ANZ Industry Report: oil prices and Australian industries

Escalating global oil prices hit local Australian businesses and their householder customers

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Inside:

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Key points

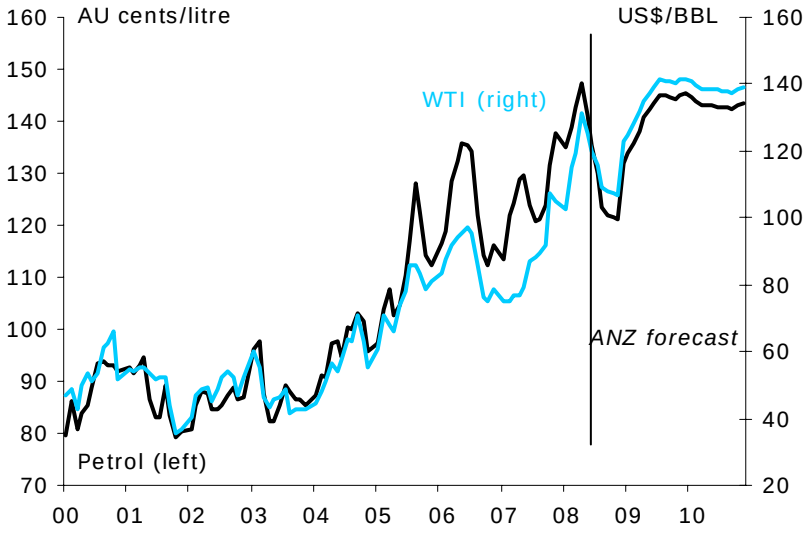
- Despite escalating oil prices over the past four years and a growing national car fleet, the total volume of petrol sold in Australia has remained relatively constant. Diesel sales have increased, due to strong demand from the road transport sector and other businesses.
- Rising fuel costs are eating into both business profits and sales.
- Growth in road freight transport activity has stalled due, in part, to rising fuel costs. The industry warns freight rates must rise at least 10% to meet diesel costs and maintain a viable level of profitability.
- Among households, petrol is a smaller cost item than is commonly realised, at under 3% of total household income. This aggregate hides wide variations between individual households however, and rising petrol costs are most definitely eating into household budgets. If all of the additional cost of each petrol price rise were to come out of retail spending, then each 10 cent rise in the price of petrol would have the potential to wipe up to 0.5% off national weekly retail sales.

Oil and petrol price trends

Oil prices have dominated the headlines globally for some time now, and for good reason, with new price records being set on almost a weekly basis. The reasons behind these price increases are many, but basically result from ever increasing global demand (particularly from the rapidly developing Asian economies) chasing static or slow supplies. As always, an element of market speculation may also be helping prices along.

Australia produces significant amounts of petroleum products, but we are a net importer of petroleum liquids. Local petrol, diesel and petroleum product prices track international pricing closely and virtually immediately. The only buffer has been the rising Australian dollar against the US dollar, which has very marginally helped to take the edge off local petrol prices. Local fuel taxes also play a role. They are relatively low in Australia compared to most other countries (see international comparisons below).

Local petrol prices follow global oil prices



Sources: ANZ Economics and Markets Research, RBA, Motormouth.

Australian petroleum consumption

Around 77% of Australia's oil consumption (by volume) is for automotive use

Most of Australia's petroleum consumption is in the form of petrol, diesel or LPG for automotive vehicles — 77% by volume in 2006-07. The proportion used by road vehicles has increased over the past decade (from 70% in 1997-98), as our road fleet has grown (see below) and as our industry structures have changed. Another 12% of the total is consumed as aviation fuel and the remaining 10% is consumed in other forms, including industrial LPG, marine diesel, industrial fuel oil, kerosene, lubricants and other petroleum products.

About 75% of automotive petrol and 6% of diesel (by volume) is used by households. The remainder is used by businesses.

Automotive fuel is purchased by households and by businesses of all kinds. The latest available national survey of motor vehicle use (2005-06) shows that 86% of all automotive petrol is used in passenger cars and 13% is used in light commercial vehicles. Conversely, 92% of diesel is used in commercial trucks and 8% in passenger vehicles. While almost all the diesel is used in vehicles travelling for business purposes (typically the commercial trucks), about 20% of the passenger vehicle kilometres and 63% of light commercial kilometres were also for business use. This leaves around 75% of total automotive petrol sales and 6% of diesel sales, by volume, that can be ascribed to household use — equivalent to about 57% of our total petroleum consumption, by volume.

