehicle fuel that may not (depending on the source of the hydrogen) emit carbon dioxide. It can either be burned in an internal combustion engine or used to power a fuel cell. A trial of hydrogen fuel cell buses was recently initiated in Perth.

15.6 Final observations

As has been shown through this report, fuels such as petrol (and diesel and LPG) are internationally traded commodities and their price will ultimately be set by the interaction of production volumes and costs and the demand from consumers in international markets. In Australia the price of petrol moves with and largely reflects the international price of refined petrol as reflected in the Singapore market.

Changes in the prices of fuels in both relative and absolute terms provide signals to both producers and consumers to adjust their behaviour.

Prices in the short to medium term are likely to continue to fluctuate with movements in international demand and supply. In the longer term, in the absence of major technological breakthroughs or significant changes in demand patterns, it is likely that the price of conventional hydrocarbons such as petrol and diesel will come under pressure.

Recent high fuel prices encouraged producers to respond by accelerating the development of more efficient technologies for exploration, extraction and refining of petroleum products, and by moving into alternative fuel technologies. Car manufacturers responded to higher fuel prices by beginning to provide more efficient vehicles and vehicles that run on alternative fuels.

Consumers responded to higher prices by reducing their consumption of higher cost fuels and beginning to seek alternative fuels. In addition, consumers sought alternatives such as public transport, or even reduced unnecessary travel by increasing the use of telecommuting and videoconferencing.

The level of competition in the supply of alternative fuels and vehicle types will be of increasing importance going forward.

Appendix A

Letter and direction from the Assistant Treasurer and Minister for Competition Policy and Consumer Affairs to the ACCC establishing the formal monitoring of the prices, costs and profits of unleaded petrol in Australia

ASSISTANT TREASURER
AND MINISTER FOR COMPETITION POLICY
AND CONSUMER AFFAIRS

PO BOX 6022
PARLIAMENT HOUSE
CANBERRA ACT 2600

Telephone: 02 6277 7360
Facsimile: 02 6273 4125

http://assistant.treasurer.gov.au

Mr G Samuel AO
Chairman
Australian Competition and Consumer Commission (ACCC)
GPO Box 520J
MELBOURNE VIC 3001

Dear Mr Samuel

I am writing to direct the ACCC to undertake formal price monitoring pursuant to section 95ZE of Part VIIA of the *Trade Practices Act 1974*. Attached is a direction to the ACCC to monitor the prices, costs and profits relating to the supply of unleaded petrol products in the petroleum industry in Australia.

When monitoring, you may wish to focus on those parts of the industry where your report on the price of unleaded petrol (December 2007) indicated that competition is less than fully effective.

I also direct the ACCC to give me a report on the monitoring once a year, for 3 years, no later than the anniversary of the date of this letter.

Once the Government has had the opportunity to fully consider the recommendations of the ACCC's report into the price of unleaded petrol, I will write to you again with additional follow-up actions.

Yours sincerely

CHRIS BOWEN
14/12/07.

2

Commonwealth of Australia

Trade Practices Act 1974

MONITORING OF THE PRICES OF UNLEADED PETROLEUM PRODUCTS

I, CHRIS BOWEN, Minister for Competition Policy and Consumer Affairs, pursuant to section 95ZE of the *Trade Practice Act 1974*, hereby direct:

(1) the Australian Competition and Consumer Commission ('the Commission') to monitor prices, costs and profits relating to the supply of unleaded petroleum products in the petroleum industry.

(2) the Commission to report to me on its monitoring activities in paragraph (1) for a period of three years commencing from the date of this direction.

(3) the reports of the Commission to be provided annually, no later than the anniversary of the date of this direction.

Dated this Seventeenth day of December 2007

CHRIS BOWEN
Minister for Competition Policy and Consumer Affairs

Appendix B

Summary of consultants' reports on import parity pricing

In January 2009 the ACCC commissioned two consultants' reports on the setting of the import parity price (IPP) for various fuels:

- *The method and basis of the setting of the import parity price (IPP) for unleaded petrol and diesel in Australia*, prepared by McLennan Magasanik Associates (MMA)
- *Review of the appropriateness of the current LPG international benchmark in the setting of domestic LPG prices*, prepared by the Allen Consulting Group (Allens).

Summaries of these reports are below.

The full reports are available from the ACCC website.

Method and basis for setting IPP for unleaded petrol and diesel

The MMA study focused on the three main components of the IPP for regular unleaded petrol (RULP), premium unleaded petrol (PULP) and diesel:

- the refined fuel benchmark (which represents around 93 per cent of the IPP for RULP)
- the fuel quality premium (around 3 per cent of the IPP for RULP[1])
- freight (around 3 per cent of the IPP).

The study addressed four key questions.

Are Singapore prices the most appropriate to use?

There are three primary trading regions globally for petroleum products, each with its own distinctive product benchmarks. These are North America, Europe and Asia. Singapore, the busiest trading centre in the Asian region, has its own set of pricing benchmarks. Virtually all products traded in the region are priced on these benchmarks.

In recent years, Australia has imported around 15 per cent to 20 per cent of its petrol and up to 40 per cent of its diesel. Australia sources almost its entire import requirements for petrol and diesel from the Asian region, predominantly from Singapore. The prices in Singapore reflect the fundamental balance between product supply and demand in the region as determined by the market participants.

MMA's analysis suggested that the Singapore pricing benchmarks should continue to be used as the basis of product valuations in Australia to ensure consistency between these valuations and the actual pricing mechanisms applicable to imports of products by all participants in the Australian market.

1 The proportion represented by the quality premium is substantially higher for PULP. There is currently no quality premium for diesel.

Which are the appropriate price benchmarks to use?

Product benchmarks are used in all trading regions to price a range of products. Products in different countries may have slightly different quality specifications but they will typically be priced based on a common benchmark that is of similar quality.

There is a drive in the industry to ensure that product benchmarks are reliable and truly representative of product value in the region, as many stakeholders are directly affected by these assessments. Consequently, the benchmarks need to be representative of a significant part of the market, regularly and freely traded in the open market by a wide range of market participants, and traded with sufficient liquidity to establish market value with confidence. There needs to be an even playing field with equal access for all trading participants, and the assessments of these benchmarks need to be as transparent as possible.

In considering the most appropriate benchmarks for use in Australia, MMA reviewed factors such as:

- available benchmarks as reported by the various market reporting agencies (Platts, Argus and Bloomberg)
- the market assessment process used by each reporting service
- analysis of prices reported by the three reference providers
- which assessments are most commonly used by market participants in the region to price their petroleum products.

MMA considered the Platts methodology the most transparent, as it is the only one to use a market on close (MOC) assessment in preference to a survey or journalistic approach. The MOC process uses actual physical and paper swap trading transactions by market participants to determine market value.

MMA concluded that it is appropriate to continue using the Platts price-setting methodology and prices for IPP in Australia.

Petrol

The benchmark used for **RULP** has for many years been Platts Singapore Mogas RON 95. This is currently being used by the majority of refiner–marketers in their buy–sell arrangements and IPP formulas.

MMA reviewed the product qualities of Australian RULP and PULP and the liquidity and market participation of the three Platts Singapore Mogas grade benchmarks (Mogas RON 92, Mogas RON 95 and Mogas RON 97). MMA found that Mogas RON 92 was, by far, the most liquid of the benchmarks.

MMA examined the number of Mogas trades recorded by Platts by month between January 2008 and February 2009. Mogas RON 92 is by far the most liquid, trading 17 times per month on average, whereas Mogas RON 97 traded six times per month on average and Mogas RON 95 traded once per month on average.

The traders MMA spoke to in Singapore generally held the view that the Mogas RON 92 grade represents a far more stable benchmark. The majority of traders stated that they would use Mogas RON 92 as the benchmark for Australia.

The views of the refiner–marketers about the appropriateness of Mogas RON 95 and Mogas RON 92 are mixed. One refiner–marketer routinely imports RULP grade into Australia on the Mogas RON 92 benchmark, while another expressed strong objections to a move from the Mogas RON 95 benchmark because it considered the quality of Mogas RON 92 potentially very low.

The liquidity of Mogas RON 95 may increase in coming years as more countries in the region move to higher octane fuels. In this context, MMA noted that Malaysia has recently moved to Mogas RON 95, replacing the Mogas RON 92 grade.

A move to using Mogas RON 92 rather than Mogas RON 95 as the benchmark for Australia may not have any significant effect on the overall IPP formula used by the refiner–marketers, as the change of benchmark would result in a higher quality differential (QD) being applied.

The QD represents the difference in price between the benchmark fuel and the product required to meet the appropriate Australian fuel specifications—that is, Mogas RON 95 + QD1 would be replaced by Mogas RON 92 + QD2, where QD2 is higher than QD1.

Weighing up these arguments MMA suggested that, depending on forthcoming developments in markets in the Asian region, there is merit in using the Mogas RON 92 benchmark rather than the current benchmark (Mogas RON 95).

The **PULP** grade in Australia has generally been priced from the Singapore Mogas RON 97 benchmark. While the Mogas RON 97 market is significantly less liquid than the Mogas RON 92 market, MMA considered that, on balance, the risk of using the lower liquidity Mogas RON 97 is outweighed by the fact that the quality of this product much more closely reflects the Australian PULP grade.

Diesel

There are currently five different gasoil benchmarks in Singapore. These are differentiated by sulphur limits, namely 5000 parts per million (ppm), 2500 ppm, 500 ppm, 50 ppm and 10 ppm. The most liquid product to trade in the Platts MOC process continues to be 5000 ppm gasoil. However, Australian refiner–marketers have been benchmarking diesel against the gasoil 10 ppm sulphur benchmark since January 2009. The quality of the 10 ppm benchmark matches the Australian specification very well. This is a new benchmark that was introduced in October 2008. As the liquidity of the market and the number of trading participants increase, MMA expects its reliability as a benchmark will also increase.

MMA concluded that, on balance, it is appropriate to use the gasoil 10 ppm benchmark for pricing of diesel. To make this benchmark more accurately represent the prices paid in the international market, MMA suggested that the daily Platts assessed market premium be combined with the Platts spot price assessment.

This approach is not possible with Mogas benchmark prices, because Mogas paper trades occur less than once a week on average, and therefore MMA did not consider market premiums reported by Platts reliable enough for this purpose.

Freight

The Australian refiner–marketers have been using the daily Platts Singapore–Australia index together with the Worldscale Flat Rate (WSFR) for establishing the freight component of the IPP for a few years. Previously they used the Platts Singapore–Japan index, or this index with a premium applied. The activity level of the Singapore–Australia freight route is low and not necessarily transparent. However, MMA considered that on balance it is appropriate to use the WSFR and the Platts Singapore–Australia index because these transactions are specifically related to the conditions of trade in Australia.

How is the quality premium determined?

The quality premium (QP) is a component of the IPP formula which reflects the fact that Australian specifications for RULP and PULP are more stringent than the specifications associated with the Platts Singapore benchmarks for these fuels. There is virtually no difference between the Australian standard for diesel and the Platts benchmark specification.

The QP consists of two components.

The first is the quality differential (QD), which represents the difference in price between the appropriate benchmark fuel and the product required to meet the appropriate Australian fuel specifications.

The second combines a number of local elements (such as the relative bargaining positions of the parties).

The overall QP represents a negotiated settlement between the buyer and the seller which takes all these elements into account. The QP is a small component of the IPP formula (around 3 per cent of the IPP for RULP) but it is the least transparent element in the formula.

MMA talked to a number of Singapore traders in March 2009 to seek their views on the appropriate QD to apply to the Singapore benchmarks for RULP and PULP in Australia. It also talked to refiner–marketers about the appropriate QPs.

MMA found that the QP currently used by the refiner–marketers in Australia appeared higher than the assessment of the QD provided by the Singapore traders—by $US1 per barrel for RULP and more for PULP.

Note that the Singapore traders provided a view on the QD whereas the refiner–marketers provided assessments of the QP (that is, the QD plus an assessment of the local component).

There are other possible reasons for the difference. The time periods considered by the Singapore traders and the refiner–marketers were not exactly the same. Also, the refiner–marketers were making commitments to buy and sell for a period of six months, whereas the Singapore traders were not actually engaging in a trade but providing a view of the appropriate assessment in a hypothetical transaction.

In contrast, MMA found that all parties agreed that, as the specifications of the new gasoil 10 ppm benchmark virtually matched the Australian standards, no QD or QP currently applied.

MMA suggested that the QP being used in IPP formulas by the refiner–marketers be regularly reviewed. It noted that Australia is at the forefront of countries in the Asian region moving to tighter fuel standards. As more nations in the region move to more stringent fuel specifications, the availability of Australian-quality fuel will increase and the QP should diminish.

Are the IPP calculations made by each of the refiner–marketers appropriate?

MMA held discussions with the four refiner–marketers in Australia and examined information and data provided by them to the ACCC in the context of the 2007 petrol inquiry and the 2008 petrol monitoring report. This included breakdowns of the IPP formulas for RULP and PULP for 2007–08.

Based on these discussions and information provided by the ACCC, MMA observed that:

- The refiner–marketers all use Platts MOPS pricing benchmarks, which MMA considers appropriate.
- Most of the refiner–marketers use Mogas RON 95 as the benchmark for RULP and Mogas RON 97 as the benchmark for PULP.
- All of the refiner–marketers use gasoil 10 ppm sulphur as the benchmark for diesel.
- The QP used by the refiner–marketers in their IPP formulas is not transparent and can vary between locations. QPs are generally similar between companies for RULP, but the range is larger for PULP.
- There are differences between the companies in the exchange rates used, in the rates applied in the wharfage and insurance/loss components, and in the freight rates used (which differ between locations and between companies).

Appropriateness of current international LPG benchmark price for setting prices in Australia

Allens reviewed the appropriateness of the current international LPG benchmark price for setting automotive LPG wholesale prices in Australia. The report concluded that:

- The Saudi Contract Prices (CPs) for propane and butane are the appropriate benchmark for automotive LPG pricing in Australia.
- Domestic wholesale prices are being negotiated between export parity price (EPP) and IPP.
- The IPP varies considerably by location.
- LPG market characteristics and pricing differ considerably from petrol and diesel markets.

Allens' findings are summarised below.

The Saudi CP is the appropriate benchmark for automotive LPG

- The Saudi CPs for propane and butane published each month by Saudi Aramco are the most appropriate international benchmark prices for Australia.
- This is reflected in the predominant use of the Saudi CP benchmark by Australian importers, exporters and wholesale distributors when setting domestic wholesale prices.
- However, over recent years a spot market for LPG has developed in the Asia-Pacific region, with most trading undertaken by Chinese entities. Daily spot prices for propane and butane are published by Argus and Platts. The spot prices published by Argus are widely used by the industry.
- Around 80 per cent of international LPG sales in Asia continue to be conducted under contracts that use Saudi CP as a pricing basis. The Saudi CP and Argus prices for LPG are highly correlated.

Domestic automotive wholesale prices are being negotiated between EPP and IPP

- Australia exports approximately half of its production of LPG (mostly butane and largely from the North West Shelf). It also imports propane into New South Wales and Queensland. These imports comprise about 20 per cent of total domestic LPG demand.
- Domestic automotive LPG prices are currently being negotiated between EPP and IPP, taking into account the demand for and supply of LPG across Australia's jurisdictions, the location of domestic producers, infrastructure costs and freight logistics.
  - Wholesale prices in Victoria and South Australia are generally less than the IPP.
  - Wholesale prices in the other states and territories are generally based on the IPP.
- The components of the IPP are:

  IPP = Saudi CP + freight + insurance and loss + storage and terminal fees + supplier margin

- As domestic exporters set their prices relative to the Saudi CP (taking into account Australia's location advantage for exports to Japan, which is the major importer of LPG in the region), the EPP is not significantly below the IPP. Generally, the EPP is equal to the Saudi CP plus a small margin, plus domestic freight to a given location.

LPG IPP varies considerably by location

- Prices are negotiated at each supply point (LPG plant, refinery or marine loading facility) and reflect the comparative location advantage or negotiating position of the seller. As a consequence, prices are different at each location.
- Generally, the IPP in Sydney is the lowest. Allens has estimated that the IPP in Brisbane is about $US70 per metric tonne (mt) higher than the Sydney IPP—or more than 4 Australian cents per litre (cpl), based on a $A/$US exchange rate of 0.8000. In Perth the IPP is about $US35 per mt higher than in Sydney (or more than 2 cpl), and in Darwin it is as much as $US160 per mt higher (or 10 cpl).

LPG market characteristics and pricing differ considerably from petrol and diesel

- The Saudi CP represents about 80 per cent of the IPP for LPG. This is much less than the benchmark component of petrol, which is around 93 per cent. Freight (at 6–7 per cent of the IPP) and storage and terminal fees (12–13 per cent of the IPP) are the other main components of the LPG IPP.
- Infrastructure costs for LPG are much higher than those for petrol or diesel.
  - The facilities to load, discharge and store refrigerated, semi-refrigerated and pressurised LPG are quite specialised and expensive.
  - The nature of LPG requires either pressure vessels or refrigeration to ensure it remains a liquid. Pressure requires heavy steel vessels, whereas refrigeration requires specialised metal to ensure it does not become brittle at prolonged very cold temperatures.
- The high cost of infrastructure and the changed structure of market demand since Australian LPG facilities were initially installed (mainly in the 1970s) have resulted in the industry being subject to logistical challenges.

Appendix C

Gross indicative retail margins for regular unleaded petrol and diesel in the five largest cities: 2002–03 to 2008–09

This appendix provides data on gross indicative retail margins for regular unleaded petrol for each of the five largest cities individually—shown annually for the period 2002–03 to 2008–09 and monthly for 2008–09.[1]

It also provides data on gross indicative retail margins for diesel for the five largest cities in aggregate—shown annually for the period 2004–05 to 2008–09 and monthly for 2008–09.[2]

Regular unleaded petrol

Sydney

Average annual retail prices and terminal gate prices (TGPs) in Sydney, and the difference between these prices (that is, the gross indicative retail margin), for 2002–03 to 2008–09 are presented in table C1. The margins are also calculated in real terms relative to 2002–03 prices.[3] The information is presented on a monthly basis for 2008–09 in table C2. The differences for each period are also presented in chart form (charts C1 and C2).

Table C1 Average annual retail prices, TGPs and margins, Sydney: 2002–03 to 2008–09

	Average retail price cpl	Average TGP cpl	Difference (margin) cpl	Difference (margin) real cpl
2002–03	89.7	85.0	4.7	4.7
2003–04	91.6	87.1	4.5	4.4
2004–05	103.3	98.2	5.1	4.9
2005–06	122.6	118.3	4.3	4.0
2006–07	123.3	118.5	4.8	4.3
2007–08	136.3	131.3	5.0	4.4
2008–09	128.2	122.2	6.0	5.1
Average margins			4.9	4.5

Source: Australian Bureau of Statistics, 2009, Consumer Price Index, Australia, Tables 1 & 2. CPI: All Groups, Index Numbers and Percentage Changes, time series spreadsheet, Cat. no. 6401.0, viewed August 2009, http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Sep%202009?OpenDocument

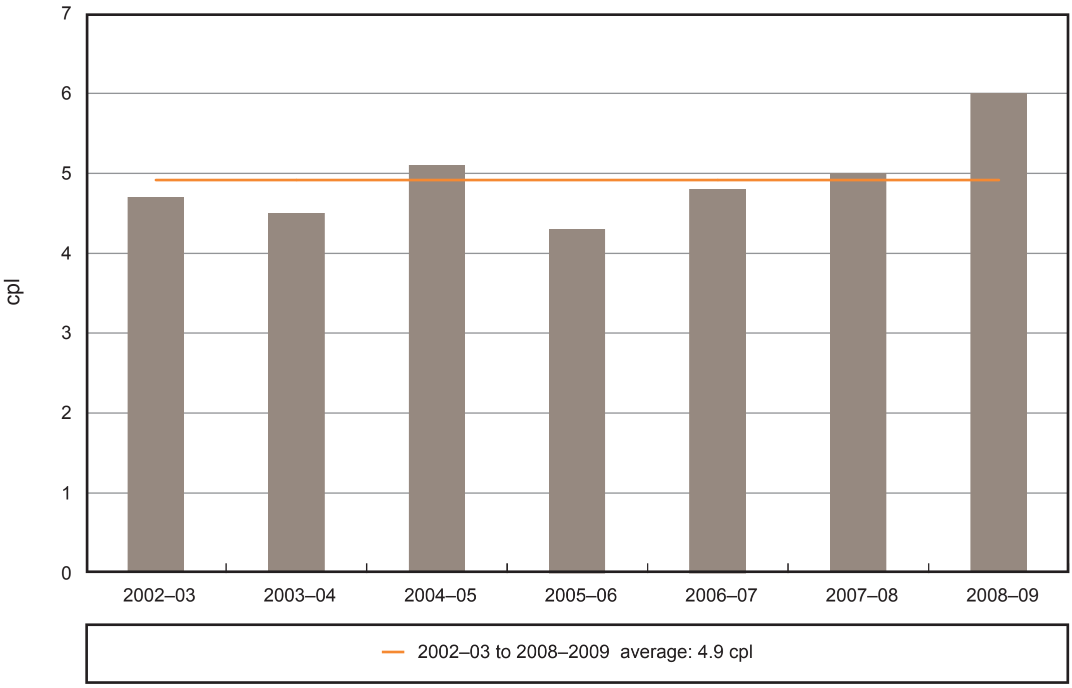
The average annual margin over the seven years was 4.9 cpl. It ranged from a low of 4.3 cpl in 2005–06 to a high of 6.0 cpl in 2008–09.

1 Sources for the unleaded petrol tables and charts in this appendix are ACCC, Informed Sources, BP, Caltex, Mobil, Shell, Trafigura, Gull and FuelWatch.