Automotive petrol sales have been relatively stable over the past 5 years, but auto diesel sales have increased by around 30%.

Significantly, auto fuel growth in recent years has been in diesel rather than petrol. Indeed, total automotive petrol sales by volume have been remarkably stable over the past 5 years, at between 4,600 and 5,200 megalitres per quarter, with fluctuations within this range reflecting seasonal demand patterns and price. Diesel in contrast, has grown from quarterly sales of around 3,200ML per quarter in 2002 to 4,200ML in 2008. Aviation fuel has crept up also.

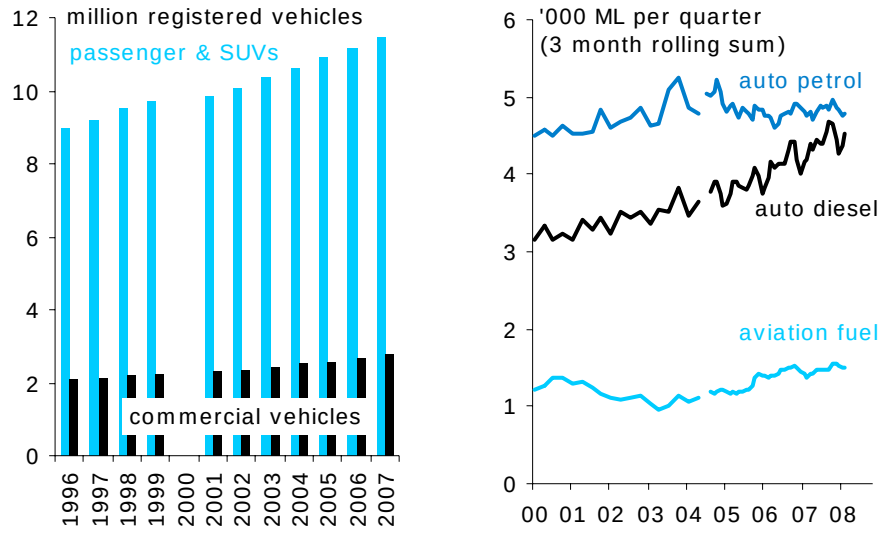
Australia's passenger car fleet is bigger but not necessarily hungrier

Trucks are more numerous and are needing more diesel

The size and composition of the national road fleet is relevant here too. The total number of vehicles registered in Australia is now approaching 15 million, 78% of which are passenger cars. Passenger cars have become more numerous through the purchase of new cars, so their average age has gone down and average fuel efficiency has gone up. Car numbers have also been growing at a slower rate than other types of road vehicles. The total road fleet has grown by an average of 2.9% p.a. over the last 5 years, but the fastest growing vehicles categories (other than motorcycles) have all been commercial, including light rigid trucks (6.1% p.a. average growth) light commercial trucks (3.8%) and articulated trucks (3.1%). New truck sales boomed in 2007 and are still strong in 2008.

All of this implies that the bigger share of growth in auto fuel demand has been from businesses rather than households. Growth in new truck sales and total registered truck numbers in particular, is indicative of the strong growth seen in the national road freight transport industry in recent years (see below).

Australia's road fleet is growing, but it is demanding more diesel, not more petrol



Sources: ABS, DRET.

Oil prices and industries

Higher business spending on fuel eats into profits.

Higher household spending on fuel eats into spending on other goods and services.

Oil prices have a twofold effect on individual businesses and industries:

1. directly. Oil, petrol and products derived from petroleum are essential inputs for businesses across many different industries, so an increase in price will immediately increase their input costs.
2. indirectly. Increased household spending on petrol (see below) means decreased household discretionary spending on other goods and services, thus reducing sales revenue for some industries and businesses.

These two effects are of varying degrees of relevance to different industries, depending on (1) their typical cost structure and (2) their customer base.