2 Sources for the diesel tables and charts in this appendix are ACCC, Informed Sources and the Australian Institute of Petroleum.

3 The Australian Bureau of Statistics (ABS) All Groups Consumer Price Index for Sydney, Melbourne, Brisbane, Adelaide and Perth was used to deflate the respective retail margins.

Chart C1 Annual differentials between average annual retail prices and TGPs, Sydney: 2002–03 to 2008–09



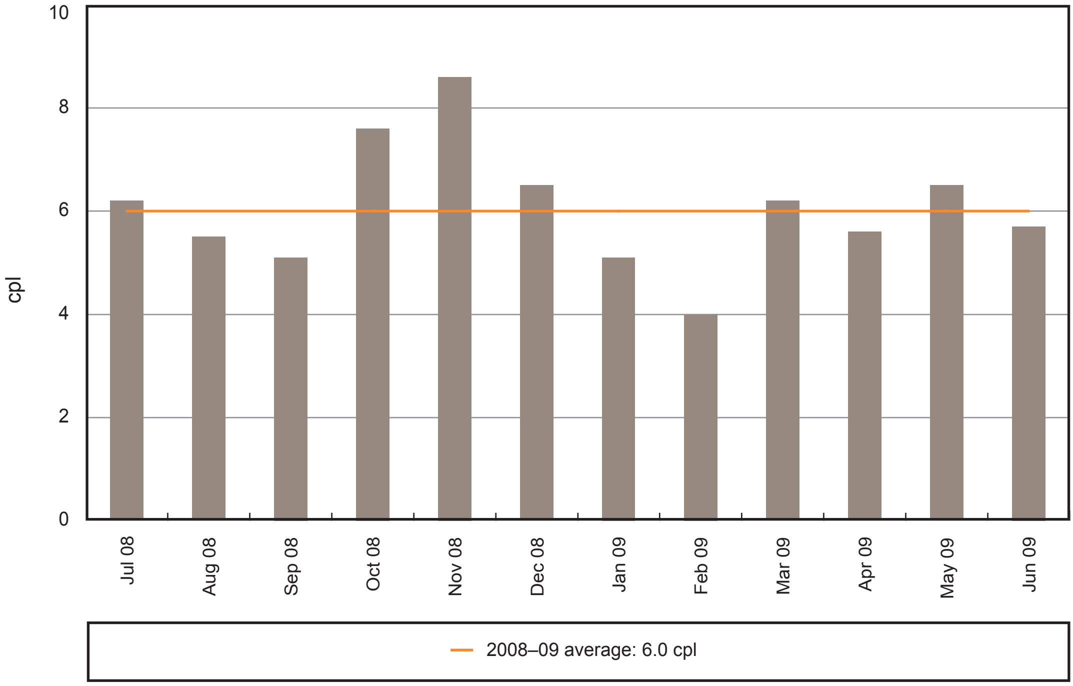
The **real** average annual margin over the seven years was 4.5 cpl. It ranged from a low of 4.0 cpl in 2005–06 to a high of 5.1 cpl in 2008–09.

Table C2 Average monthly retail prices, TGPs and margins, Sydney: July 2008 to June 2009

	Average retail price cpl	Average TGP cpl	Difference cpl
Jul 08	160.5	154.3	6.2
Aug 08	149.3	143.8	5.5
Sep 08	151.2	146.1	5.1
Oct 08	148.2	140.6	7.6
Nov 08	121.5	112.9	8.6
Dec 08	104.7	98.2	6.5
Jan 09	108.1	103.0	5.1
Feb 09	120.2	116.2	4.0
Mar 09	115.9	109.7	6.2
Apr 09	117.3	111.7	5.6
May 09	117.7	111.2	6.5
Jun 09	123.3	117.6	5.7
Average margin			6.0

The monthly margin over the year ranged from a low of 4.0 cpl in February 2009 to a high of 8.6 cpl in November 2008.

Chart C2 Monthly differential between average retail prices and average TGPs, Sydney: July 2008 to June 2009



Melbourne

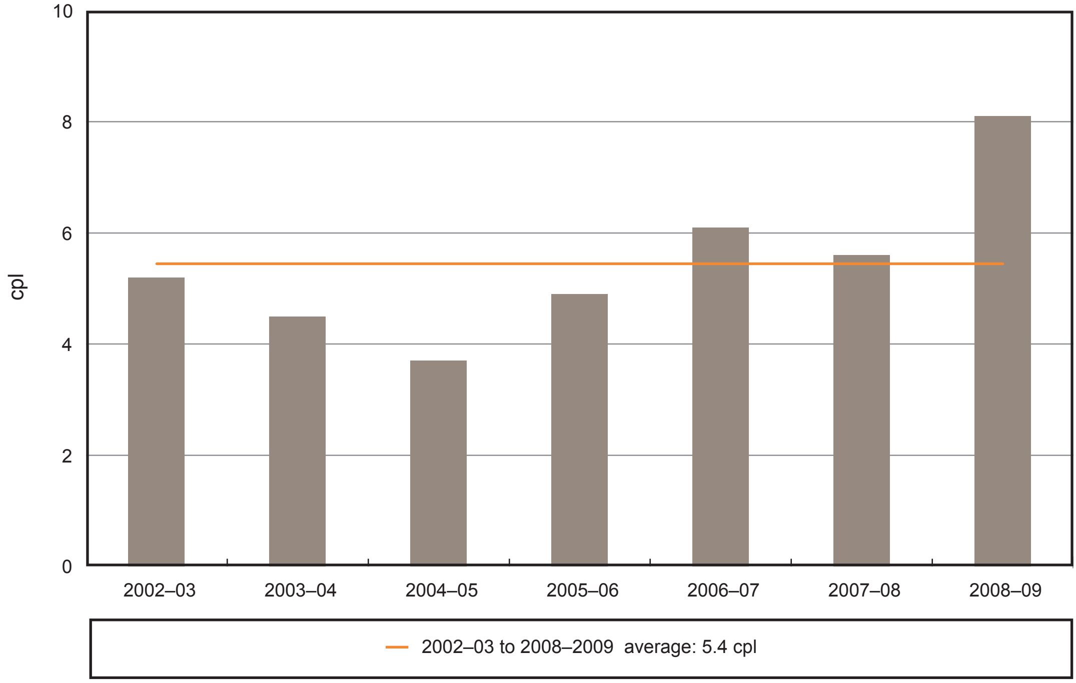
Average annual retail prices, TGPs and gross indicative retail margins for Melbourne for 2002–03 to 2008–09 are presented in table C3. The margins are also calculated in real terms relative to 2002–03 prices. The information is presented on a monthly basis for 2008–09 in table C4. The differences for each period are also presented in chart form (charts C3 and C4).

Table C3 Average annual retail prices, TGPs and margins, Melbourne: 2002–03 to 2008–09

	Average retail price cpl	Average TGP cpl	Difference (margin) cpl	Difference (margin) real cpl
2002–03	89.3	84.1	5.2	5.2
2003–04	90.6	86.1	4.5	4.4
2004–05	101.0	97.3	3.7	3.5
2005–06	122.3	117.4	4.9	4.6
2006–07	123.5	117.4	6.1	5.5
2007–08	136.3	130.7	5.6	4.9
2008–09	129.9	121.8	8.1	6.9
Average margins			5.4	5.0

The average annual margin over the seven years was 5.4 cpl. It ranged from a low of 3.7 cpl in 2004–05 to a high of 8.1 cpl in 2008–09.

Chart C3 Annual differentials between average annual retail prices and TGPs, Melbourne: 2002–03 to 2008–09



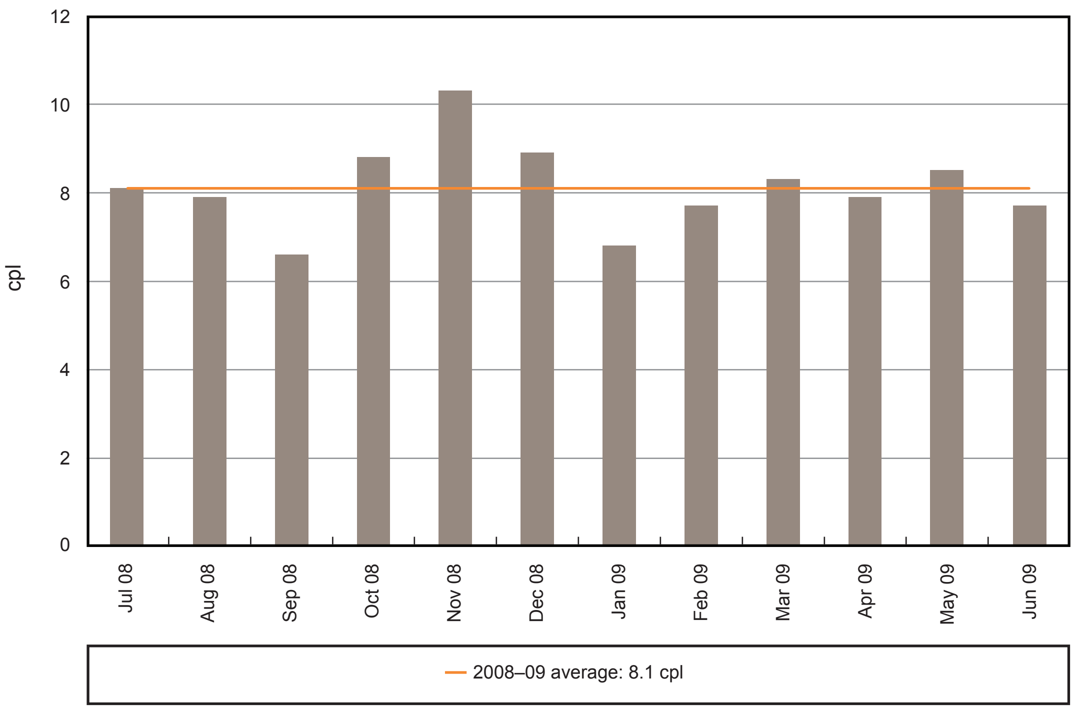
The **real** average annual margin over the seven years was 5.0 cpl. It ranged from a low of 3.5 cpl in 2004–05 to a high of 6.9 cpl in 2008–09.

Table C4 Average monthly retail prices, TGPs and margins, Melbourne: July 2008 to June 2009

	Average retail price cpl	Average TGP cpl	Difference cpl
Jul 08	161.7	153.6	8.1
Aug 08	151.1	143.2	7.9
Sep 08	152.1	145.5	6.6
Oct 08	148.9	140.1	8.8
Nov 08	122.9	112.6	10.3
Dec 08	106.7	97.8	8.9
Jan 09	109.4	102.6	6.8
Feb 09	123.7	116.0	7.7
Mar 09	118.0	109.7	8.3
Apr 09	119.3	111.4	7.9
May 09	119.5	111.0	8.5
Jun 09	125.1	117.4	7.7
Average margin			8.1

The monthly margin over the year ranged from a low of 6.6 cpl in September 2008 to a high of 10.3 cpl in November 2008.

Chart C4 Monthly differential between average retail prices and average TGPs, Melbourne: July 2008 to June 2009



Brisbane

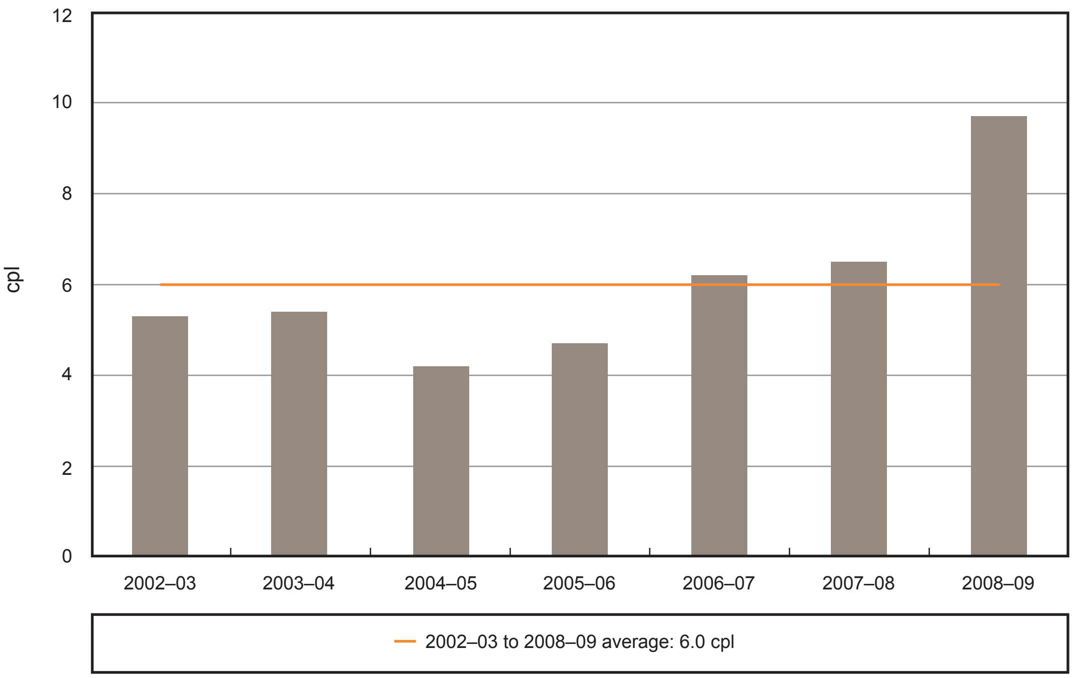
Average annual retail prices, TGPs and gross indicative retail margins for Brisbane for 2002–03 to 2008–09 are presented in table C5. The margins are also calculated in real terms relative to 2002–03 prices. The information is presented on a monthly basis for 2008–09 in table C6. The differences for each period are also presented in chart form (charts C5 and C6).

Table C5 Average annual retail prices, TGPs and margins, Brisbane: 2002–03 to 2008–09

	Average retail price cpl	Average TGP cpl	Difference (margin) cpl	Difference (margin) real cpl
2002–03	81.8	76.5	5.3	5.3
2003–04	84.0	78.6	5.4	5.2
2004–05	94.1	89.9	4.2	4.0
2005–06	114.5	109.8	4.7	4.3
2006–07	116.0	109.8	6.2	5.5
2007–08	128.5	122.0	6.5	5.5
2008–09	122.5	112.8	9.7	8.0
Average margins			6.0	5.4

The average annual margin over the seven years was 6.0 cpl. It ranged from a low of 4.2 cpl in 2004–05 to a high of 9.7 cpl in 2008–09.

Chart C5 Annual differentials between average annual retail prices and TGPs, Brisbane: 2002–03 to 2008–09



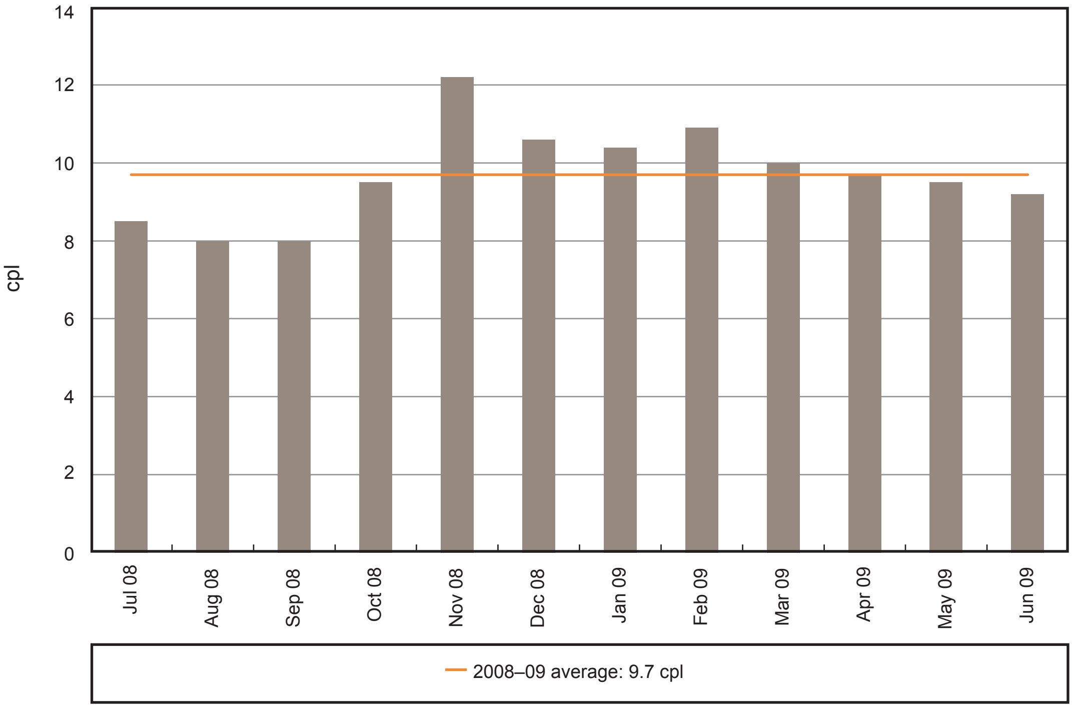
The **real** average annual margin over the seven years was 5.4 cpl. It ranged from a low of 4.0 cpl in 2004–05 to a high of 8.0 cpl in 2008–09.

Table C6 Average monthly retail prices, TGPs and margins, Brisbane: July 2008 to June 2009

	Average retail price cpl	Average TGP cpl	Difference cpl
Jul 08	153.5	145.0	8.5
Aug 08	142.5	134.5	8.0
Sep 08	144.8	136.8	8.0
Oct 08	141.0	131.5	9.5
Nov 08	115.6	103.4	12.2
Dec 08	99.1	88.5	10.6
Jan 09	103.6	93.2	10.4
Feb 09	117.4	106.5	10.9
Mar 09	110.3	100.3	10.0
Apr 09	112.1	102.4	9.7
May 09	111.5	102.0	9.5
Jun 09	117.6	108.4	9.2
Average margin			9.7

The monthly margin over the year ranged from a low of 8.0 cpl in August and September 2008 to a high of 12.2 cpl in November 2008.

Chart C6 Monthly differential between average retail prices and average TGPs, Brisbane: July 2008 to June 2009



Adelaide

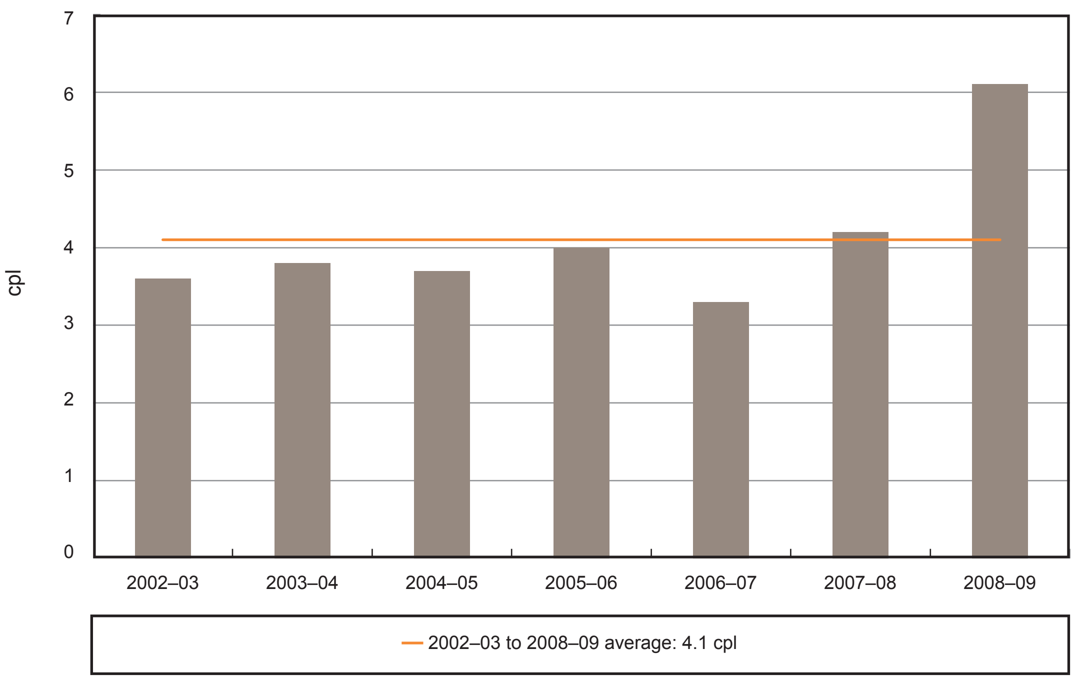
Average annual retail prices, TGPs and gross indicative retail margins for Adelaide for 2002–03 to 2008–09 are presented in table C7. The margins are also calculated in real terms relative to 2002–03 prices. The information is presented on a monthly basis for 2008–09 in table C8. The differences for each period are also presented in chart form (charts C7 and C8).

Table C7 Average annual retail prices, TGPs and margins, Adelaide: 2002–03 to 2008–09

	Average retail price cpl	Average TGP cpl	Difference (margin) cpl	Difference (margin) real cpl
2002–03	90.4	86.8	3.6	3.6
2003–04	92.9	89.1	3.8	3.7
2004–05	103.3	99.6	3.7	3.5
2005–06	123.7	119.7	4.0	3.7
2006–07	122.4	119.1	3.3	3.0
2007–08	135.6	131.4	4.2	3.6
2008–09	128.7	122.6	6.1	5.1
Average margins			4.1	3.7

The average annual margin over the seven years was 4.1 cpl. It ranged from a low of 3.3 cpl in 2006–07 to a high of 6.1 cpl in 2008–09.