Looking firstly at business input cost structures, the industries that are most directly affected by rising oil input costs are transport (passenger and freight), energy, and sections of manufacturing that rely on petrochemical materials, such as plastics and chemical manufacturers. All industries that operate fuel-based machinery are also affected, including agriculture, most manufacturing segments, wholesale and retail distributors, construction and mining. These industries all have a high proportion of their cost base devoted to material inputs, as opposed to labour or capital inputs (see table below). The extent to which businesses can absorb rising fuel costs and/or pass them on to their customers varies across industries. Passing on costs that are rising quickly can be difficult in the short term, particularly where the customer base is mainly other businesses and supply contracts are fixed months in advance.

Indicative input cost structures of Australian industries (%)

Petroleum for fuel and materials is a major input cost for:

- transport,

- electricity and other energy utilities,

- mining and related processing,

- chemicals, plastics and other manufacturing segments and

- some types of agriculture.

Industry	Labour	Capital & investment	Goods & services, materials, fuel, other
Agriculture	12	35	53
Mining	15	43	42
Manufacturing	12	35	53
- Petrol, coal & chemicals	**11**	**17**	**72**
- Metal products	**16**	**12**	**72**
- Machinery & equipment	**19**	**15**	**66**
Electricity, gas & water	15	55	70
Construction	23	23	54
Wholesale	27	22	51
Retail	12	35	53
Hospitality	34	13	47
Transport & storage	23	30	47
- Road transport	**21**	**27**	**52**
- Air transport	**20**	**21**	**59**
Communications	27	36	37
Finance & insurance	31	35	34
Business services	33	21	46
Government	37	4	59
Education	82	6	12
Health & community	55	11	44
Cultural & recreational	25	18	57
Personal & other services	47	8	45

Sources: ABS 5209.0, *1993-94 Input-Output Table*; Econtech 2008.

Retail and service industries are affected by high oil prices indirectly, through:

- higher freight costs eating into profits and

- decreased consumer discretionary spending eating into sales.

Fuel costs for the transport industry

Road freight transport is facing severe cost pressures from rising fuel prices.

Industry growth has stalled.

Rising freight transport costs must be passed on.

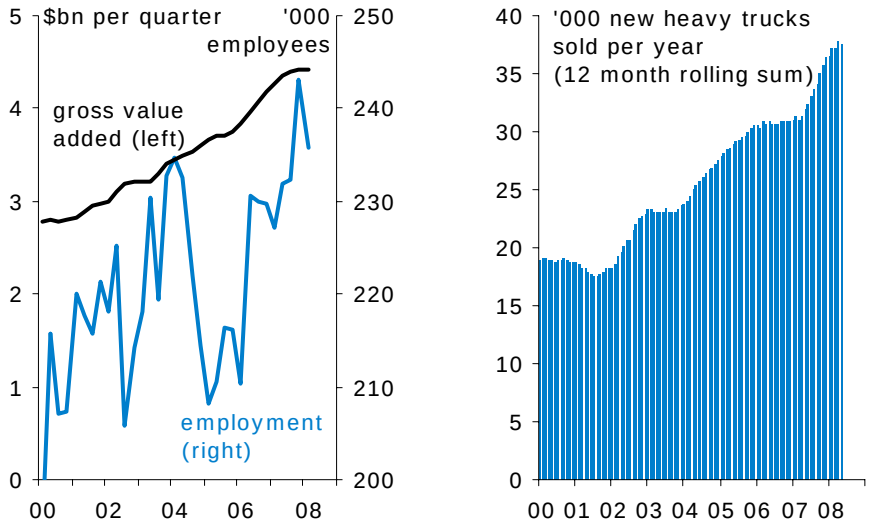
The 'lynchpin' industry in the chain of fuel costs for businesses is road freight, which provides transport services for businesses across virtually all other industries. Rail and air transport are of course also affected by rising fuel costs, but outside the bulk commodities (such as iron ore and coal) with their own dedicated rail lines, it is road freight that dominates Australian business life. The road freight transport industry grew very strongly in 2007 on various activity measures (see figures below), but that growth looks to have now peaked and has been fairly flat in 2008 to date. Trucking profits and profitability have been seriously eroded by rising fuel costs, coupled with an industry structure that tends to lock in freight rates months in advance. So despite strong demand, further growth has been impeded by escalating costs. Unlike the airline industry, there is no tradition of adding a 'fuel surcharge levy' to commercial freight rates to cover extra or unforeseen fuel costs.

Road freight runs predominantly on diesel rather than petrol. The industry's growth is a large factor in rising national diesel consumption in recent years (see page 2 above). Diesel prices have increased around 35% over the last 6 months alone, from a retail price of $1.80/l in October 2007 to $1.34/l in May 2008. Even though trucking companies pay 19 cents per litre in fuel tax instead of the retail rate of 38 c/l, under the fuel tax credit scheme, they must still bear the full price of the diesel, and unlike households, it is almost impossible for them to reduce their fuel consumption in response to rising prices. Other than purchasing newer, more fuel-efficient vehicles (which many transport businesses are apparently doing, judging from recent heavy truck sales figures), their only option for reducing fuel bill is to reduce their activity and hence their business.

Road freight rates need to rise by at least 10% to maintain industry viability.

The industry's representative body, the Australian Trucking Association (ATA), is anticipating diesel rising to $2/l by the end of 2008. Although some of the price increase to date has been absorbed by the industry (resulting in reduced profit margins), the industry is warning that the full cost of further price increases will need to be passed on through freight rates. The ATA estimates freight rates will need to increase by at least 10% just to maintain a break even point on the price rises to date, let alone allow for any profits, for most trucking companies. With a large component of small businesses and owner-drivers, the ATA warns the only alternative is a contraction in industry activity.[1] Given the cost scenario facing the industry however, a contraction may happen anyway, since higher freight rates are likely reduce demand for freight services from most customers.

Road freight: have activity, employment and new truck sales all peaked?



Sources: ABS and FCAI.

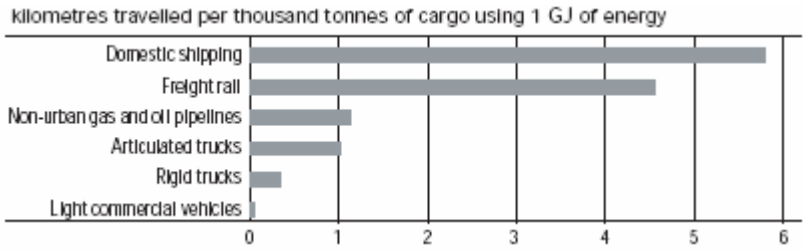
[1] ATA, 'Freight rates set to rise, trucking industry warns', *Media Release*, 22 May 2008.

The other segments of the transport industry — rail, water and air transport — are of course also being hit with rising fuel bills that are difficult to minimise without reducing income-generating activity.

High diesel prices will further improve the cost competitiveness of sea and rail freight relative to road for bulk freight.

Among ground transport options, high diesel prices will help to make shipping and rail more attractive relative to road freight, since they are more fuel efficient on a tonnes per kilometre travelled basis (see graph below). Shipping and rail have higher capital and other costs however, so the total cost per tonne per kilometre may still be higher than road transport, depending on the location and distance. In virtually all parts of Australia, rail and sea bulk freight transport are already running at full capacity, so the ability to transfer to other modes of transport is, in the short to medium term, limited in practice.

Ground freight transport fuel efficiency in Australia, 2004-05



Source: ABARE 2008.

Passenger air ticket prices will continue to rise, so demand is likely to fall.

Other cost savings are being sought by airlines.

In the air transport industry, fuel surcharges payable on all passenger tickets have become standard practice in recent years. This has enabled airlines to pass the rising cost of fuel directly on to passengers. It has not, however, rendered them immune to the effects of sudden, large fuel cost increases, and several smaller international airlines have already gone bust as a result. In Australia, the two national passenger carriers have responded with increased fuel ticket surcharges and reductions in the number and routes of scheduled services. Passenger demand is likely to fall in response, as ticket prices jump ever higher.

Fuel price effects for other industries

Rising petrol and diesel costs are affecting household demand for other, discretionary goods and services.

Turning to the second, less direct, effect of rising oil prices on businesses, many companies are finding high petrol prices are eating into their customers' budgets and hence their own sales. This mainly affects businesses with a strong reliance on household discretionary spending as their primary customer base. The industries most immediately affected by any drop in household discretionary spending are retail, hospitality, recreational services and personal and household services. Businesses in finance, insurance, business services (including accounting, legal and real estate), education and health are also affected, to the extent that their customers are households rather than other businesses of government. The extent to which households might reduce their discretionary spending on retail or other goods and services due to petrol price increases is discussed further below.