Chart C7 Annual differentials between average annual retail prices and TGPs, Adelaide: 2002–03 to 2008–09



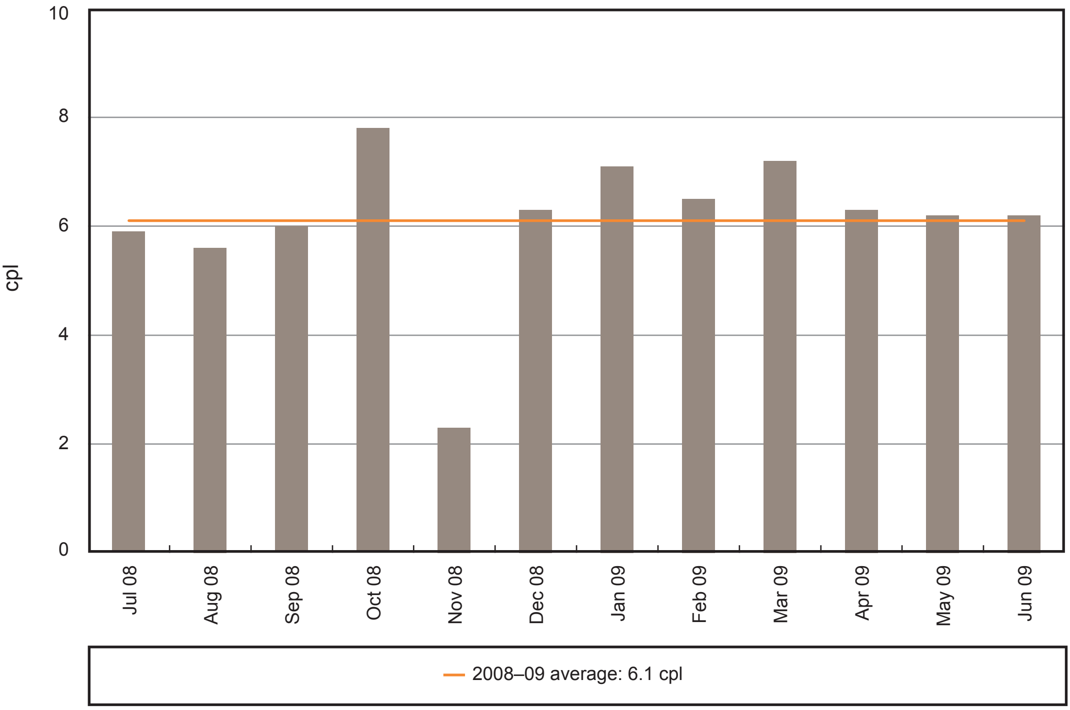
The **real** average annual margin over the seven years was 3.7 cpl. It ranged from a low of 3.0 cpl in 2006–07 to a high of 5.1 cpl in 2008–09.

Table C8 Average monthly retail prices, TGPs and margins, Adelaide: July 2008 to June 2009

	Average retail price cpl	Average TGP cpl	Difference cpl
Jul 08	160.5	154.6	5.9
Aug 08	149.7	144.1	5.6
Sep 08	152.5	146.5	6.0
Oct 08	149.1	141.3	7.8
Nov 08	115.8	113.5	2.3
Dec 08	104.7	98.4	6.3
Jan 09	110.1	103.0	7.1
Feb 09	123.0	116.5	6.5
Mar 09	117.4	110.2	7.2
Apr 09	118.7	112.4	6.3
May 09	118.1	111.9	6.2
Jun 09	124.5	118.3	6.2
Average margin			6.1

The monthly margin over the year ranged from a low of 2.3 cpl in November 2008 to a high of 7.8 cpl in October 2008.

Chart C8 Monthly differential between average retail prices and average TGPs, Adelaide: July 2008 to June 2009



Perth

Average annual retail prices, TGPs and gross indicative retail margins for Perth for 2003–04 to 2008–09 are presented in table C9.[4] The margins are also calculated in real terms relative to 2002–03 prices. The information is presented on a monthly basis for 2008–09 in table C10. The differences for each period are also presented in chart form (charts C9 and C10).

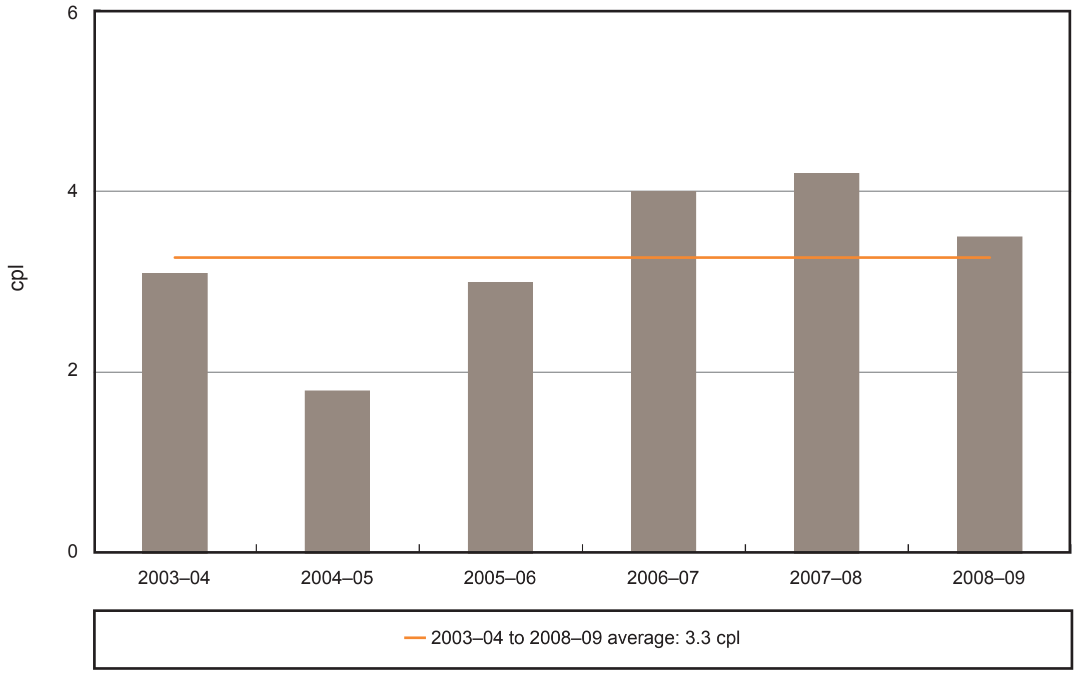
Table C9 Average annual retail prices, TGPs and margins, Perth: 2003–04 to 2008–09

	Average retail price cpl	Average TGP cpl	Difference (margin) cpl	Difference (margin) real cpl
2003–04	92.3	89.2	3.1	3.0
2004–05	101.4	99.6	1.8	1.7
2005–06	122.3	119.3	3.0	2.7
2006–07	122.9	118.9	4.0	3.5
2007–08	135.8	131.6	4.2	3.6
2008–09	126.2	122.7	3.5	2.9
Average margins			3.3	2.9

The average annual margin over the six years was 3.3 cpl. It ranged from a low of 1.8 cpl in 2004–05 to a high of 4.2 cpl in 2007–08.

4 TGP data for Perth for 2002–03 is not available.

Chart C9 Annual differentials between average annual retail prices and TGPs, Perth: 2003–04 to 2008–09



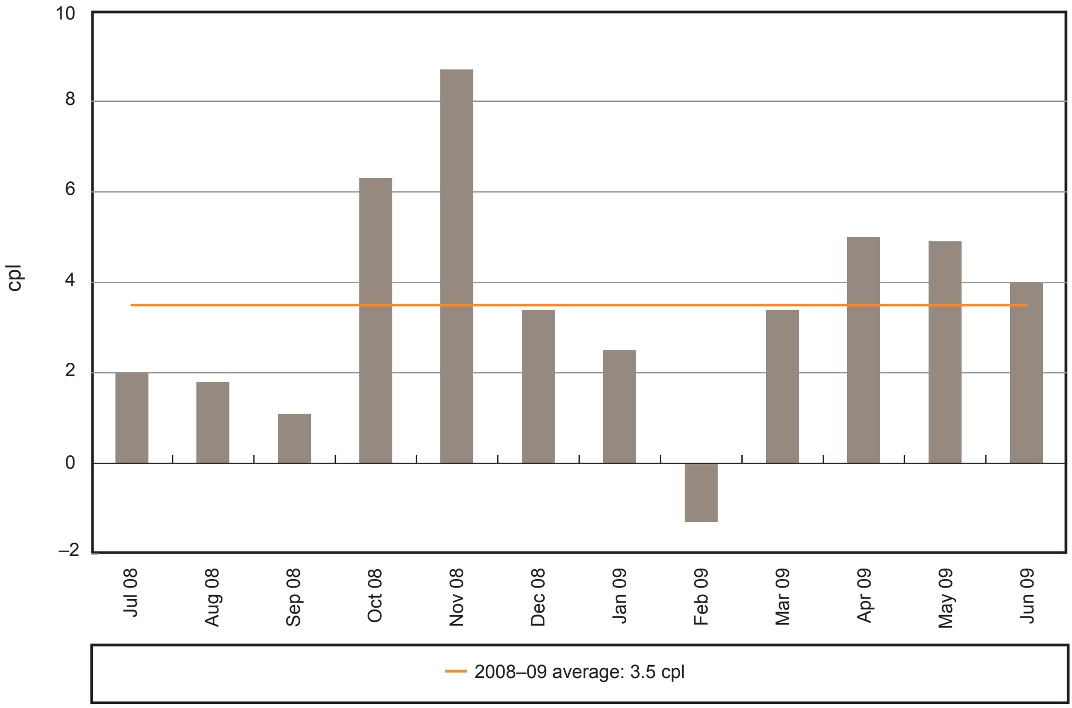
The **real** average annual margin over the six years was 2.9 cpl. It ranged from a low of 1.7 cpl in 2004–05 to a high of 3.6 cpl in 2007–08.

Table C10 Average monthly retail prices, TGPs and margins, Perth: July 2008 to June 2009

	Average retail price cpl	Average TGP cpl	Difference cpl
Jul 08	156.9	154.9	2.0
Aug 08	145.9	144.1	1.8
Sep 08	147.1	146.0	1.1
Oct 08	147.1	140.8	6.3
Nov 08	121.7	113.0	8.7
Dec 08	101.8	98.4	3.4
Jan 09	105.4	102.9	2.5
Feb 09	115.3	116.6	–1.3
Mar 09	113.9	110.5	3.4
Apr 09	118.0	113.0	5.0
May 09	117.5	112.6	4.9
Jun 09	123.0	119.0	4.0
Average margin			3.5

The monthly margin over the year ranged from a low of –1.3 cpl in February 2009 to a high of 8.7 cpl in November 2008.

Chart C10 Monthly differential between average retail prices and average TGPs, Perth: July 2008 to June 2009



Diesel

Five-city average annual retail diesel prices, TGPs and gross indicative retail margins for 2004–05 to 2008–09 are presented in table C11. The margins are also calculated in real terms relative to 2004–05 prices.[5] The information is presented on a monthly basis for 2008–09 in table C12. The differences for each period are also presented in chart form (charts C11 and C12).

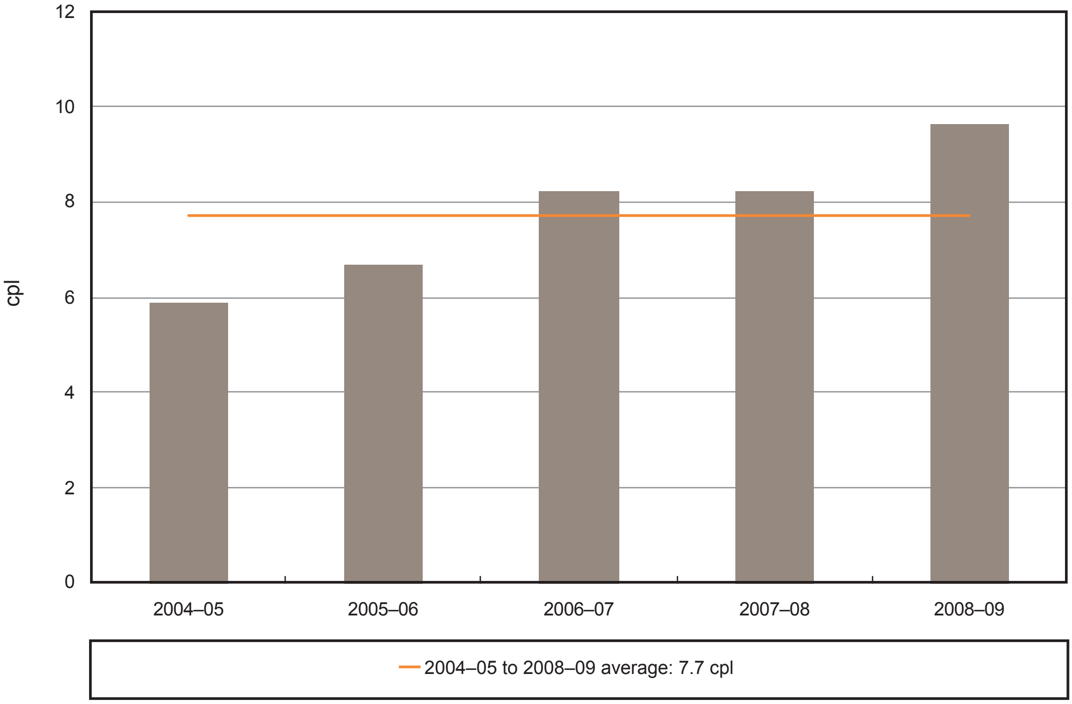
Table C11 Average annual retail prices, TGPs and margins, five-city average: 2004–05 to 2008–09

	Average retail price cpl	Average TGP cpl	Difference (margin) nominal cpl	Difference (margin) real cpl
2004–05	109.0	103.1	5.9	5.9
2005–06	130.3	123.6	6.7	6.5
2006–07	127.6	119.4	8.2	7.7
2007–08	147.2	139.0	8.2	7.4
2008–09	139.0	129.4	9.6	8.4
Average margins			7.7	7.2

The average annual margin over the five years was 7.7 cpl. It ranged from a low of 5.9 cpl in 2004–05 to a high of 9.6 cpl in 2008–09.

5 An average of the ABS All Groups Consumer Price Index for Sydney, Melbourne, Brisbane, Adelaide and Perth was used to deflate the retail margins.

Chart C11 Annual differentials between average annual retail prices and TGPs, five-city average: 2004–05 to 2008–09



Source: Australian Bureau of Statistics, 2009, Consumer Price Index, Australia, Tables 1 & 2. CPI: All Groups, Index Numbers and Percentage Changes, time series spreadsheet, Cat. no. 6401.0, viewed August 2009, http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Sep%202009?OpenDocument

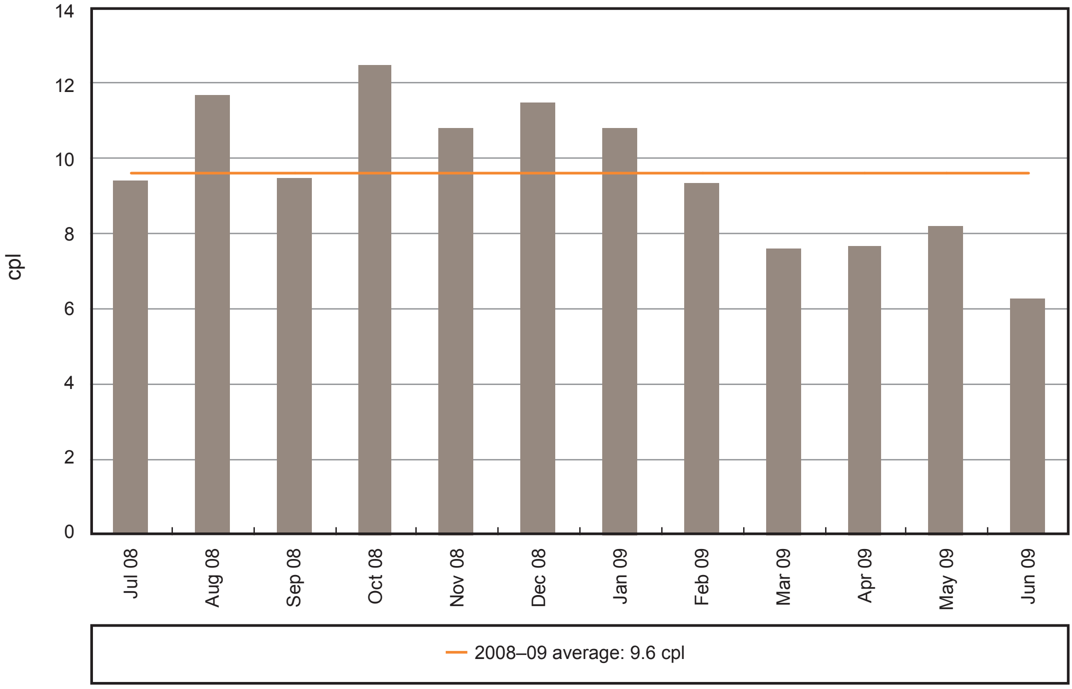
The **real** average annual margin over the five years was 7.2 cpl. It ranged from a low of 5.9 cpl in 2004–05 to a high of 8.4 cpl in 2008–09.

Table C12 Average monthly retail prices, TGPs and margins, five-city average: July 2008 to June 2009

	Average retail price cpl	Average TGP cpl	Difference cpl
Jul 08	184.3	174.9	9.4
Aug 08	170.2	158.5	11.7
Sep 08	165.4	155.9	9.5
Oct 08	158.5	146.0	12.5
Nov 08	145.4	134.6	10.8
Dec 08	131.6	120.1	11.5
Jan 09	123.4	112.6	10.8
Feb 09	119.4	110.1	9.3
Mar 09	114.5	106.9	7.6
Apr 09	117.0	109.3	7.7
May 09	115.4	107.2	8.2
Jun 09	120.1	113.8	6.3
Average margin			9.6

The monthly margin over the year ranged from a low of 6.3 cpl in June 2009 to a high of 12.5 cpl in October 2008.

Chart C12 Monthly differential between average retail prices and average TGPs, five-city average: July 2008 to June 2009



Appendix D

State retail petrol and diesel subsidies in 2008–09

Some state governments provide subsidies at the retail level to reduce the prices of petrol and diesel paid by consumers.

Tables D1 and D2 list all state subsidies for unleaded petrol and diesel respectively that were applicable in 2008–09. They describe the amount of the subsidy and how it is applied. Assuming that the full amount of the subsidy in each state is passed on to consumers, the possible effect of the subsidies on average retail prices in three categories of locations—the five largest cities, the three smaller capital cities and regional centres and country towns—in 2008–09 is estimated.

The fuel subsidies in Queensland and New South Wales were abolished from 1 July 2009.

Table D1 State retail petrol price subsidies and their possible effect on average retail prices: 2008–09

			Possible effect of subsidy on average prices (incl. GST)		
State	Amount (excl. GST) cpl	Notes	Five largest cities cpl	Three smaller capital cities cpl	Regional centres and country towns cpl
Qld	8.354	State-wide	–1.8	nil	–1.7
NSW	Between 1.67 and 8.35	Applicable to five zones near the Queensland border	nil	nil	–0.4
SA	Between 0.82 and 3.33	0.82 cpl for towns 50–100 km from GPO; 3.3 cpl for towns >100 km from GPO	nil	nil	–0.3
NT	1.1	Subsidy discontinued from 5 May 2009	nil	–0.3	<–0.1
Effect of subsidies			–1.8	–0.3	–2.4

Table D2 State retail diesel price subsidies and their possible effect on average retail prices: 2008–09

			Possible effect of subsidy on average prices (incl. GST)		
State	Amount (excl. GST) cpl	Notes	Five largest cities cpl	Three smaller capital cities cpl	Regional centres and country towns cpl
Qld	8.354	State-wide	–1.8	nil	–1.6
NSW	Between 1.67 and 8.35	Applicable to five zones near the Queensland border	nil	nil	–0.4
SA	1.94	1.94 cpl for towns >100 km from GPO	nil	nil	–0.2
NT	1.1	Subsidy discontinued from 5 May 2009	nil	–0.3	<–0.1
Effect of subsidies			–1.8	–0.3	–2.2

Appendix E

E10 petrol price monitoring

This appendix presents information on the ACCC's E10 petrol price monitoring for the period October 2008 to September 2009.[1]

E10 petrol is unleaded petrol which includes up to 10 per cent ethanol. The prices monitored are for regular unleaded petrol (RULP) and regular E10 unleaded petrol (E10), which therefore exclude premium E10 and E5 petrol. E10 prices have been collected from various service stations in a particular location and compared with the RULP prices at those service stations.

Methodological issues relating to the collection and reporting of this price data are outlined in box E1 at the end of this appendix.

Monthly and quarterly aggregates

Table E1 shows monthly and quarterly differentials between RULP and E10 prices across all of the locations included in the ACCC's E10 price monitoring program for the period October 2008 to September 2009.

Table E1 Monthly and quarterly average E10 differentials: October 2008 to September 2009—all locations monitored

Month	Difference cpl
October	2.9
November	2.9
December	3.0
Average	**2.9**
January	3.0
February	2.7
March	2.5
Average	**2.7**
April	2.6
May	2.5
June	2.6
Average	**2.6**
July	2.5
August	2.5
September	2.5
Average	**2.5**

Source: Australian Bureau of Statistics.

1 E10 price monitoring quarterly reports for the December 2006 quarter and the March, June and September 2007 quarters are available from the ACCC website. Reports for the December 2007 quarter to the September 2008 quarter are available in Appendix D of the 2008 petrol monitoring report (which is also on the website).