All of these household-oriented industries will also suffer a 'second-round' input cost increase as transport and other intermediate service providers pass on their higher fuel costs. Among food retailers for example, price increases of around 10% have been slated as necessary due to rising freight transport costs. Woolworths estimates that rising petrol prices mean that fuel now accounts for 20% of its total distribution costs.[2] This increase is on top of retail price increases arising from the increasing cost of the food items themselves, due to drought-induced shortages, rising global food commodity prices or other agricultural input cost increases (for example, fertiliser, feed, water and seeds).

[2] Woolworths spokesperson cited in "Petrol pain to hit household items", *Herald Sun*, 25 May 2008.

Petrol prices and households

In seeking to understand how rising petrol prices affect household budgets and spending on other goods and services, the key questions are:

1. How much do Australian households currently spend on petrol? and
2. To what extent is spending on other goods and services likely to be reduced as a result of higher household spending on petrol?

Household expenditure on petrol

The average Australian household buys about 35 litres of petrol per week

Looking firstly at current household spending on petrol, in the first 3 months of 2008, an average of 366.46 million litres of petrol was purchased nationally per week. As discussed above, an estimated 75% of this volume was bought by households (274.845ML). This means each of Australia's 7.8 million households bought an average of 35.2 litres of petrol each week. The RBA estimated an average weekly household petrol purchase of 35 litres in 2005, so this volume does not appear to have changed greatly in 3 years. As noted above, household diesel purchases in addition to this were small, at just 6% of total weekly diesel sales (337ML). Household diesel sales amounted to an average of 20.2ML per week in total, or 2.6 litres per household, in the first three months of 2008.

Naturally, there are wide variations around this average, with large households, households with multiple cars and households in rural, regional and urban fringe locations typically buying more petrol. In 2006, 10% of all households owned no car and presumably, consumed little or no petrol. The number and proportion of households with no car is however, gradually falling (it was 13% in 1996). 35% of households owned 2 or more cars in 2006 and 15% owned 3 or more.[3]

With petrol costing an average of $1.16 per litre nationally over the first three months of 2008, Australian households spent an average of $40.80 each, or $318.8 mn in aggregate, per week on petrol. To put this spending into context:

In aggregate, Australian households spend the equivalent of 2.3% of household income on petrol

- $40.80 per household per week is 3.6% of the average weekly ordinary time earnings (AWOTE) of a full-time adult ($1,124);
- $318.8 mn in aggregate per week is 2.3% of national gross household disposable income ($176,033mn in the Mar Qtr 2008);
- $318.8 mn in aggregate per week is 2.6% of national household final consumption expenditure ($158,929mn in the Mar Qtr 2008);
- Somewhat unexpectedly, the share of household final consumption expenditure going on the 'operation of vehicles' has fallen steadily, from 7.5% in the 1980s to 5.5% in 2008. About half of this expenditure item is petrol and half is other private vehicle running costs including registration, tolls and repairs. This trend is because the running costs of cars have stayed constant or even reduced, relative to other larger, growing household expenses, such as housing, health, education and recreation expenses.

Clearly then, even though some individual households are spending large chunks of their weekly budget on petrol, **households are not, on average and in aggregate, spending a large portion of income or expenditure on petrol**.

At 35.2 litres per week, each 10 cent increase in the price of petrol costs Australian households $3.52 per week each on average, or $183 per year (assuming no change in the volume of petrol purchased). In aggregate, such an increase will cost an extra $27.5 mn per week. This extra cost for household budgets must come at the expense of either savings or spending. In aggregate, it will most likely come from a mix of both.

Each 10 cent petrol increase costs an extra $3.50 per average household per week

Petrol sales per household per week	10 cent price increase
Low (20L)	$2.00
Med (35L)	$3.50
High (50L)	$5.00
All household petrol sales* (274.845ML)	$27.5 mn

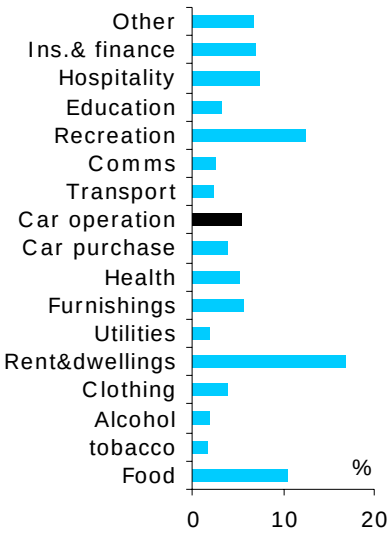
* 75% of average total petrol sales per week, Jan-Mar 2008. Excludes diesel sales.
Sources: ANZ, RBA and DRET.