The source for all data in this appendix is ACCC and Informed Sources. Note that some figures in the tables may not add exactly because of rounding.

Table E1 shows that the differential between RULP and E10 prices across all the locations in the ACCC's E10 price monitoring program has decreased over time and that the differential has stabilised at around 2.5 cpl in the last six months.

Capital cities and regional centres and country towns

Table E2 shows, for the capital cities, and regional centres and country towns, across Australia in aggregate, average monthly prices for RULP and E10 and the difference between the two for the period October 2008 to September 2009.

Table E2 Monthly and quarterly average RULP and E10 prices: October 2008 to September 2009—broad aggregates

Location	Month	RULP cpl	E10 cpl	Difference cpl
Capital cities	October	146.9	144.0	3.0
	November	119.2	116.3	2.9
	December	103.8	101.0	2.9
	Average	**123.3**	**120.4**	**2.9**
	January	107.9	105.1	2.8
	February	122.2	119.4	2.8
	March	116.5	113.8	2.7
	Average	**115.5**	**112.8**	**2.8**
	April	117.6	114.9	2.7
	May	117.7	115.0	2.7
	June	124.0	121.2	2.7
	Average	**119.8**	**117.0**	**2.7**
	July	123.2	120.5	2.8
	August	127.4	124.7	2.7
	September	124.2	121.5	2.7
	Average	**125.0**	**122.2**	**2.7**
Regional centres and country towns	October	148.9	146.0	2.9
	November	126.6	123.7	2.9
	December	105.6	102.6	3.0
	Average	**127.0**	**124.1**	**2.9**
	January	108.5	105.5	3.0
	February	120.0	117.4	2.7
	March	119.1	116.6	2.5
	Average	**116.0**	**113.2**	**2.7**
	April	117.6	115.0	2.6
	May	116.6	114.1	2.5
	June	121.0	118.5	2.5
	Average	**118.4**	**115.9**	**2.5**
	July	125.0	122.6	2.5
	August	125.3	122.8	2.4
	September	125.2	122.7	2.5
	Average	**125.2**	**122.7**	**2.5**

Specific locations

Tables E3 and E4 show the same data as in table E2 for each of the 46 locations across Australia currently included in the monitoring program. Table E3 includes the five capital cities and table E4 includes 41 regional centres and country towns (27 in New South Wales, 13 in Queensland and one in Victoria).

Table E3 Monthly and quarterly average RULP and E10 prices: October 2008 to September 2009—capital cities

Location	Month	RULP cpl	E10 cpl	Difference cpl
Sydney*	October	148.2	145.3	2.9
	November	121.3	118.4	2.9
	December	104.6	101.5	3.1
	Average	**124.7**	**121.7**	**3.0**
	January	108.0	105.0	3.0
	February	119.9	117.1	2.8
	March	115.7	112.9	2.8
	Average	**114.5**	**111.7**	**2.9**
	April	117.3	114.5	2.8
	May	117.8	115.0	2.8
	June	123.3	120.5	2.8
	Average	**119.5**	**116.7**	**2.8**
	July	121.9	119.1	2.8
	August	125.3	122.5	2.8
	September	122.2	119.3	2.9
	Average	**123.1**	**120.3**	**2.8**
Melbourne	October	148.5	145.2	3.3
	November	122.3	119.1	3.2
	December	106.5	103.1	3.4
	Average	**125.8**	**122.5**	**3.3**
	January	109.2	105.8	3.4
	February	123.4	120.1	3.3
	March	117.6	114.5	3.1
	Average	**116.7**	**113.5**	**3.3**
	April	118.8	115.6	3.2
	May	119.1	115.9	3.2
	June	124.7	121.5	3.2
	Average	**120.9**	**117.7**	**3.2**
	July	124.0	120.8	3.2
	August	127.3	124.1	3.2
	September	123.7	120.6	3.1
	Average	**125.0**	**121.8**	**3.2**
Brisbane*	October	141.1	138.1	3.0
	November	115.6	112.5	3.1
	December	99.1	96.2	2.9
	Average	**118.6**	**115.6**	**3.0**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	103.8	100.8	3.0
	February	117.4	114.5	2.9
	March	110.2	107.4	2.8
	Average	**110.5**	**107.6**	**2.9**
	April	112.1	109.3	2.8
	May	111.6	108.7	2.9
	June	117.7	114.8	2.9
	Average	**113.8**	**110.9**	**2.9**
	July	122.9	120.0	2.9
	August	128.2	125.5	2.7
	September	124.9	122.2	2.7
	Average	**125.3**	**122.6**	**2.8**
Adelaide	October	148.8	146.0	2.8
	November	116.9	114.3	2.6
	December	104.1	102.2	1.9
	Average	**123.3**	**120.8**	**2.4**
	January	110.0	108.1	1.9
	February	123.1	121.1	2.0
	March	117.7	115.7	2.0
	Average	**116.9**	**115.0**	**2.0**
	April	118.7	116.7	2.0
	May	118.3	116.3	2.0
	June	125.4	123.5	1.9
	Average	**120.8**	**118.8**	**2.0**
	July	121.5	119.5	2.0
	August	126.0	123.8	2.2
	September	122.3	120.0	2.3
	Average	**123.3**	**121.1**	**2.2**
Canberra*	October	148.0	145.2	2.8
	November	119.7	117.0	2.7
	December	104.8	101.8	3.0
	Average	**124.2**	**121.3**	**2.8**
	January	108.6	105.7	2.9
	February	127.1	124.2	2.9
	March	121.3	118.5	2.8
	Average	**119.0**	**116.1**	**2.9**
	April	121.1	118.3	2.8
	May	121.9	119.1	2.8
	June	128.7	125.8	2.9
	Average	**123.9**	**121.1**	**2.8**
	July	125.9	123.0	2.9
	August	130.4	127.7	2.7
	September	128.0	125.4	2.6
	Average	**128.1**	**125.4**	**2.7**

Table E4 Monthly and quarterly average RULP and E10 prices: October 2008 to September 2009—regional centres and country towns

Location	Month	RULP cpl	E10 cpl	Difference cpl
New South Wales regional centres and country towns				
Albury	October	na	na	na
	November	na	na	na
	December	102.4	99.6	2.8
	Average	**102.4**	**99.6**	**2.8**
	January	109.0	105.7	3.3
	February	118.4	115.4	3.0
	March	117.0	115.0	2.0
	Average	**114.8**	**112.0**	**2.8**
	April	114.5	111.6	2.9
	May	114.3	111.3	3.0
	June	119.5	116.4	3.1
	Average	**116.1**	**113.1**	**3.0**
	July	120.2	117.2	3.0
	August	118.3	115.3	3.0
	September	115.4	112.4	3.0
	Average	**118.0**	**115.0**	**3.0**
Armidale	October	152.9	150.0	2.9
	November	131.3	128.4	2.9
	December	na	na	na
	Average	**142.1**	**139.2**	**2.9**
	January	na	na	na
	February	na	na	na
	March	121.4	119.2	2.2
	Average	**121.4**	**119.2**	**2.2**
	April	121.9	119.5	2.4
	May	122.5	120.4	2.1
	June	126.3	124.2	2.1
	Average	**123.6**	**121.4**	**2.2**
	July	129.9	127.7	2.2
	August	131.3	129.1	2.2
	September	130.0	127.9	2.1
	Average	**130.4**	**128.2**	**2.2**
Batemans Bay	October	157.8	154.8	3.0
	November	134.9	131.9	3.0
	December	116.4	113.4	3.0
	Average	**136.4**	**133.4**	**3.0**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	114.6	111.6	3.0
	February	na	na	na
	March	na	na	na
	Average	**114.6**	**111.6**	**3.0**
	April	na	na	na
	May	na	na	na
	June	na	na	na
	Average	**na**	**na**	**na**
	July	na	na	na
	August	na	na	na
	September	na	na	na
	Average	**na**	**na**	**na**
Bathurst	October	na	na	na
	November	na	na	na
	December	105.0	102.0	3.0
	Average	**105.0**	**102.0**	**3.0**
	January	106.9	103.8	3.1
	February	119.8	116.8	3.0
	March	118.5	115.5	3.0
	Average	**115.1**	**112.0**	**3.0**
	April	113.1	110.0	3.1
	May	115.5	112.5	3.0
	June	122.1	119.1	3.0
	Average	**116.9**	**113.9**	**3.0**
	July	125.4	122.5	2.9
	August	121.0	118.0	3.0
	September	121.1	118.1	3.0
	Average	**122.5**	**119.5**	**3.0**
Bega	October	158.2	155.3	2.9
	November	135.1	132.1	3.0
	December	116.8	113.8	3.0
	Average	**136.7**	**133.7**	**3.0**
	January	119.5	116.5	3.0
	February	129.7	127.4	2.3
	March	127.3	125.4	1.9
	Average	**125.5**	**123.1**	**2.4**
	April	125.9	124.0	1.9
	May	125.2	123.3	1.9
	June	131.1	129.0	2.1
	Average	**127.4**	**125.4**	**2.0**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	130.5	128.6	1.9
	August	131.6	129.5	2.1
	September	132.0	130.0	2.0
	Average	**131.4**	**129.4**	**2.0**
Bulahdelah	October	149.2	146.6	2.6
	November	122.3	119.5	2.8
	December	100.4	97.4	3.0
	Average	**124.0**	**121.2**	**2.8**
	January	110.6	107.4	3.2
	February	120.2	117.6	2.6
	March	121.2	118.5	2.7
	Average	**117.3**	**114.5**	**2.8**
	April	122.0	119.3	2.7
	May	120.4	117.7	2.7
	June	126.8	124.1	2.7
	Average	**123.1**	**120.4**	**2.7**
	July	123.7	121.1	2.6
	August	120.2	117.5	2.7
	September	120.5	117.8	2.7
	Average	**121.5**	**118.8**	**2.7**
Casino	October	147.0	144.1	2.9
	November	127.1	124.1	3.0
	December	110.0	107.0	3.0
	Average	**128.0**	**125.1**	**3.0**
	January	112.5	109.4	3.1
	February	114.5	111.8	2.7
	March	117.3	114.9	2.4
	Average	**114.8**	**112.0**	**2.7**
	April	115.1	112.7	2.4
	May	112.7	110.3	2.4
	June	115.0	112.5	2.5
	Average	**114.3**	**111.8**	**2.4**
	July	124.8	122.3	2.5
	August	126.8	124.3	2.5
	September	124.9	122.4	2.5
	Average	**125.5**	**123.0**	**2.5**
Central Coast*	October	148.5	145.8	2.7
	November	122.8	119.8	3.0
	December	105.9	102.9	3.0
	Average	**125.7**	**122.8**	**2.9**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	109.2	106.2	3.0
	February	126.8	123.9	2.9
	March	120.5	118.0	2.5
	Average	**118.8**	**116.0**	**2.8**
	April	120.7	118.0	2.7
	May	121.1	118.5	2.6
	June	127.1	124.3	2.8
	Average	**123.0**	**120.3**	**2.7**
	July	123.7	120.9	2.8
	August	128.6	125.9	2.7
	September	124.9	122.2	2.7
	Average	**125.7**	**123.0**	**2.7**
Coffs Harbour	October	152.5	149.5	3.0
	November	122.9	119.8	3.1
	December	104.7	101.7	3.0
	Average	**126.7**	**123.7**	**3.0**
	January	109.5	106.5	3.0
	February	121.9	119.3	2.6
	March	123.7	121.2	2.5
	Average	**118.4**	**115.7**	**2.7**
	April	120.8	119.1	1.7
	May	120.9	118.4	2.5
	June	123.1	120.6	2.5
	Average	**121.6**	**119.4**	**2.2**
	July	128.7	126.2	2.5
	August	128.5	126.0	2.5
	September	128.4	125.8	2.6
	Average	**128.5**	**126.0**	**2.5**
Dubbo	October	153.9	150.9	3.0
	November	124.5	121.6	2.9
	December	102.5	99.7	2.8
	Average	**127.0**	**124.1**	**2.9**
	January	110.1	107.2	2.9
	February	121.2	118.7	2.5
	March	116.9	114.6	2.3
	Average	**116.1**	**113.5**	**2.6**
	April	119.3	116.8	2.5
	May	114.5	111.9	2.6
	June	121.7	119.3	2.4
	Average	**118.5**	**116.0**	**2.5**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	123.2	120.7	2.5
	August	121.9	119.4	2.5
	September	123.0	120.4	2.6
	Average	**122.7**	**120.2**	**2.5**
Forster	October	149.4	146.4	3.0
	November	133.0	130.0	3.0
	December	111.8	108.8	3.0
	Average	**131.4**	**128.4**	**3.0**
	January	111.8	108.9	2.9
	February	122.1	119.7	2.4
	March	119.4	117.0	2.4
	Average	**117.8**	**115.2**	**2.6**
	April	115.3	112.9	2.4
	May	113.0	110.6	2.4
	June	119.3	116.6	2.7
	Average	**115.9**	**113.4**	**2.5**
	July	119.6	117.2	2.4
	August	117.5	115.0	2.5
	September	118.7	116.3	2.4
	Average	**118.6**	**116.2**	**2.4**
Goulburn*	October	151.2	148.2	3.0
	November	na	na	na
	December	110.9	107.9	3.0
	Average	**131.1**	**128.1**	**3.0**
	January	na	na	na
	February	118.1	115.1	3.0
	March	120.9	118.0	2.9
	Average	**119.5**	**116.6**	**3.0**
	April	119.5	116.5	3.0
	May	117.7	114.7	3.0
	June	116.9	113.9	3.0
	Average	**118.0**	**115.0**	**3.0**
	July	117.4	114.4	3.0
	August	117.1	114.1	3.0
	September	122.3	118.9	3.4
	Average	**118.9**	**115.8**	**3.1**
Grafton	October	151.6	148.7	2.9
	November	131.3	128.3	3.0
	December	na	na	na
	Average	**141.5**	**138.5**	**3.0**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	113.8	110.8	3.0
	February	120.7	118.3	2.4
	March	119.8	117.8	2.0
	Average	**118.1**	**115.6**	**2.5**
	April	117.6	115.6	2.0
	May	116.8	114.9	1.9
	June	121.8	119.7	2.1
	Average	**118.7**	**116.7**	**2.0**
	July	127.6	125.6	2.0
	August	128.9	127.0	1.9
	September	129.7	127.7	2.0
	Average	**128.7**	**126.8**	**2.0**
Gunnedah	October	157.2	154.1	3.1
	November	135.3	132.3	3.0
	December	116.5	113.5	3.0
	Average	**136.3**	**133.3**	**3.0**
	January	116.4	113.4	3.0
	February	126.7	124.1	2.6
	March	127.1	124.6	2.5
	Average	**123.4**	**120.7**	**2.7**
	April	125.9	123.4	2.5
	May	123.2	120.7	2.5
	June	126.7	124.2	2.5
	Average	**125.3**	**122.8**	**2.5**
	July	129.6	127.1	2.5
	August	129.4	126.9	2.5
	September	130.7	128.2	2.5
	Average	**129.9**	**127.4**	**2.5**
Kempsey	October	154.8	151.7	3.1
	November	134.1	131.3	2.8
	December	114.3	111.5	2.8
	Average	**134.4**	**131.5**	**2.9**
	January	112.9	109.9	3.0
	February	120.8	118.2	2.6
	March	125.1	122.6	2.5
	Average	**119.6**	**116.9**	**2.7**
	April	124.7	122.2	2.5
	May	122.2	119.7	2.5
	June	124.4	121.9	2.5
	Average	**123.8**	**121.3**	**2.5**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	123.7	121.2	2.5
	August	124.0	121.4	2.6
	September	124.6	122.1	2.5
	Average	**124.1**	**121.6**	**2.5**
Lismore	October	147.4	144.5	2.9
	November	128.5	125.5	3.0
	December	na	na	na
	Average	**138.0**	**135.0**	**3.0**
	January	113.3	110.3	3.0
	February	119.1	116.7	2.4
	March	119.1	117.2	1.9
	Average	**117.2**	**114.7**	**2.4**
	April	115.5	113.7	1.8
	May	114.0	112.1	1.9
	June	119.3	117.2	2.1
	Average	**116.3**	**114.3**	**1.9**
	July	126.8	124.8	2.0
	August	128.0	125.9	2.1
	September	125.2	122.9	2.3
	Average	**126.7**	**124.5**	**2.1**
Moree	October	149.8	146.8	3.0
	November	130.3	127.3	3.0
	December	113.0	110.0	3.0
	Average	**131.0**	**128.0**	**3.0**
	January	113.6	110.7	2.9
	February	121.7	119.1	2.6
	March	122.3	119.8	2.5
	Average	**119.2**	**116.5**	**2.7**
	April	120.1	117.7	2.4
	May	120.0	117.5	2.5
	June	124.3	121.5	2.8
	Average	**121.5**	**118.9**	**2.6**
	July	128.1	125.7	2.4
	August	127.7	125.2	2.5
	September	127.2	124.7	2.5
	Average	**127.7**	**125.2**	**2.5**
Moruya	October	155.9	152.9	3.0
	November	133.6	130.8	2.8
	December	113.3	110.3	3.0
	Average	**134.3**	**131.3**	**2.9**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	115.7	112.6	3.1
	February	127.3	124.5	2.8
	March	124.6	121.9	2.7
	Average	**122.5**	**119.7**	**2.9**
	April	124.2	121.5	2.7
	May	122.8	120.2	2.6
	June	128.5	126.0	2.5
	Average	**125.2**	**122.6**	**2.6**
	July	128.4	125.9	2.5
	August	129.1	126.4	2.7
	September	na	na	na
	Average	**128.8**	**126.2**	**2.6**
Moss Vale	October	151.6	148.4	3.2
	November	na	na	na
	December	108.9	105.7	3.2
	Average	**130.3**	**127.1**	**3.2**
	January	111.7	108.5	3.2
	February	125.3	122.4	2.9
	March	121.2	117.8	3.4
	Average	**119.4**	**116.2**	**3.2**
	April	119.6	116.5	3.1
	May	120.8	117.9	2.9
	June	126.2	123.3	2.9
	Average	**122.2**	**119.2**	**3.0**
	July	127.0	124.0	3.0
	August	127.5	124.4	3.1
	September	124.9	121.9	3.0
	Average	**126.5**	**123.4**	**3.0**
Muswellbrook	October	152.1	149.1	3.0
	November	135.4	132.4	3.0
	December	110.2	107.2	3.0
	Average	**132.6**	**129.6**	**3.0**
	January	109.3	106.4	2.9
	February	121.6	119.0	2.6
	March	122.3	119.8	2.5
	Average	**117.7**	**115.1**	**2.7**
	April	121.8	119.2	2.6
	May	121.6	119.1	2.5
	June	123.2	120.7	2.5
	Average	**122.2**	**119.7**	**2.5**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	125.0	122.5	2.5
	August	120.8	118.3	2.5
	September	127.1	124.6	2.5
	Average	**124.3**	**121.8**	**2.5**
Newcastle*	October	150.1	147.2	2.9
	November	124.5	121.6	2.9
	December	107.2	104.1	3.1
	Average	**127.3**	**124.3**	**3.0**
	January	110.1	107.0	3.1
	February	125.9	123.1	2.8
	March	120.9	118.1	2.8
	Average	**119.0**	**116.1**	**2.9**
	April	121.2	118.6	2.6
	May	122.4	119.7	2.7
	June	129.1	126.4	2.7
	Average	**124.2**	**121.6**	**2.7**
	July	125.7	123.0	2.7
	August	130.2	127.5	2.7
	September	126.3	123.6	2.7
	Average	**127.4**	**124.7**	**2.7**
Nowra	October	na	na	na
	November	na	na	na
	December	107.4	104.4	3.0
	Average	**107.4**	**104.4**	**3.0**
	January	111.5	108.5	3.0
	February	125.9	122.9	3.0
	March	122.0	119.2	2.8
	Average	**119.8**	**116.9**	**2.9**
	April	121.6	118.7	2.9
	May	120.3	117.5	2.8
	June	126.2	123.4	2.8
	Average	**122.7**	**119.9**	**2.8**
	July	126.3	123.5	2.8
	August	125.5	122.7	2.8
	September	na	na	na
	Average	**125.9**	**123.1**	**2.8**
Port Macquarie	October	146.3	144.5	1.8
	November	120.2	118.4	1.8
	December	na	na	na
	Average	**133.3**	**131.5**	**1.8**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	na	na	na
	February	127.3	125.1	2.2
	March	121.3	119.2	2.1
	Average	**124.3**	**122.2**	**2.2**
	April	122.7	120.5	2.2
	May	120.8	119.1	1.7
	June	125.7	124.0	1.7
	Average	**123.1**	**121.2**	**1.9**
	July	128.5	126.6	1.9
	August	124.7	122.9	1.8
	September	124.2	122.5	1.7
	Average	**125.8**	**124.0**	**1.8**
Singleton	October	154.8	151.8	3.0
	November	133.3	130.4	2.9
	December	111.8	108.8	3.0
	Average	**133.3**	**130.3**	**3.0**
	January	112.8	109.7	3.1
	February	129.6	126.6	3.0
	March	123.0	120.0	3.0
	Average	**121.8**	**118.8**	**3.0**
	April	121.3	118.2	3.1
	May	121.5	118.5	3.0
	June	126.6	123.6	3.0
	Average	**123.1**	**120.1**	**3.0**
	July	126.3	123.3	3.0
	August	133.3	130.2	3.1
	September	129.8	126.8	3.0
	Average	**129.8**	**126.8**	**3.0**
Tamworth	October	153.6	150.6	3.0
	November	129.9	127.0	2.9
	December	110.1	107.0	3.1
	Average	**131.2**	**128.2**	**3.0**
	January	113.0	109.8	3.2
	February	125.7	123.3	2.4
	March	125.2	122.9	2.3
	Average	**121.3**	**118.7**	**2.6**
	April	123.9	121.6	2.3
	May	122.4	120.2	2.2
	June	127.2	124.9	2.3
	Average	**124.5**	**122.2**	**2.3**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	129.8	127.5	2.3
	August	131.3	129.0	2.3
	September	131.7	129.4	2.3
	Average	**130.9**	**128.6**	**2.3**
Taree	October	153.3	150.3	3.0
	November	133.9	130.9	3.0
	December	106.5	103.4	3.1
	Average	**131.2**	**128.2**	**3.0**
	January	112.4	109.4	3.0
	February	122.8	120.3	2.5
	March	122.5	120.3	2.2
	Average	**119.2**	**116.7**	**2.6**
	April	120.5	118.3	2.2
	May	120.2	118.0	2.2
	June	121.3	119.0	2.3
	Average	**120.7**	**118.4**	**2.2**
	July	119.9	117.6	2.3
	August	118.9	116.7	2.2
	September	120.2	118.0	2.2
	Average	**119.7**	**117.4**	**2.2**
Wollongong*	October	151.0	147.9	3.1
	November	125.5	122.7	2.8
	December	107.8	104.9	2.9
	Average	**128.1**	**125.2**	**2.9**
	January	111.5	108.5	3.0
	February	124.7	122.0	2.7
	March	119.8	117.1	2.7
	Average	**118.7**	**115.9**	**2.8**
	April	119.1	116.2	2.9
	May	120.0	117.3	2.7
	June	125.9	123.3	2.6
	Average	**121.7**	**118.9**	**2.7**
	July	124.0	121.2	2.8
	August	127.1	124.4	2.7
	September	125.1	122.4	2.7
	Average	**125.4**	**122.7**	**2.7**
Queensland regional centres and country towns				
Bowen	October	142.4	139.3	3.1
	November	125.9	122.8	3.1
	December	102.9	99.9	3.0
	Average	**123.7**	**120.7**	**3.1**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	100.8	97.7	3.1
	February	115.8	112.8	3.0
	March	114.9	111.9	3.0
	Average	**110.5**	**107.5**	**3.0**
	April	111.3	108.3	3.0
	May	111.3	108.4	2.9
	June	116.3	113.8	2.5
	Average	**113.0**	**110.2**	**2.8**
	July	125.6	123.3	2.3
	August	126.1	123.3	2.8
	September	128.7	125.7	3.0
	Average	**126.8**	**124.1**	**2.7**
Bundaberg	October	144.4	141.3	3.1
	November	126.5	123.6	2.9
	December	106.3	103.5	2.8
	Average	**125.7**	**122.8**	**2.9**
	January	106.0	102.9	3.1
	February	116.8	114.3	2.5
	March	113.2	110.7	2.5
	Average	**112.0**	**109.3**	**2.7**
	April	114.8	112.3	2.5
	May	113.8	111.3	2.5
	June	117.5	115.0	2.5
	Average	**115.4**	**112.9**	**2.5**
	July	127.4	124.9	2.5
	August	125.7	123.3	2.4
	September	125.1	122.6	2.5
	Average	**126.1**	**123.6**	**2.5**
Cairns	October	144.5	141.5	3.0
	November	120.7	117.6	3.1
	December	99.5	96.5	3.0
	Average	**121.6**	**118.5**	**3.0**
	January	102.1	99.1	3.0
	February	115.8	113.3	2.5
	March	114.9	112.6	2.3
	Average	**110.9**	**108.3**	**2.6**
	April	113.2	110.8	2.4
	May	112.0	109.7	2.3
	June	116.7	114.5	2.2
	Average	**114.0**	**111.7**	**2.3**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	126.0	123.8	2.2
	August	127.1	124.8	2.3
	September	125.2	122.9	2.3
	Average	**126.1**	**123.8**	**2.3**
Dalby	October	144.3	141.7	2.6
	November	116.3	113.3	3.0
	December	95.4	92.4	3.0
	Average	**118.7**	**115.8**	**2.9**
	January	99.0	95.8	3.2
	February	110.3	107.6	2.7
	March	113.3	110.5	2.8
	Average	**107.5**	**104.6**	**2.9**
	April	110.6	107.9	2.7
	May	108.2	105.6	2.6
	June	110.1	107.4	2.7
	Average	**109.6**	**107.0**	**2.7**
	July	118.0	115.3	2.7
	August	118.7	116.1	2.6
	September	121.2	118.5	2.7
	Average	**119.3**	**116.6**	**2.7**
Gympie	October	142.1	139.4	2.7
	November	121.2	118.3	2.9
	December	98.2	95.4	2.8
	Average	**120.5**	**117.7**	**2.8**
	January	99.6	96.6	3.0
	February	112.9	110.5	2.4
	March	110.8	108.8	2.0
	Average	**107.8**	**105.3**	**2.5**
	April	110.4	108.4	2.0
	May	110.2	108.1	2.1
	June	115.6	113.5	2.1
	Average	**112.1**	**110.0**	**2.1**
	July	123.4	121.5	1.9
	August	126.3	124.4	1.9
	September	125.3	123.5	1.8
	Average	**125.0**	**123.1**	**1.9**
Hervey Bay	October	143.8	140.8	3.0
	November	124.1	121.3	2.8
	December	100.1	97.2	2.9
	Average	**122.7**	**119.8**	**2.9**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	103.4	100.4	3.0
	February	111.3	108.5	2.8
	March	114.7	112.0	2.7
	Average	**109.8**	**107.0**	**2.8**
	April	110.0	107.4	2.6
	May	109.3	106.7	2.6
	June	113.0	110.5	2.5
	Average	**110.8**	**108.2**	**2.6**
	July	124.8	122.3	2.5
	August	125.2	122.6	2.6
	September	124.8	122.3	2.5
	Average	**124.9**	**122.4**	**2.5**
Ingham	October	145.4	142.4	3.0
	November	123.6	120.6	3.0
	December	101.1	98.1	3.0
	Average	**123.4**	**120.4**	**3.0**
	January	102.2	99.1	3.1
	February	111.8	108.6	3.2
	March	116.1	113.0	3.1
	Average	**110.0**	**106.9**	**3.1**
	April	112.9	109.8	3.1
	May	113.1	110.1	3.0
	June	116.4	113.5	2.9
	Average	**114.1**	**111.1**	**3.0**
	July	126.5	123.5	3.0
	August	121.2	118.2	3.0
	September	121.5	118.5	3.0
	Average	**123.1**	**120.1**	**3.0**
Mackay*	October	142.3	139.2	3.2
	November	123.4	120.6	2.8
	December	98.1	95.1	3.0
	Average	**121.3**	**118.3**	**3.0**
	January	100.8	97.9	2.9
	February	114.8	112.2	2.6
	March	113.9	111.6	2.3
	Average	**109.8**	**107.2**	**2.6**
	April	112.3	109.9	2.4
	May	109.1	106.7	2.4
	June	114.8	112.4	2.4
	Average	**112.1**	**109.7**	**2.4**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	121.9	120.1	1.8
	August	120.3	118.4	1.9
	September	126.4	124.5	1.9
	Average	**122.9**	**121.0**	**1.9**
Maryborough*	October	143.9	141.0	3.0
	November	122.5	119.6	3.0
	December	101.3	98.7	2.6
	Average	**122.6**	**119.7**	**2.9**
	January	104.5	101.8	2.8
	February	115.6	113.2	2.4
	March	112.2	110.3	1.9
	Average	**110.8**	**108.4**	**2.4**
	April	112.4	110.0	2.5
	May	112.6	110.4	2.3
	June	117.5	115.4	2.1
	Average	**114.2**	**111.9**	**2.3**
	July	126.1	124.6	1.5
	August	127.5	125.9	1.6
	September	126.7	125.2	1.5
	Average	**126.8**	**125.2**	**1.5**
Rockhampton*	October	149.0	146.0	3.0
	November	127.4	124.6	2.8
	December	104.7	101.8	2.9
	Average	**127.0**	**124.1**	**2.9**
	January	104.3	101.4	2.9
	February	117.2	114.8	2.4
	March	119.0	117.0	2.0
	Average	**113.5**	**111.0**	**2.5**
	April	117.3	115.1	2.2
	May	115.4	113.2	2.2
	June	119.5	117.2	2.3
	Average	**117.4**	**115.2**	**2.2**
	July	128.0	125.9	2.1
	August	129.6	127.4	2.2
	September	129.6	127.4	2.2
	Average	**129.1**	**126.9**	**2.2**
Toowoomba*	October	141.7	138.8	2.9
	November	114.3	111.5	2.8
	December	93.6	90.7	2.9
	Average	**116.5**	**113.7**	**2.9**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	January	95.8	92.9	2.9
	February	107.6	104.8	2.8
	March	108.0	105.3	2.7
	Average	**103.8**	**101.0**	**2.8**
	April	106.1	103.2	2.9
	May	105.5	102.6	2.9
	June	109.1	106.4	2.7
	Average	**106.9**	**104.1**	**2.8**
	July	118.3	115.7	2.6
	August	120.3	117.9	2.4
	September	126.0	123.3	2.7
	Average	**121.5**	**119.0**	**2.6**
Townsville	October	143.7	140.7	3.0
	November	120.2	117.3	2.9
	December	94.6	91.6	3.0
	Average	**119.5**	**116.5**	**3.0**
	January	100.9	97.8	3.1
	February	114.5	111.6	2.9
	March	113.4	110.5	2.9
	Average	**109.6**	**106.6**	**3.0**
	April	109.6	106.8	2.8
	May	109.4	106.6	2.8
	June	116.3	113.8	2.5
	Average	**111.8**	**109.1**	**2.7**
	July	125.2	122.7	2.5
	August	122.5	119.7	2.8
	September	122.1	119.3	2.8
	Average	**123.3**	**120.6**	**2.7**
Warwick	October	143.5	140.6	2.9
	November	115.7	112.8	2.9
	December	95.6	92.6	3.0
	Average	**118.3**	**115.3**	**2.9**
	January	100.6	97.5	3.1
	February	117.1	114.3	2.8
	March	113.3	110.6	2.7
	Average	**110.3**	**107.5**	**2.9**
	April	108.8	106.2	2.6
	May	106.6	104.0	2.6
	June	109.5	106.8	2.7
	Average	**108.3**	**105.7**	**2.6**

Location	Month	RULP cpl	E10 cpl	Difference cpl
	July	121.9	119.1	2.8
	August	121.8	119.1	2.7
	September	121.4	118.8	2.6
	Average	**121.7**	**119.0**	**2.7**
Victorian regional centres and country towns				
Traralgon	October	na	na	na
	November	na	na	na
	December	104.9	102.0	2.9
	Average	**104.9**	**102.0**	**2.9**
	January	111.3	108.3	3.0
	February	122.1	119.1	3.0
	March	124.9	121.9	3.0
	Average	**119.4**	**116.4**	**3.0**
	April	124.9	121.9	3.0
	May	121.7	118.7	3.0
	June	124.1	121.0	3.1
	Average	**123.6**	**120.5**	**3.0**
	July	124.9	121.9	3.0
	August	125.8	122.8	3.0
	September	124.8	121.8	3.0
	Average	**125.2**	**122.2**	**3.0**

* These towns have BP service stations (see box E1) and the average monthly prices for E10 have been adjusted downwards in some months by the ACCC to reflect the fact that consumers may be obtaining a discount of 3.0 cpl off the board price of E10 by using a BP Biorewards card.

Box E1 Methodology

Coverage

- The ACCC obtains petrol price data from Informed Sources.
- Informed Sources price monitoring involves sampling. Informed Sources monitors fuel prices at around 4450 service stations in Australia. There are currently around 6400 service stations in Australia. Therefore, the Informed Sources monitoring covers around 70 per cent of the total number of service stations. All the capital cities and most of the major metropolitan towns are included in the monitoring program, along with a representative sample of country towns.
- In early October 2009 Informed Sources collected E10 prices from around 1350 service stations across Australia. Of this total, around 73 per cent are included in the 46 locations included in this monitoring.
- Informed Sources collects E10 price data from all states and territories except Western Australia, where E10 is not commercially available.
- The number of service stations (and locations) selling E10 monitored by Informed Sources is increasing over time.

Data collection

- Informed Sources obtains daily average E10 and RULP prices for the locations included in this report. The monthly averages are derived from the daily average prices.
- E10 prices collected are for regular E10. They do not include premium E10 (such as Boost 98 from United) or E5 petrol (such as Shell V-Power Racing).
- The daily E10 price for these locations is the average price at service stations selling E10 that are monitored by Informed Sources. The daily RULP price is the average price at those service stations. Therefore, the average RULP price for a particular location included in this monitoring may be different from the overall average RULP price in that location.
- Locations are only included in the tables where Informed Sources obtains daily E10 prices from two or more service stations in that location. This is to ensure the robustness of the price data.
- Daily price data is only included in the monthly average where both E10 and RULP prices for that day are available.
- To derive a monthly average price, daily average prices need to be available for at least 14 days in that month.
- Informed Sources may exclude data from some service stations which sell E10 if it has concerns about the robustness and accuracy of the E10 or RULP price data.
- In table E2 the average monthly price in the ‘capital cities’ aggregate is the average of all prices from service stations selling E10 in the five capital cities. Similarly, the average monthly price in the ‘regional centres and country towns’ aggregate is the average of all prices from service stations selling E10 in the New South Wales, Queensland and Victorian regional centres and country towns. **Note**: Until 1 July 2009, service stations in Brisbane, all Queensland towns and some northern New South Wales towns received state government subsidies at the retail level. As a result, the average monthly prices in table E2 will not be typical for any particular city or town.

Adjustment for BP service stations

- For some of the months covered in this monitoring, E10 at BP service stations was generally sold at the same price as RULP but consumers could receive a 3.0 cpl discount if they used a BP Biorewards card.
- The locations with BP service stations selling E10 included in this monitoring are marked with an asterisk in the tables.
- Informed Sources collects the board price for E10, which does not include the Biorewards discount. This means that the price of E10 collected by Informed Sources for BP service stations may not reflect the actual price paid by consumers for E10 at these service stations.
- The ACCC has adjusted the average monthly E10 price data for those towns on the assumption that the full 3.0 cpl discount is passed on at all BP service stations. That is, the average monthly prices for E10 in those towns were adjusted downwards by an amount of 3.0 cpl multiplied by the proportion of BP service stations selling E10 monitored by Informed Sources in each town to the total number of service stations selling E10 monitored by Informed Sources in the town.
- Effective from 1 November 2008 in most of New South Wales and from 1 July 2009 in northern New South Wales and Queensland, BP is no longer running the Biorewards program. From these dates onwards, the effective price of E10 is captured on the price board. As a result, the ACCC has made no adjustments from these dates.

Appendix F

Retail fuel prices in regional centres and country towns

Prior to 1 July 2009 the ACCC monitored fuel prices in around 110 regional centres and country towns. This data is collected by Informed Sources on a daily basis. Since then the ACCC has increased its monitoring to around 150 regional centres and country towns.

Annual average regular unleaded petrol (RULP), diesel and automotive LPG retail prices in regional centres and country towns in 2008–09 are shown in tables F1 to F3.

For a location to be included in the tables there had to be price observations on at least 75 per cent of days over the year, with no break of more than 30 consecutive days.

Table F1 Regional centres and country towns average retail RULP prices: 2008–09

	cpl		cpl		cpl
New South Wales					
Albury	127.7	Goulburn	131.4	Orange	134.7
Armidale	133.8	Grafton	130.8	Parkes	135.8
Ballina	129.1	Gunnedah	137.3	Port Macquarie	131.4
Batemans Bay	135.9	Hay	137.2	Queanbeyan	131.1
Bathurst	131.9	Inverell	130.3	Tamworth	134.5
Broken Hill	135.2	Kempsey	134.8	Taree	132.2
Casino	127.2	Lismore	128.0	Ulladulla	133.9
Coffs Harbour	131.3	Mittagong	133.5	Wagga Wagga	136.0
Cooma	137.8	Moree	133.7	Wellington	138.5
Cowra	132.1	Mudgee	138.3	Wollongong	131.5
Dubbo	131.4	Muswellbrook	134.3	Yass	134.5
Forbes	136.2	Newcastle	131.5		
Gilgandra	135.1	Nowra	133.3		
Northern Territory					
Alice Springs	144.8	Katherine	141.7	Tennant Creek	154.2

	cpl		cpl		cpl
Queensland					
Atherton	123.2	Gladstone	126.2	Rockhampton	127.4
Biloela	127.2	Goondiwindi	125.0	Roma	126.7
Bowen	124.2	Gympie	122.5	Toowoomba	118.6
Bundaberg	126.3	Longreach	132.2	Townsville	122.7
Cairns	124.2	Mackay	123.2	Warwick	122.1
Charters Towers	127.1	Maryborough	123.6		
Emerald	128.4	Mt Isa	126.7		
South Australia					
Clare	130.0	Murray Bridge	130.8	Port Pirie	132.0
Coober Pedy	147.7	Naracoorte	133.1	Renmark	126.6
Gawler	128.7	Port Augusta	132.7	Whyalla	135.6
Mt Gambier	130.4	Port Lincoln	134.2		
Tasmania					
Devonport	134.0	Launceston	135.1	Ulverstone	135.9
George Town	136.5	New Norfolk	132.3		
Victoria					
Ararat	129.1	Hamilton	135.7	Shepparton	133.2
Bairnsdale	131.9	Horsham	135.0	Swan Hill	136.1
Ballarat	129.1	Mildura	135.4	Traralgon	133.6
Benalla	133.3	Moe	132.9	Wangaratta	133.3
Bendigo	129.4	Morwell	133.7	Warrnambool	132.3
Cohuna	136.5	Portland	135.4	Wodonga	129.0
Echuca	134.5	Sale	133.2		
Geelong	128.0	Seymour	132.1		
Western Australia					
Albany	137.3	Carnarvon	148.1	Kalgoorlie	136.7
Broome	155.1	Esperance	141.4	Port Hedland	152.7
Bunbury	131.8	Geraldton	142.5		

Source: ACCC and Informed Sources.

Table F2 Regional centres and country towns average retail diesel prices: 2008–09

	cpl		cpl		cpl
New South Wales					
Albury	141.4	Goulburn	142.3	Nyngan	151.4
Armidale	148.6	Grafton	141.1	Orange	146.7
Ballina	140.1	Gunnedah	149.8	Parkes	145.5
Batemans Bay	148.1	Hay	145.9	Port Macquarie	148.9
Bathurst	145.9	Inverell	143.0	Queanbeyan	144.8
Broken Hill	147.9	Kempsey	149.2	Tamworth	148.0
Casino	139.0	Lismore	139.8	Taree	147.6
Coffs Harbour	146.5	Mittagong	145.3	Ulladulla	146.8
Cooma	149.7	Moree	145.5	Wagga Wagga	147.4
Cowra	144.3	Mudgee	149.8	Wellington	150.9
Dubbo	148.3	Muswellbrook	147.0	Wollongong	144.6
Forbes	146.0	Newcastle	144.3	Yass	144.7
Gilgandra	148.8	Nowra	143.3		
Northern Territory					
Alice Springs	156.4	Katherine	157.5	Tennant Creek	167.1
Queensland					
Atherton	139.2	Gladstone	138.1	Rockhampton	139.5
Biloela	137.7	Goondiwindi	134.4	Roma	136.9
Bowen	136.5	Gympie	132.5	Toowoomba	133.6
Bundaberg	137.6	Longreach	141.1	Townsville	134.7
Cairns	137.9	Mackay	136.2	Warwick	133.5
Charters Towers	137.7	Maryborough	135.0		
Emerald	136.6	Mt Isa	145.5		
South Australia					
Clare	141.4	Murray Bridge	145.6	Port Pirie	143.1
Coober Pedy	158.6	Naracoorte	147.8	Renmark	142.9
Gawler	140.3	Port Augusta	141.4	Whyalla	151.7
Mt Gambier	148.7	Port Lincoln	147.2		
Tasmania					
Devonport	149.0	Launceston	149.6	Ulverstone	148.6
George Town	149.9	New Norfolk	148.4		

	cpl		cpl		cpl
Victoria					
Ararat	141.8	Hamilton	145.6	Shepparton	141.3
Bairnsdale	142.9	Horsham	143.7	Swan Hill	146.6
Ballarat	141.2	Mildura	147.2	Traralgon	142.6
Benalla	145.2	Moe	142.8	Wangaratta	143.8
Bendigo	143.6	Morwell	142.8	Warrnambool	143.6
Cohuna	144.6	Portland	145.6	Wodonga	142.4
Echuca	143.5	Sale	143.5		
Geelong	138.8	Seymour	141.9		
Western Australia					
Albany	147.1	Carnarvon	157.0	Kalgoorlie	152.7
Broome	162.1	Esperance	152.1	Port Hedland	156.2
Bunbury	143.9	Geraldton	152.9		

Source: ACCC and Informed Sources.