[3] ABS 4602.0, *Environmental Issues: People's Views and Practices*, Mar 2006.

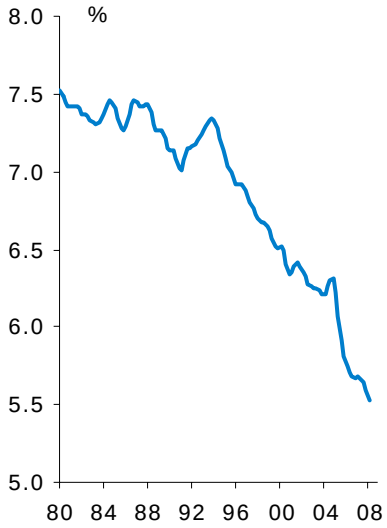
5.5% of aggregate household expenditure is spent on running our cars. Just over half of this is for fuel.

The share of expenditure going towards car running costs has been falling.

HFCE expenditure items, Mar 2008



HFCE, % on operation of vehicles



Source: ABS, *National Accounts.*

Impact on household spending on other goods and services

Total household expenditure in Australia is currently running at around $12.2bn per week (as indicated by March quarter national accounts). Retail trade spending was around $5 bn per week, equivalent to 41% of total household expenditure. The remainder is spent on a wide range of other, non-retail goods and services including housing, health, education, insurance, and other services (see 'HFCE expenditure' figure above).

These figures imply that even in a worse case scenario for retail — where the full cost of any increase in petrol prices detracts directly and fully from retail spending — a 10 cent increase in petrol prices would, in aggregate, detract $27.5mn or 0.5% from weekly retail sales. If it is assumed that all of this would come from non-food retail spending, the 10 cent price increase would detract closer to 1% from non-food retail spending. This may not sound like a lot, but it is enough to more than wipe out the growth in retail spending that might otherwise have occurred, since monthly growth in total retail spending was only 0.2% in March and was negative in April — indicating that a decrease in retail spending as a result of higher petrol prices (among many other reasons) may already in fact have occurred.

Each 10 cent petrol price increase could shave a maximum of 0.5% from the value of national retail sales.

Given that the more likely scenario is that the cost of the petrol price increase would be spread also across other types of spending and/or savings, this should be regarded as the *maximum* direct impact on retail sales.

Effects on individual retailers could be greater however, due to local .

This simple equation may however, under-estimate the effect of petrol price increases on retail spending in any given location for two reasons:

- Possible concentration of the effect of petrol price increases on households that usually have a higher-than-average retail spending pattern (i.e. households that drive a lot and also shop a lot)
- The indefinable yet undeniable psychological effect of rapidly rising petrol prices on household spending patterns, even among households with low petrol consumption, amplified by media coverage of the "petrol crisis".

These additional elements complicate the story at a local retail level, because both factors vary greatly across geographic locations. Regional retailers for example, are likely to notice a greater drop in spending as a result of rising petrol prices than their CBD counterparts, due to the greater share of petrol in the typical regional household budget. The 'background' economy is also relevant, such that locations that are already suffering slower economic growth for other reasons (e.g. parts of Sydney and regional NSW and Victoria) may find households pulling in their collective belts earlier and harder than elsewhere.

Household petrol price modelling scenarios

So what would happen to household incomes and budgets if petrol prices increased further? Recently we tested the effects of different petrol price points on household disposable income growth. The scenarios tested were:

1. Good scenario – petrol prices have peaked. This is the central case scenario we have adopted in our current economic forecasts. The combination of expected falls in global oil prices and the higher A$ will see petrol prices ease slightly from here, to trough at $1.32/l by early-2009. By end-2009 however, we expect a lower A$ will push petrol prices back up to $1.45/l.
2. Bad scenario – petrol prices will rise by 5c per litre each quarter to peak at $1.75c/l by end-2009. In some locations around Australia, petrol is already nearing this price point, if not already above it.
3. Worst scenario – petrol prices will rise by 15c per litre per quarter to peak at $2.35c/l by end-2009.