Table F3 Regional centres and country towns average retail automotive LPG prices: 2008–09

	cpl		cpl		cpl
New South Wales					
Albury	58.1	Grafton	76.4	Orange	71.1
Armidale	75.9	Gunnedah	75.2	Parkes	80.5
Ballina	78.5	Hay	70.6	Port Macquarie	72.2
Batemans Bay	78.4	Kempsey	71.4	Queanbeyan	65.6
Bathurst	66.7	Lismore	77.6	Tamworth	71.9
Broken Hill	67.1	Mittagong	64.4	Taree	64.3
Casino	76.0	Moree	78.9	Ulladulla	73.1
Coffs Harbour	72.1	Mudgee	70.7	Wagga Wagga	65.9
Cooma	78.8	Muswellbrook	65.6	Wollongong	61.8
Dubbo	71.8	Newcastle	62.7	Yass	67.6
Gilgandra	77.1	Nowra	65.4		
Goulburn	66.0	Nyngan	83.7		
Northern Territory					
Alice Springs	84.6				
Queensland					
Bowen	83.0	Goondiwindi	70.7	Rockhampton	77.9
Bundaberg	75.8	Gympie	71.7	Toowoomba	65.0
Cairns	81.4	Mackay	73.9	Townsville	80.3
Emerald	82.3	Maryborough	77.5	Warwick	67.0
Gladstone	76.5	Mt Isa	74.3		
South Australia					
Clare	69.9	Naracoorte	68.0	Renmark	67.7
Gawler	58.8	Port Augusta	67.6	Whyalla	68.3
Mt Gambier	69.9	Port Lincoln	71.5		
Murray Bridge	67.3	Port Pirie	70.3		
Tasmania					
Devonport	76.8	Launceston	74.7	New Norfolk	73.1

	cpl		cpl		cpl
Victoria					
Ararat	59.6	Hamilton	63.8	Seymour	54.8
Bairnsdale	60.2	Horsham	64.8	Shepparton	62.2
Ballarat	56.6	Mildura	67.4	Swan Hill	67.2
Benalla	63.2	Moe	60.5	Traralgon	60.8
Bendigo	58.1	Morwell	61.4	Wangaratta	59.6
Echuca	63.1	Portland	63.9	Warrnambool	62.3
Geelong	52.7	Sale	60.7	Wodonga	60.6
Western Australia					
Albany	80.6	Carnarvon	89.9	Kalgoorlie	84.4
Broome	103.6	Esperance	91.6	Port Hedland	98.3
Bunbury	67.1	Geraldton	74.0		

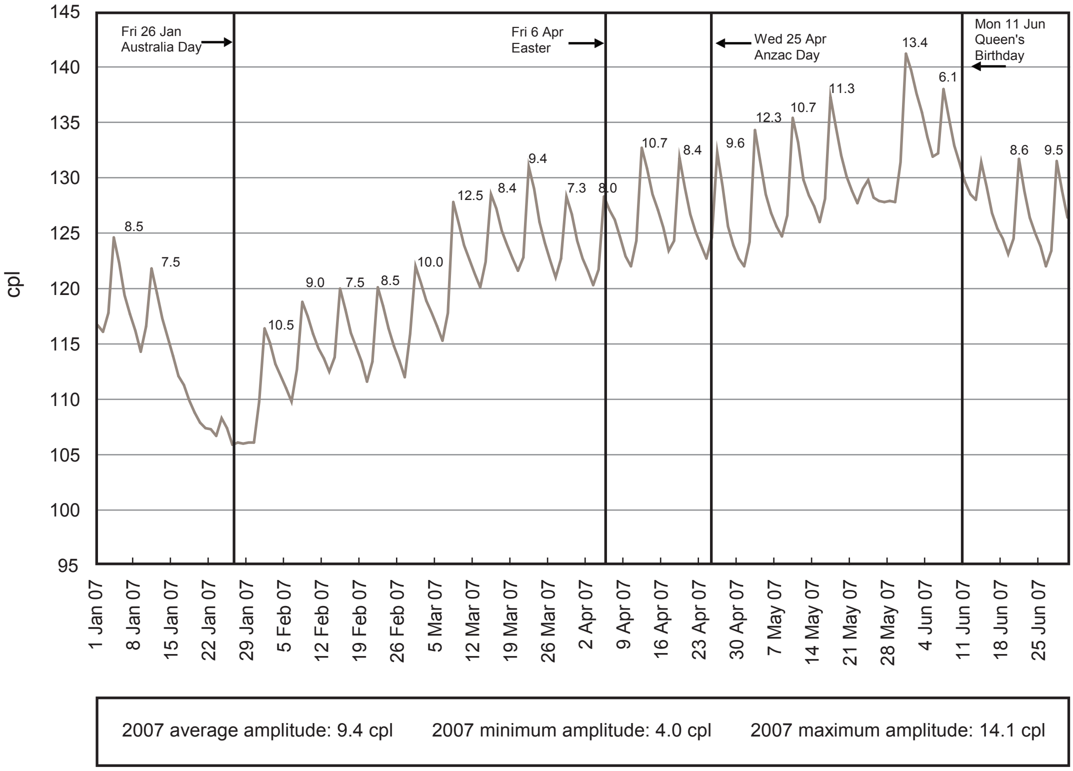
Source: ACCC and Informed Sources.

Appendix G

Analysis of petrol price cycles and public holidays by city

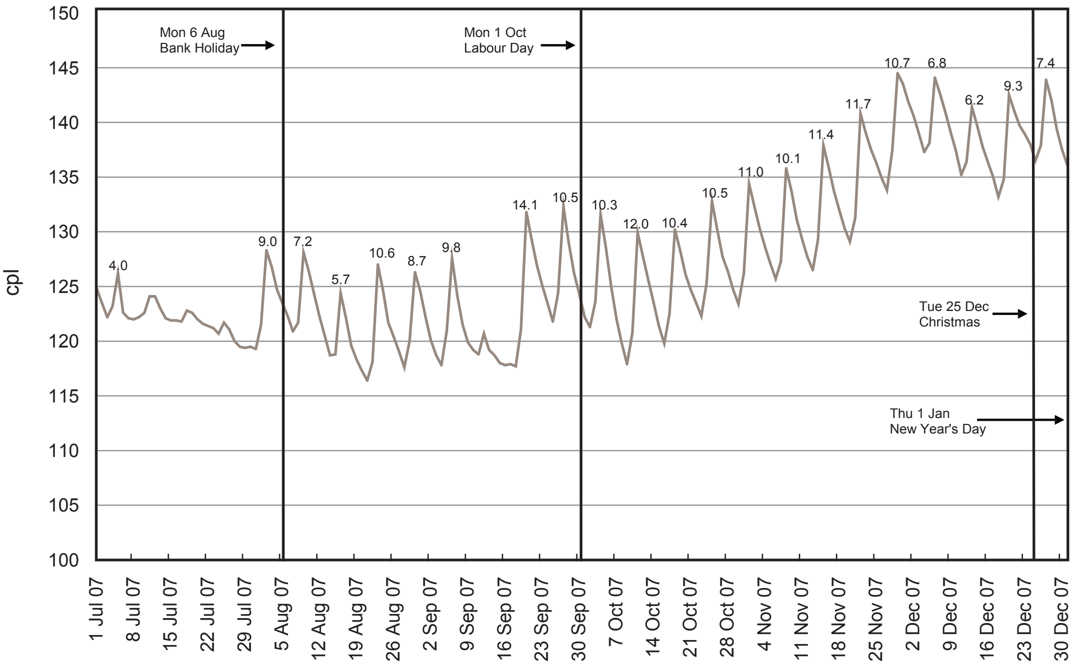
Charts G1 to G25 show daily average retail prices for regular unleaded petrol for six-month periods between January 2007 and June 2009 in each of the five largest cities (that is, Sydney, Melbourne, Brisbane, Adelaide and Perth). They also identify the amplitude of each price cycle during the period and the dates of public holidays. The charts also provide information on the average, minimum and maximum amplitude of price cycles over 2007, 2008 and the first half of 2009.[1]

Chart G1 Sydney, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2007



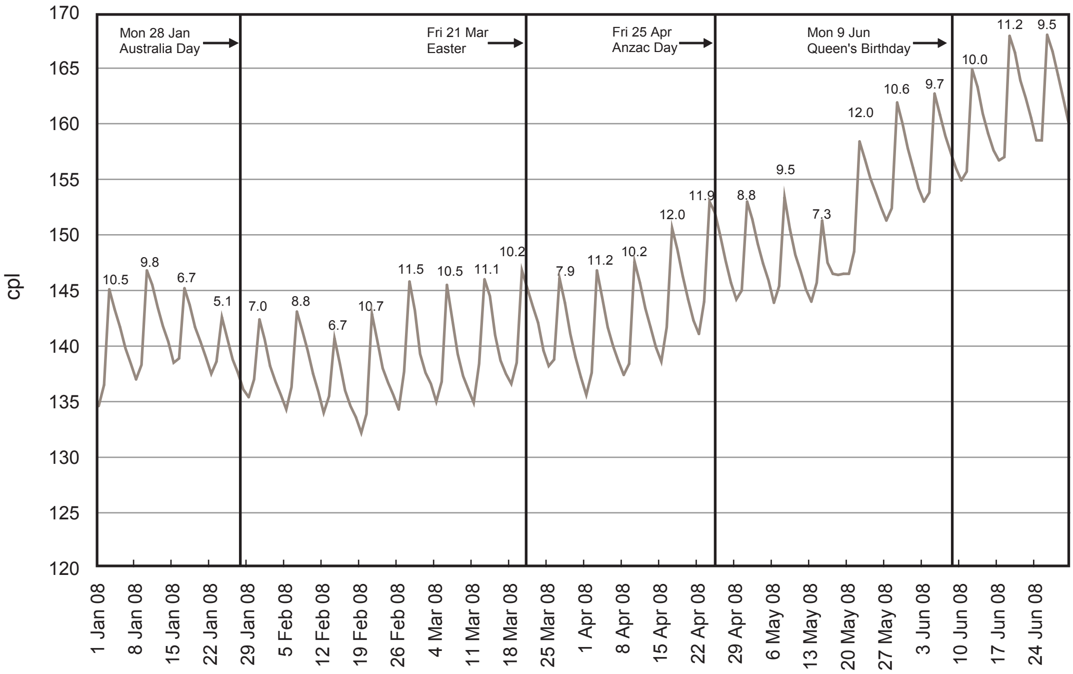
1 Source for all charts: ACCC and Informed Sources.

Chart G2 Sydney, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2007



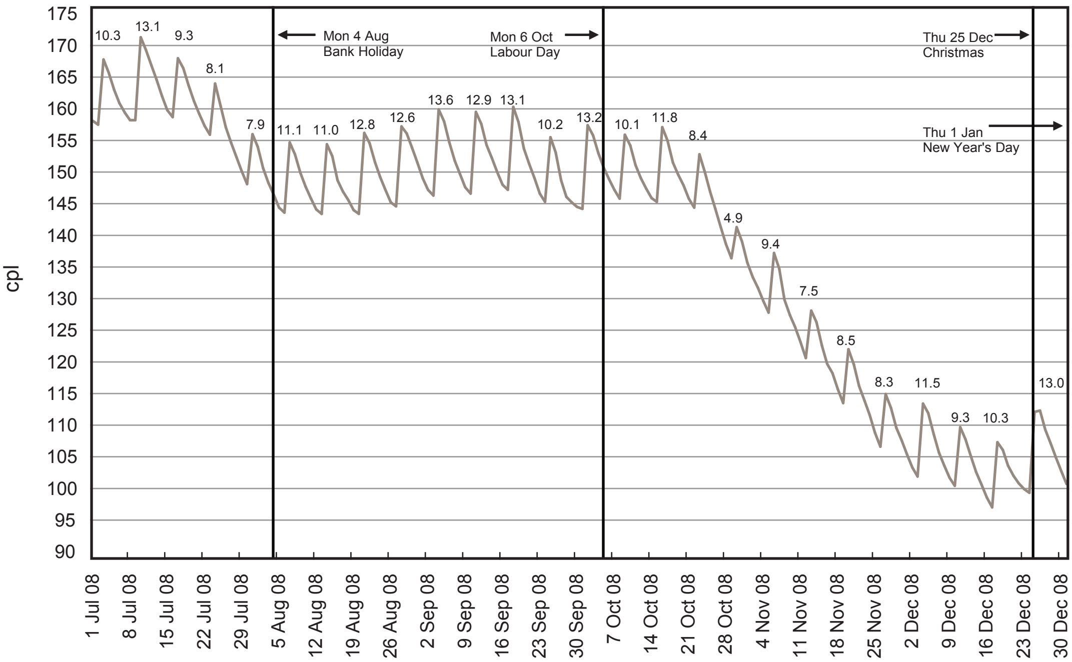
2007 average amplitude: 9.4 cpl	2007 minimum amplitude: 4.0 cpl	2007 maximum amplitude: 14.1 cpl

Chart G3 Sydney, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2008



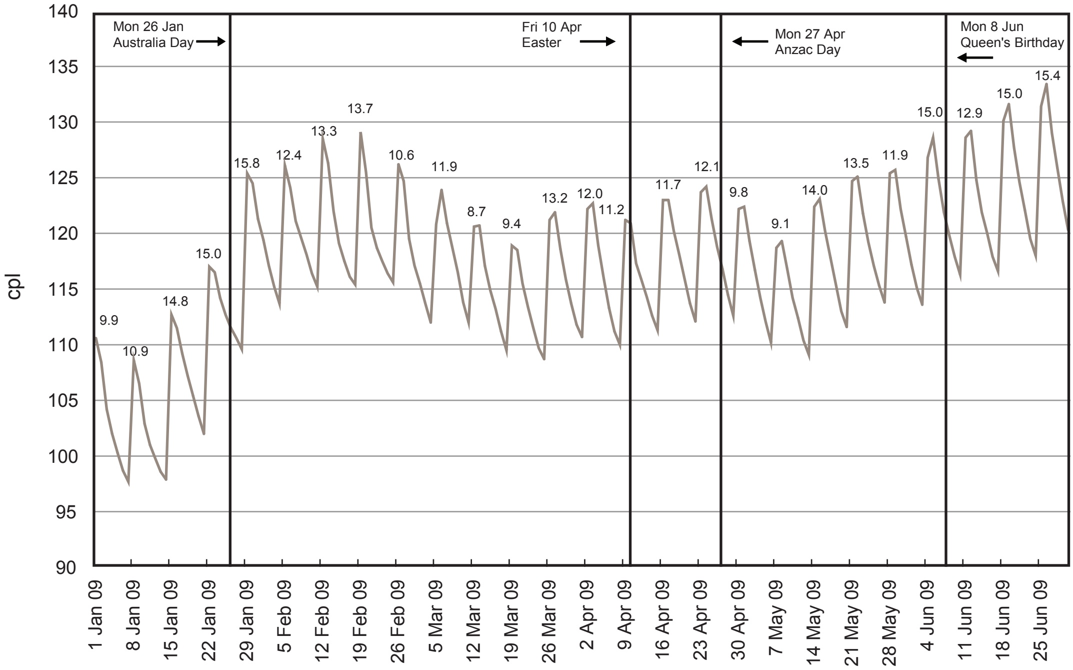
2008 average amplitude: 10.1 cpl	2008 minimum amplitude: 4.9 cpl	2008 maximum amplitude: 13.6 cpl

Chart G4 Sydney, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2008



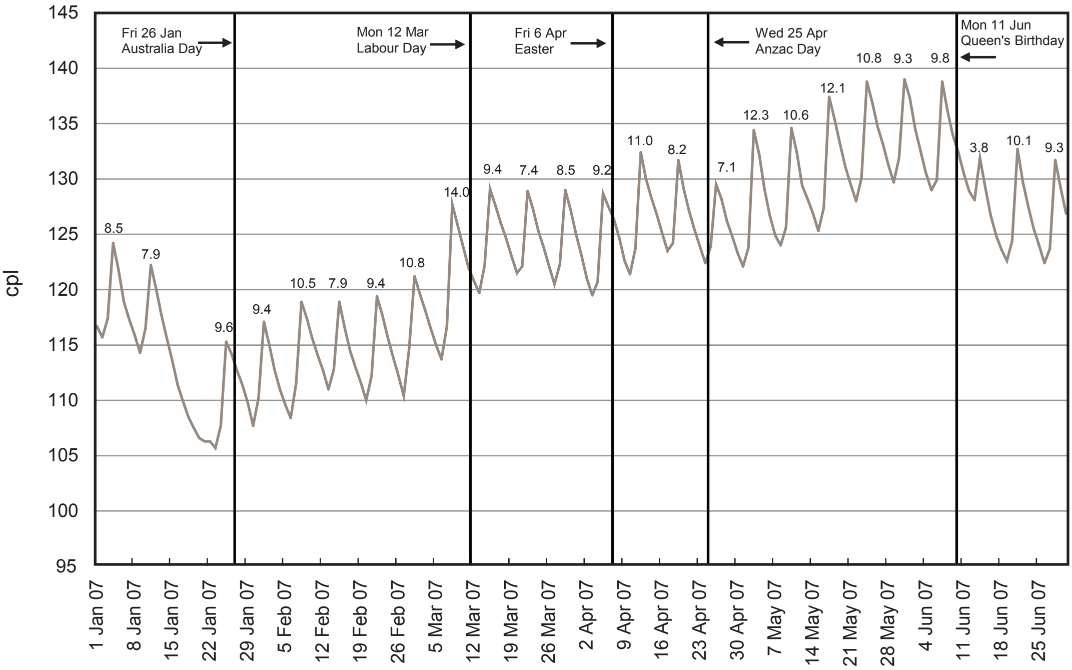
2008 average amplitude: 10.1 cpl	2008 minimum amplitude: 4.9 cpl	2008 maximum amplitude: 13.6 cpl

Chart G5 Sydney, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2009



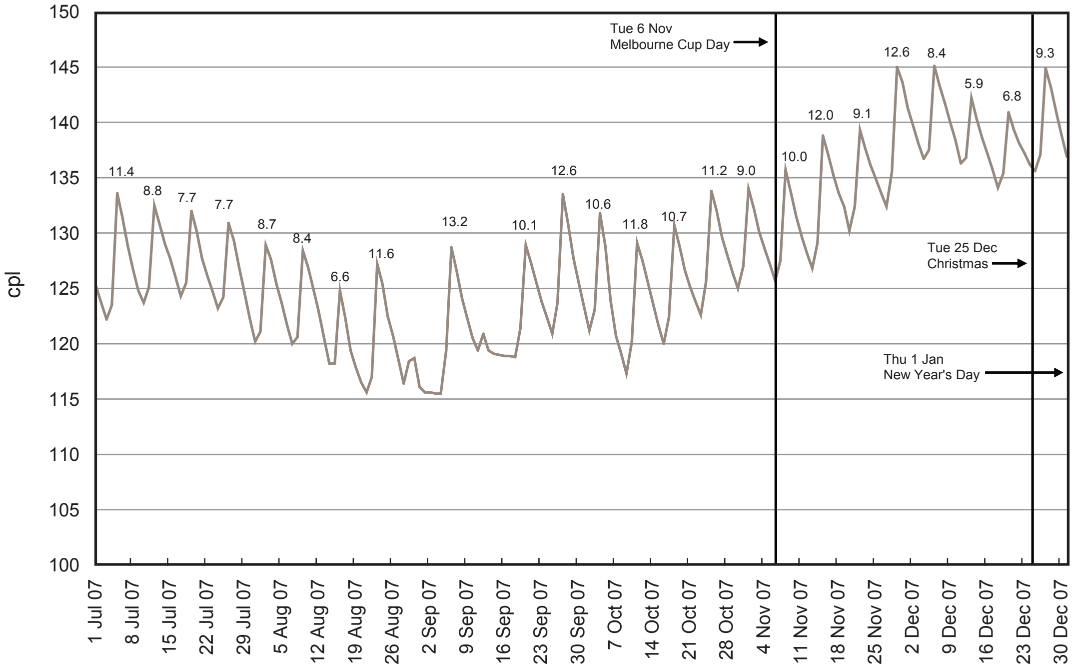
1st half 2009 average amplitude: 12.4 cpl 1st half 2009 minimum amplitude: 8.7 cpl
1st half 2009 maximum amplitude: 15.8 cpl

Chart G6 Melbourne, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2007



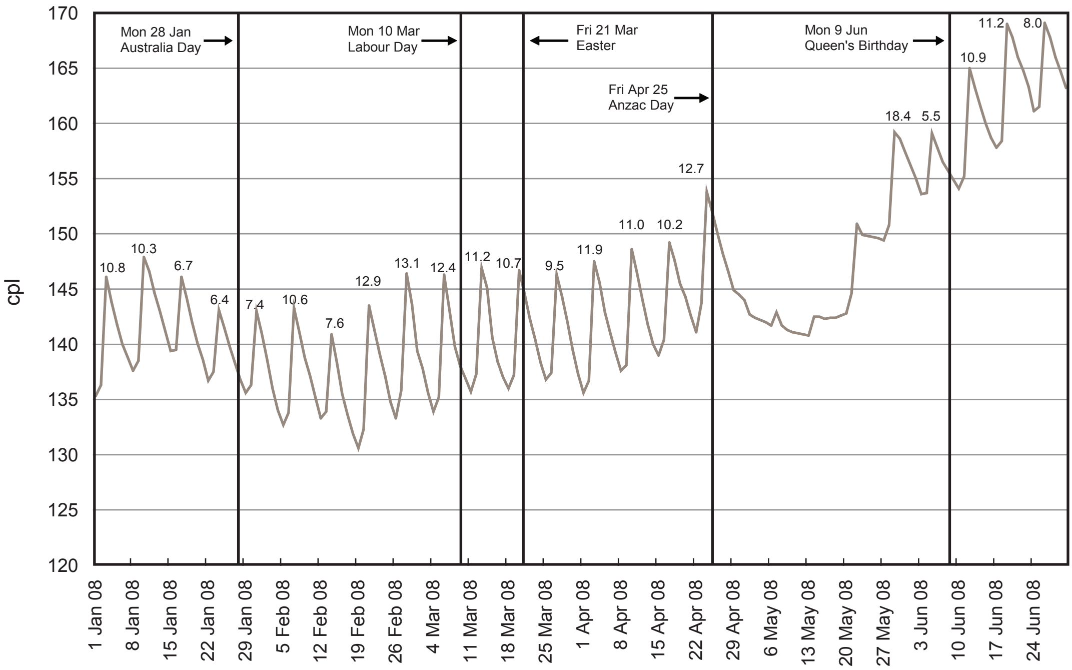
2007 average amplitude: 9.6 cpl	2007 minimum amplitude: 3.8 cpl	2007 maximum amplitude: 14.0 cpl

Chart G7 Melbourne, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2007



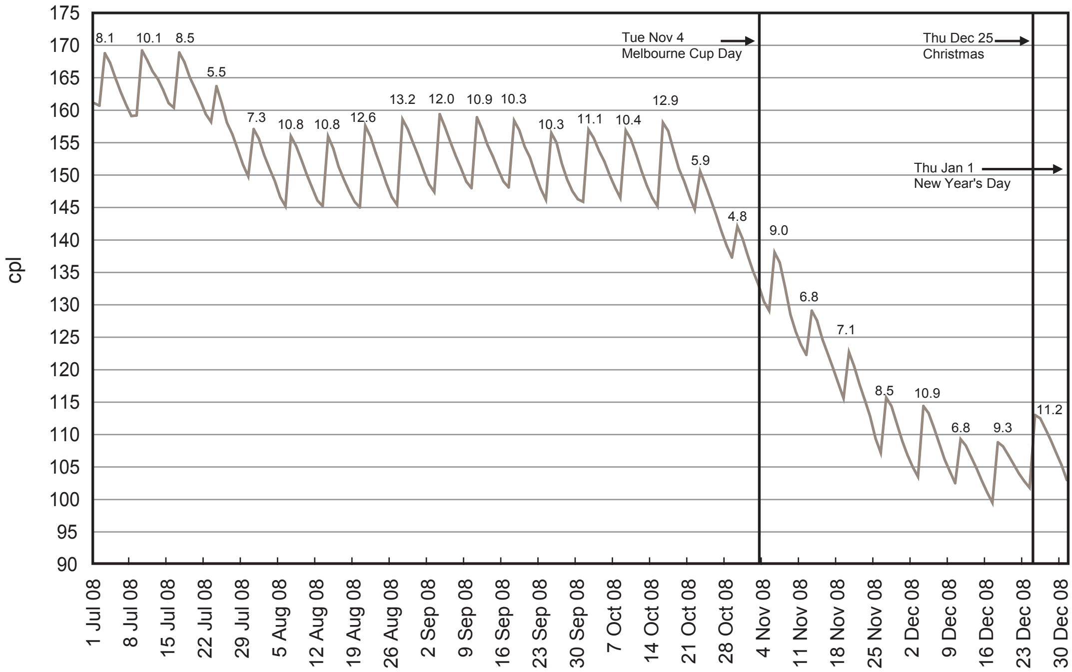
2007 average amplitude: 9.6 cpl	2007 minimum amplitude: 3.8 cpl	2007 maximum amplitude: 14.0 cpl

Chart G8 Melbourne, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2008



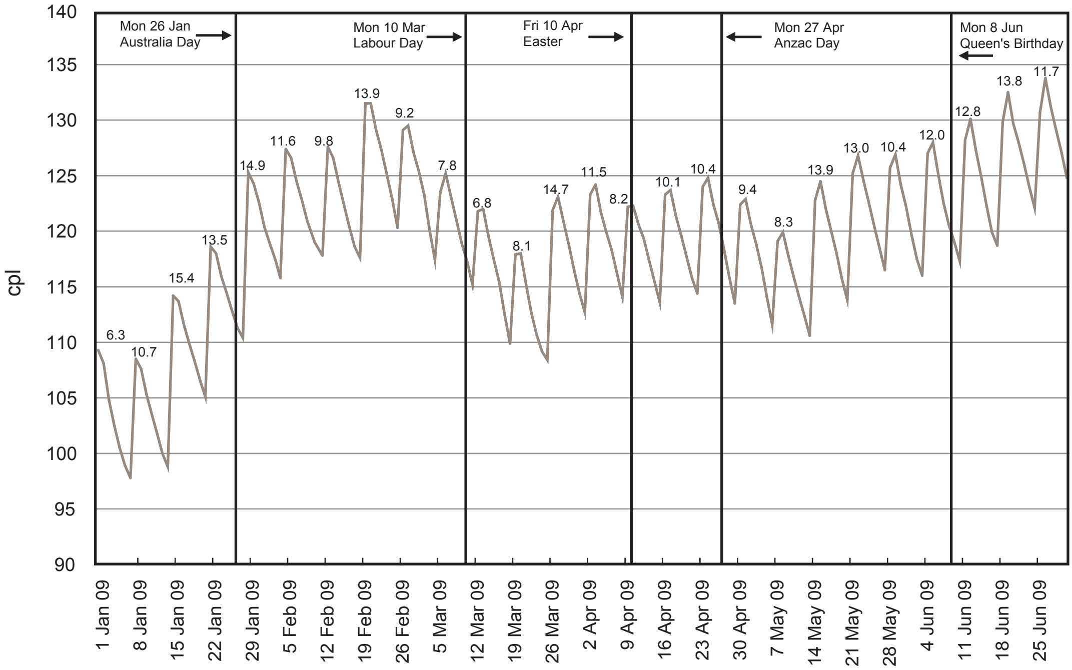
2008 average amplitude: 9.9 cpl	2008 minimum amplitude: 4.8 cpl	2008 maximum amplitude: 18.4 cpl

Chart G9 Melbourne, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2008



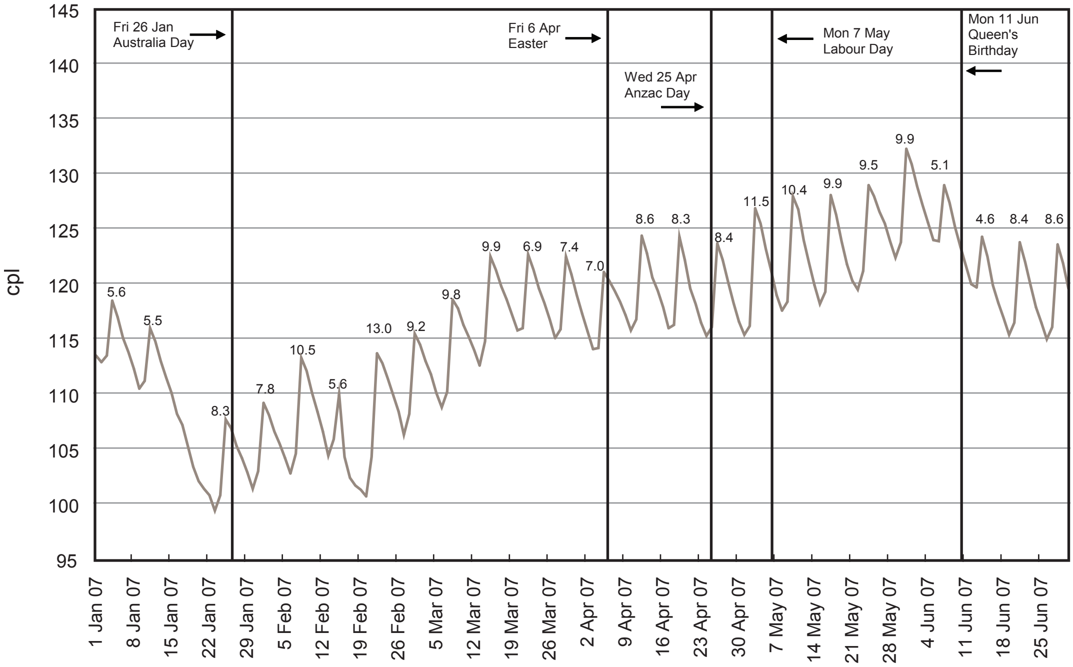
2008 average amplitude: 9.9 cpl	2008 minimum amplitude: 4.8 cpl	2008 maximum amplitude: 18.4 cpl

Chart G10 Melbourne, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2009



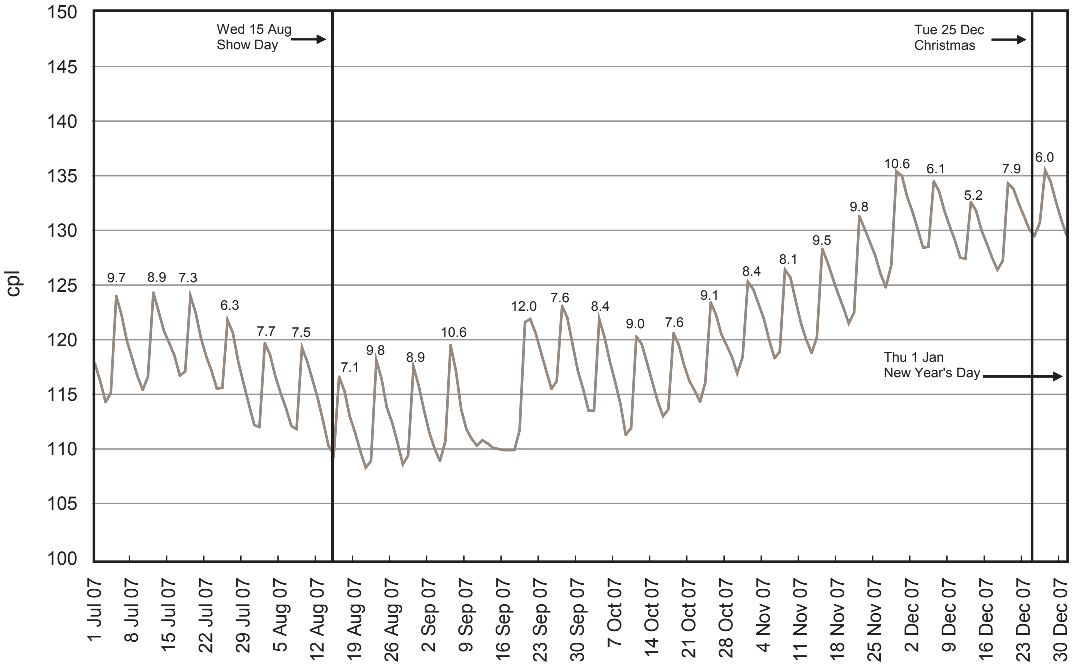
1st half 2009 average amplitude: 11.1 cpl 1st half 2009 minimum amplitude: 6.3 cpl
1st half 2009 maximum amplitude: 15.4 cpl

Chart G11 Brisbane, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2007



2007 average amplitude: 8.4 cpl	2007 minimum amplitude: 4.6 cpl	2007 maximum amplitude: 13.0 cpl

Chart G12 Brisbane, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2007



2007 average amplitude: 8.4 cpl	2007 minimum amplitude: 4.6 cpl	2007 maximum amplitude: 13.0 cpl

Chart G13 Brisbane, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2008

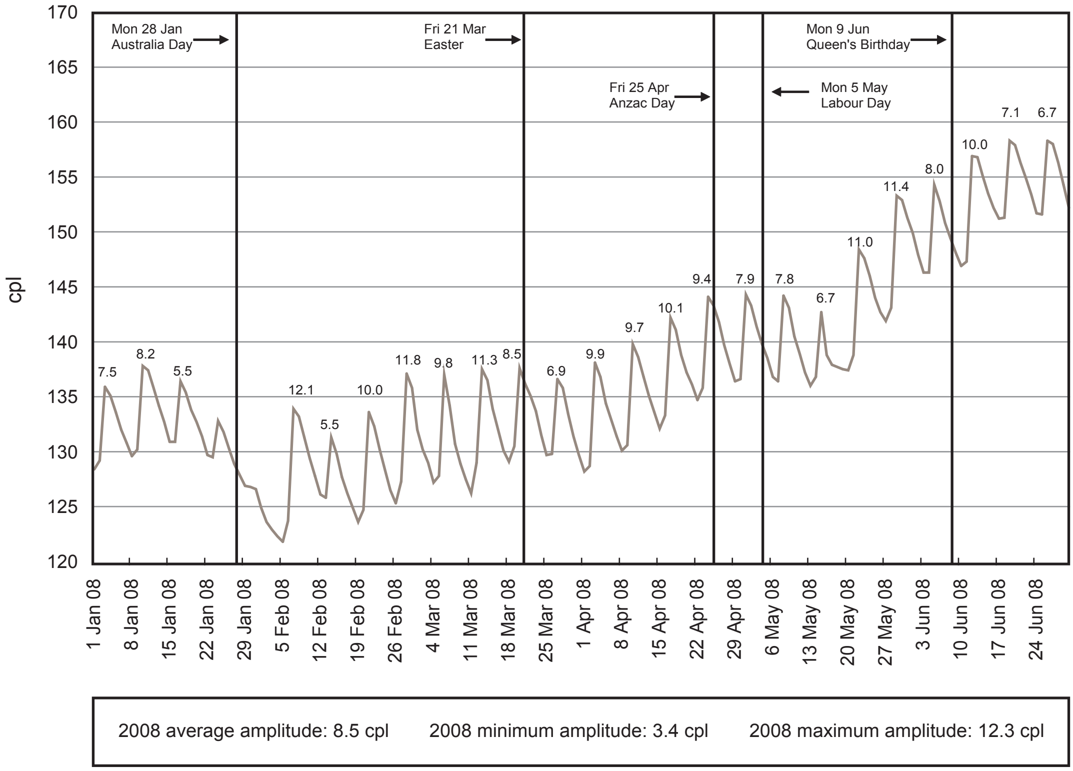
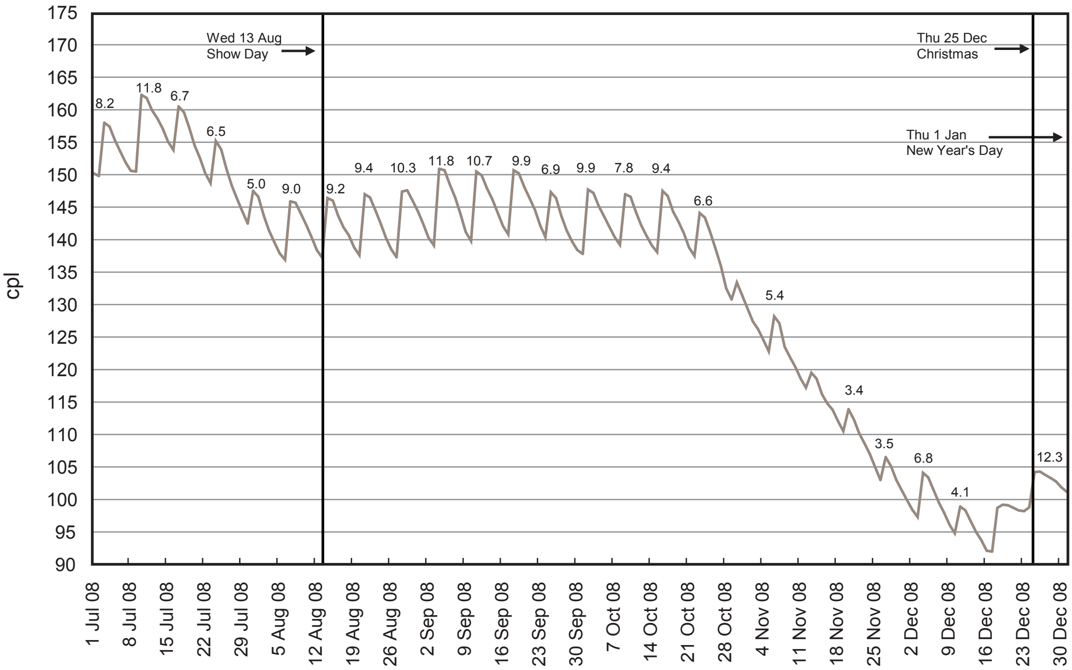
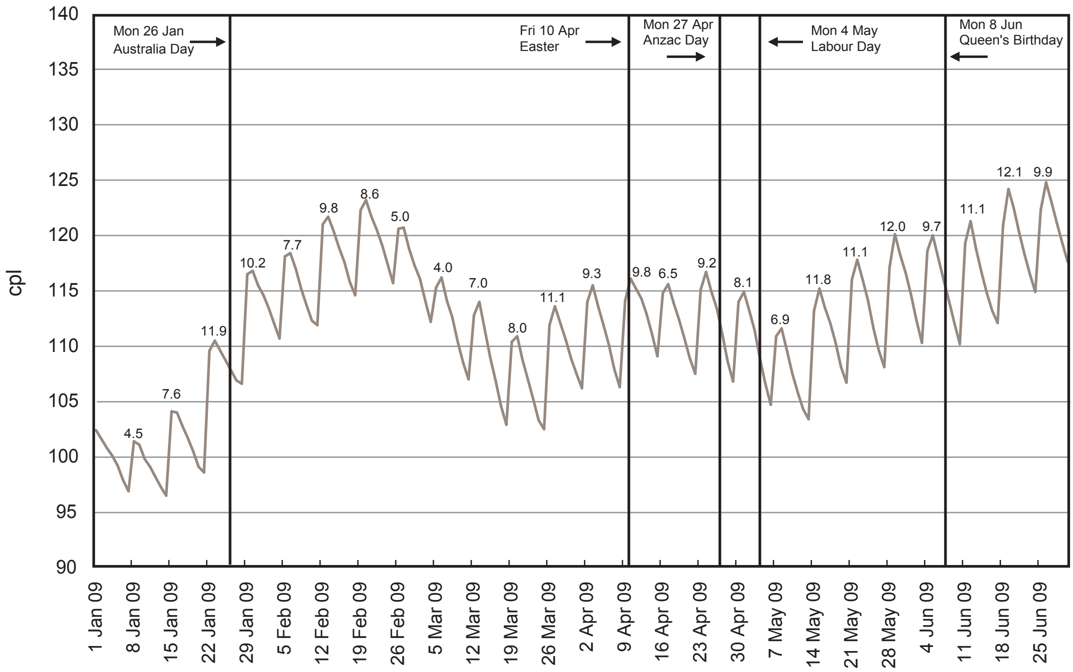


Chart G14 Brisbane, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2008



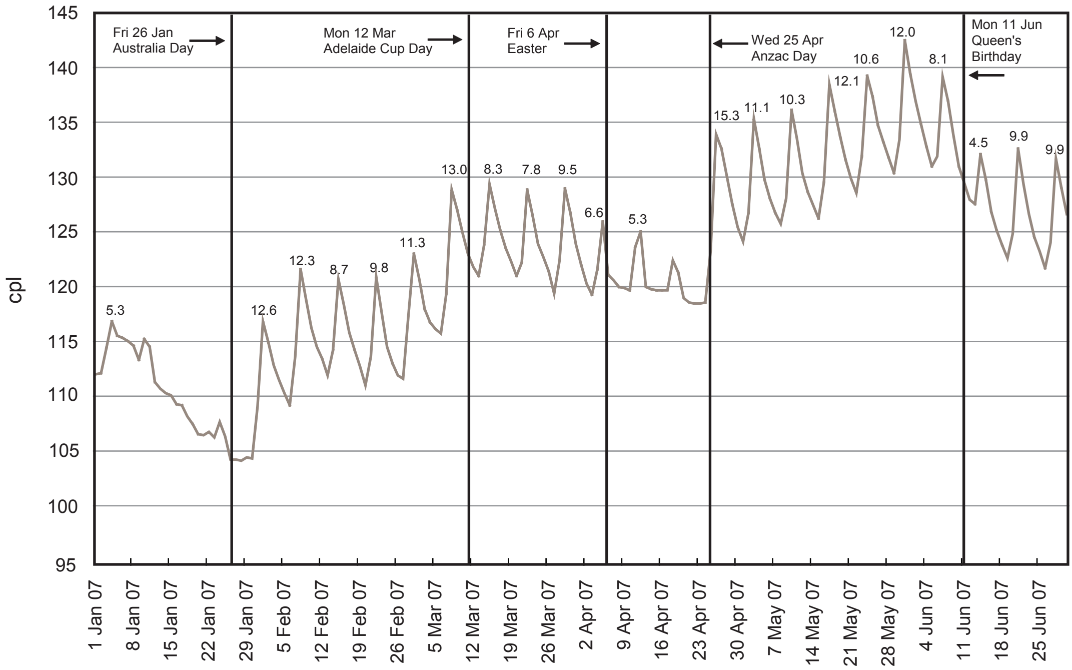
2008 average amplitude: 8.5 cpl	2008 minimum amplitude: 3.4 cpl	2008 maximum amplitude: 12.3 cpl

Chart G15 Brisbane, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2009



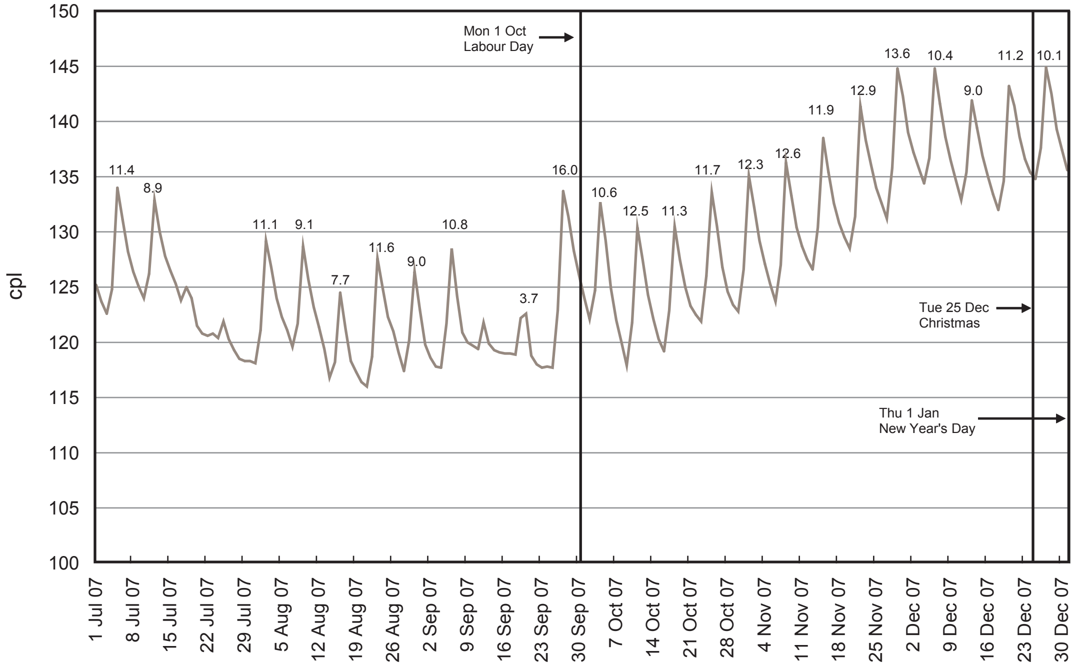
1st half 2009 average amplitude: 8.9 cpl 1st half 2009 minimum amplitude: 4.0 cpl
1st half 2009 maximum amplitude: 12.1 cpl