Unsurprisingly, this analysis throws up some interesting points.

Personal income tax cuts from 1 July will offset further petrol price rises this year

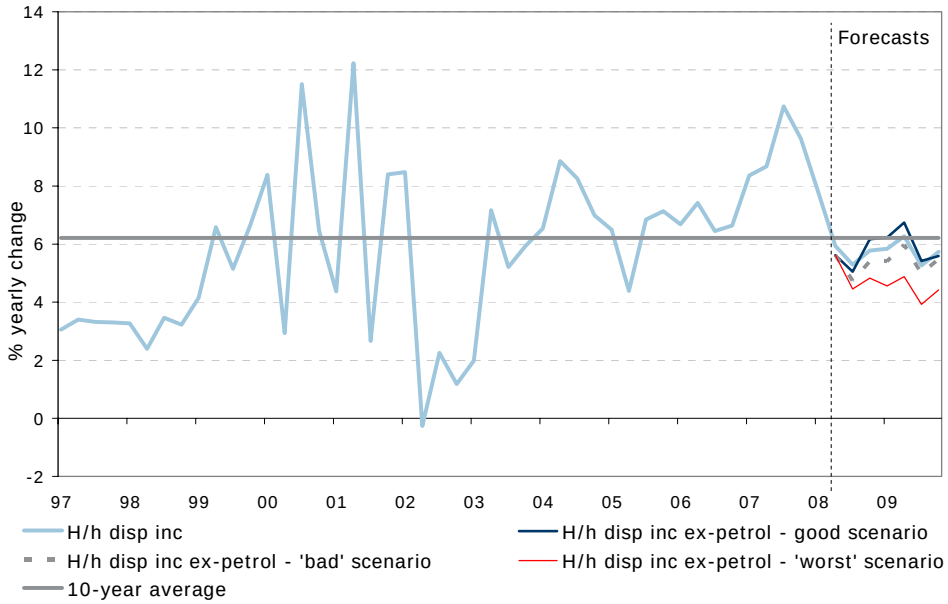
- Under all of the scenarios, it was confirmed that petrol prices are squeezing household disposable income.
- However the difference in impact over time between the 'good' and the 'bad' scenario is relatively small. Perhaps this shouldn't be a surprise, given that petrol accounts for less than 3% of total household consumption and the big price increases have happened already.

Petrol prices above $2.00/l would provide a strong case for interest rates to remain indefinitely on hold

- Moreover, under both the 'good' and 'bad' scenarios, the impact of higher petrol prices is more than offset by the coming July 1 $11bn household income tax cuts, with household disposable income growth rebounding, albeit to still below trend levels, in the second half of this year.
- This analysis confirms that a sharp, sustained rise in petrol prices, as under the 'worst' scenario, would push household disposable income growth sharply below trend for the first time since 2005.

Higher petrol prices are squeezing household discretionary income

Household disposable income growth –the petrol price impact

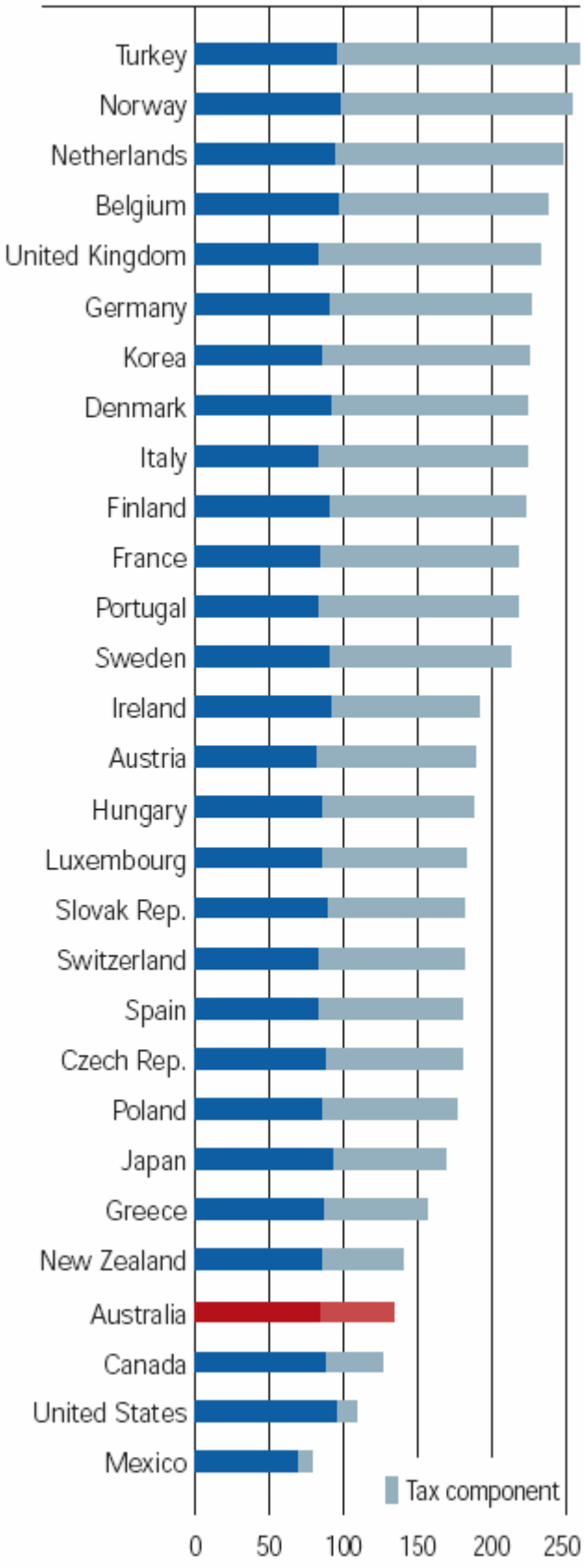


Source: ABS and ANZ Economics and Markets Research.

Australia has the fourth cheapest retail petrol in the OECD, mainly due to our relatively low fuel taxes.

Retail petrol prices, international comparisons

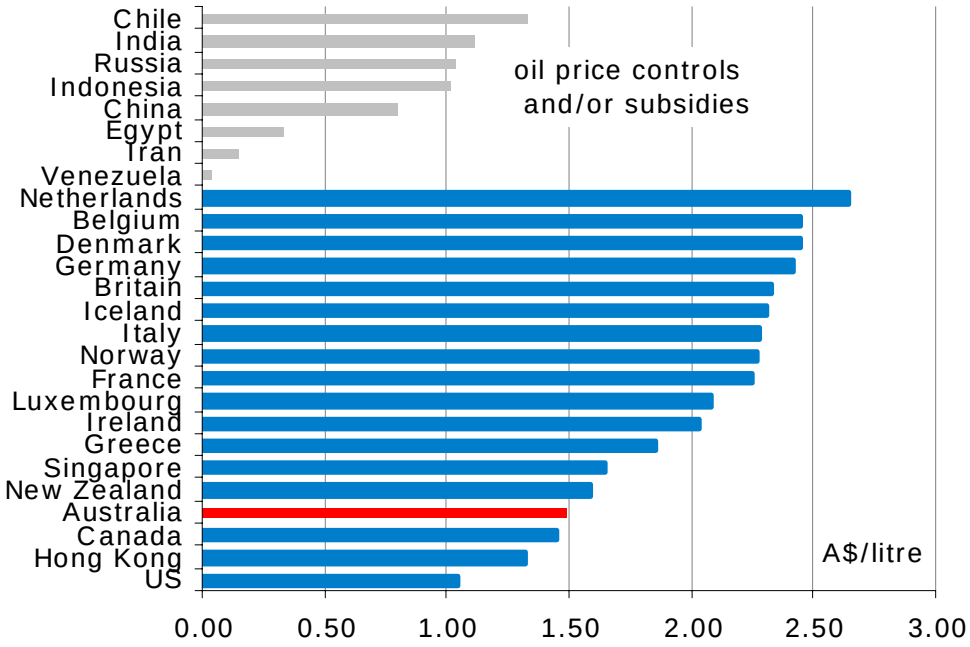
OECD retail petrol prices, Australian cents per litre, 2006



Source: ABARE 2008.

Developing countries with cheaper petrol than Australia generally have state price controls and/or subsidies.

International retail petrol prices, Australian dollar per litre, May 2008



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