Chart G16 Adelaide, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2007



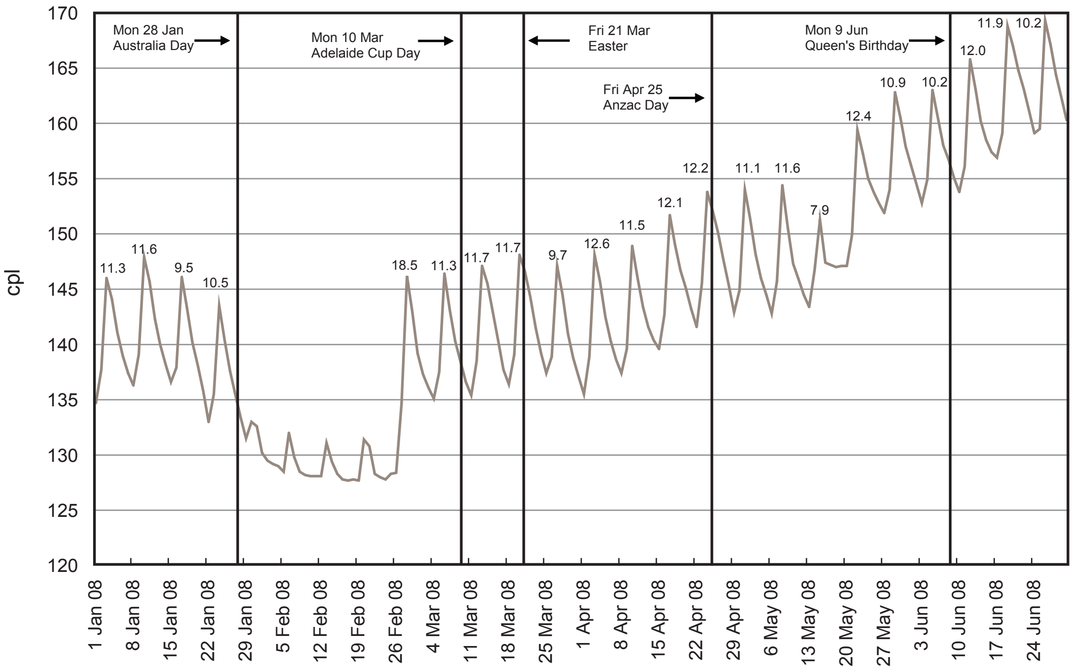
2007 average amplitude: 10.3 cpl | 2007 minimum amplitude: 3.7 cpl | 2007 maximum amplitude: 16.0 cpl

Chart G17 Adelaide, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2007



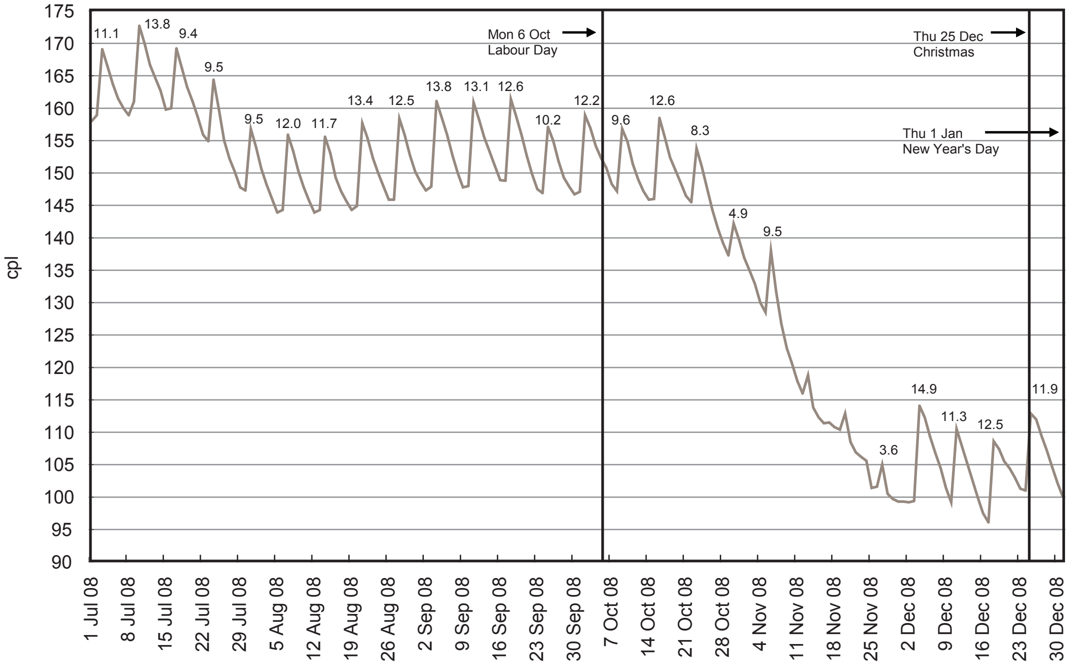
2007 average amplitude: 10.3 cpl	2007 minimum amplitude: 3.7 cpl	2007 maximum amplitude: 16.0 cpl

Chart G18 Adelaide, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2008



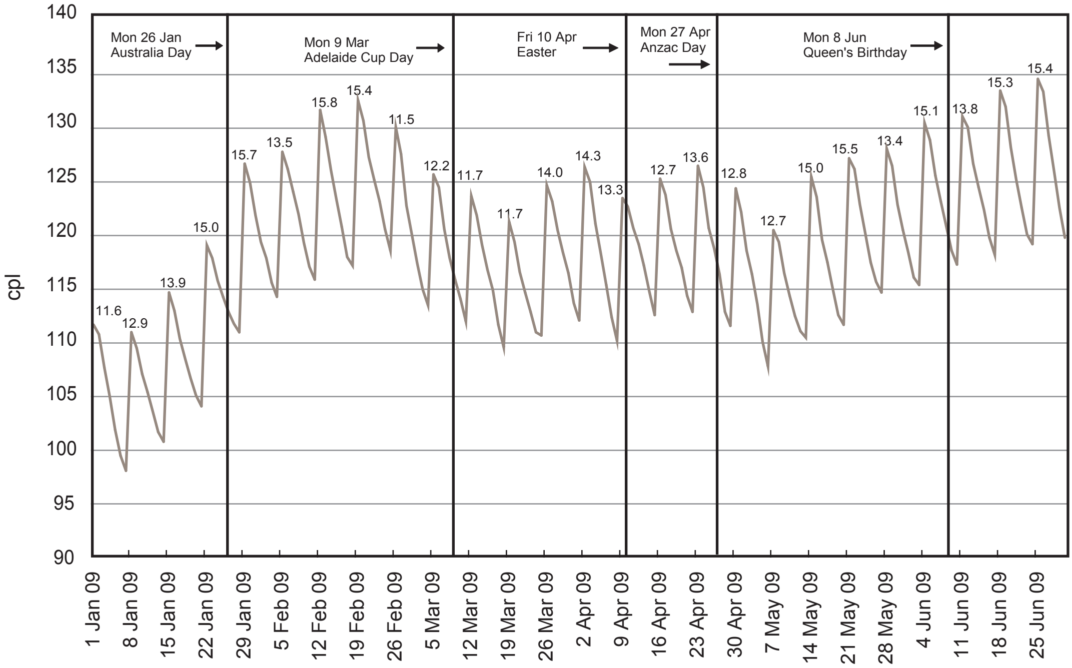
2008 average amplitude: 11.2 cpl	2008 minimum amplitude: 3.6 cpl	2008 maximum amplitude: 18.5 cpl

Chart G19 Adelaide, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2008



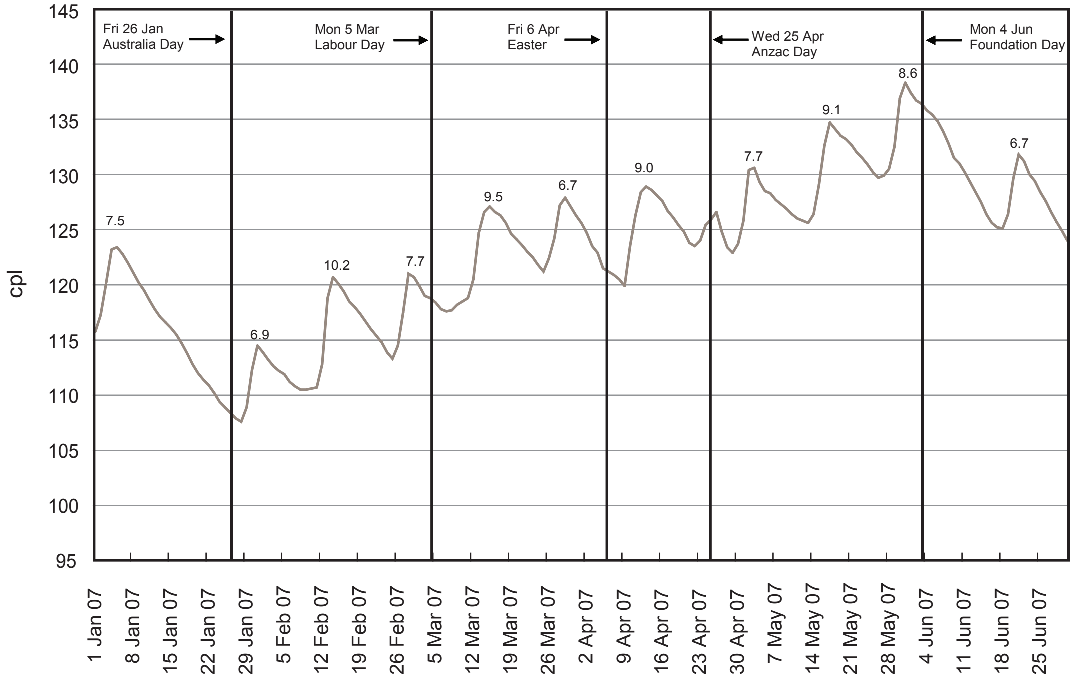
2008 average amplitude: 11.2 cpl   2008 minimum amplitude: 3.6 cpl   2008 maximum amplitude: 18.5 cpl

Chart G20 **Adelaide, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2009**



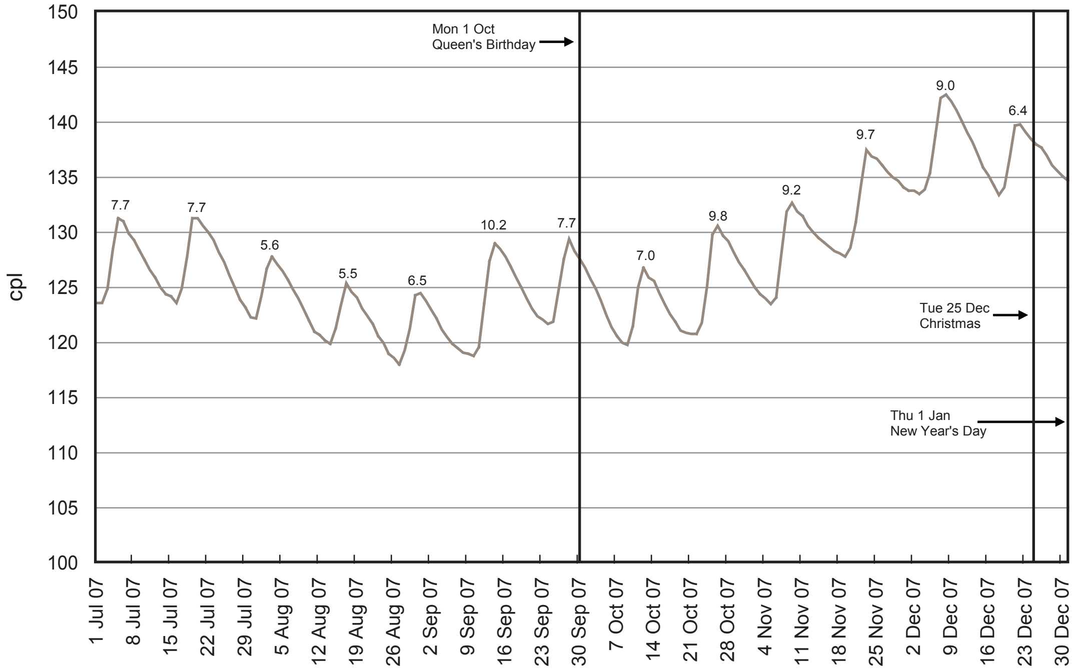
1st half 2009 average amplitude: 13.8 cpl 1st half 2009 minimum amplitude: 11.5 cpl
1st half 2009 maximum amplitude: 15.8 cpl

Chart G21 Perth, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2007



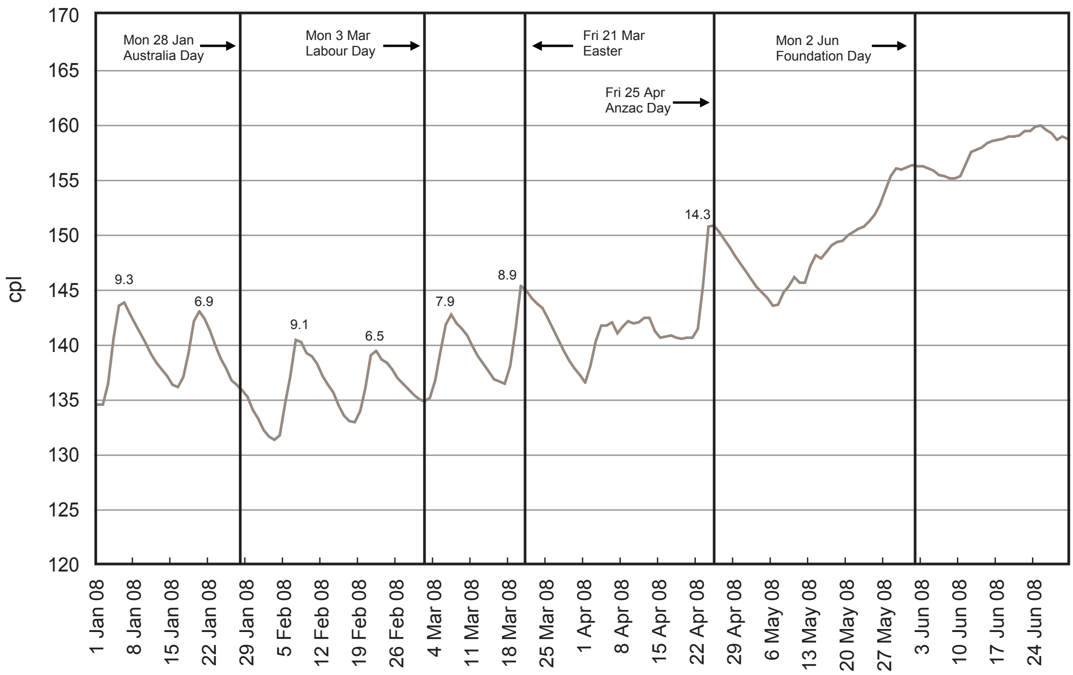
2007 average amplitude: 8.0 cpl	2007 minimum amplitude: 5.5 cpl	2007 maximum amplitude: 10.2 cpl

Chart G22 Perth, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2007



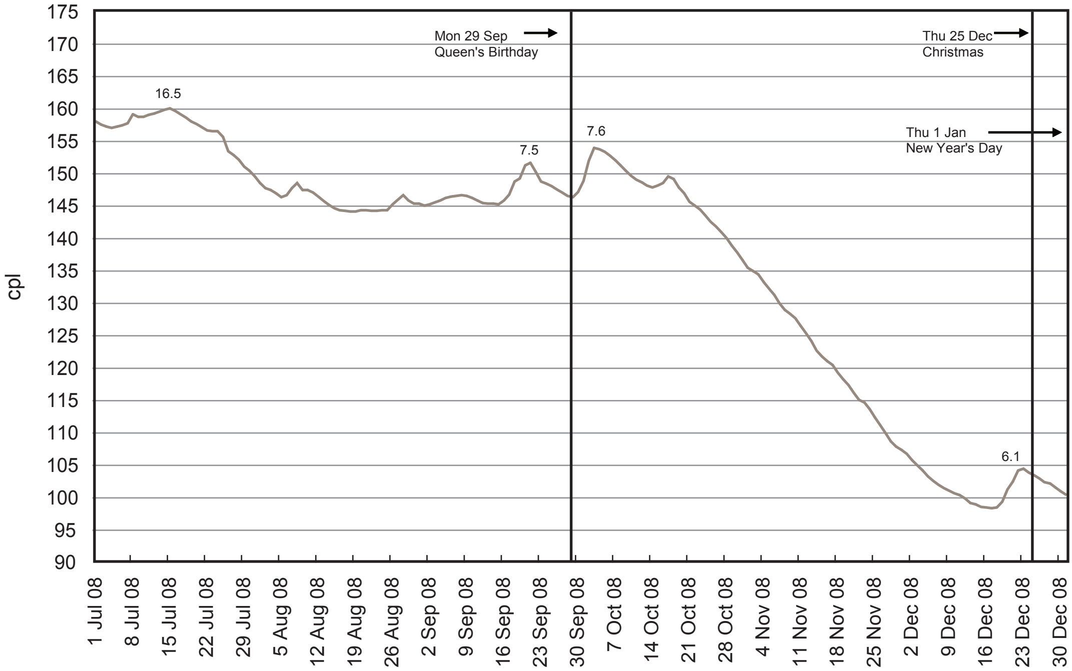
2007 average amplitude: 8.0 cpl	2007 minimum amplitude: 5.5 cpl	2007 maximum amplitude: 10.2 cpl

Chart G23 Perth, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2008



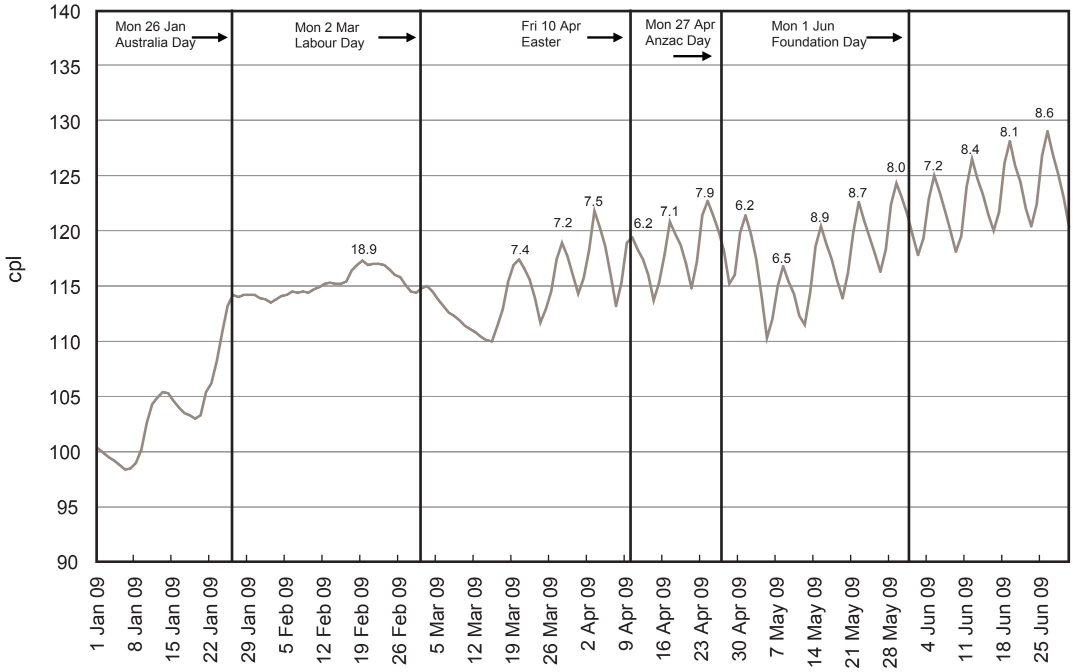
2008 average amplitude: 9.1 cpl	2008 minimum amplitude: 6.1 cpl	2008 maximum amplitude: 16.5 cpl

Chart G24 Perth, average daily retail prices—price cycle amplitudes and public holidays: 1 July to 31 December 2008



2008 average amplitude: 9.1 cpl	2008 minimum amplitude: 6.1 cpl	2008 maximum amplitude: 16.5 cpl

Chart G25 Perth, average daily retail prices—price cycle amplitudes and public holidays: 1 January to 30 June 2009



1st half 2009 average amplitude: 8.3 cpl 1st half 2009 minimum amplitude: 6.2 cpl
1st half 2009 maximum amplitude: 18.9 cpl

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