

Senate Standing Committee on Economics

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15 – 17 February 2012

Question: **AET 1248**

Topic: **Supermarket Fuel Discounts – Market Analysis**

Hansard Page: **15 Feb 2012, pg 123-125**

Senator XENOPHON asked:

Senator XENOPHON: Yes, I do. I will leave that issue, thank you, Chair. Can I just go to the issue of the petrol commissioner. In terms of the petrol commissioner's role, you may be aware of the Australian Automobile Association dealing with issues of the impact of supermarket fuel discounts—the market analysis. You have seen that, Mr Cassidy?

Mr Cassidy: Yes.

Senator XENOPHON: Has something similar been prepared by the petrol commissioner?

Mr Cassidy: No, and I must say we have not actually seen the AAA analysis because they have not raised it with us since we have seen it reported in the press. We have done—

Senator XENOPHON: Did you request the AAA analysis when you saw the report in the press?

Mr Cassidy: No, we did not because, from what we saw in the press, we believed we understood what the analysis was saying, so we have not had a look at the analysis.

Senator XENOPHON: Do you agree with that analysis? The analysis is basically saying that with these shopper docket discounts, the 8c discounts, there was actually an increase in the margin, so consumers were, to put it bluntly, being ripped off or being charged more for petrol than they should have been in order to subsidise the shopper dockets. Do you agree with that analysis?

Mr Cassidy: No, we do not. The problem with using the margin between the wholesale and the retail price is that it is fairly volatile; it does move around a good deal. Let me give you an example of the sorts of conclusions you can get to. In the November-December period, when the shopper docket discount was increased to 8c a litre, the margin actually increased, which is what the AAA analysis showed. In July-August last year, when the shopper docket discount increased to 8c, the margin actually decreased, as it did again in January, last month. So the margin moves around, depending on exactly what time period you are looking at.

Senator XENOPHON: So you do not see any correlation between the two?

Mr Cassidy: No. In fact, we cannot find any correlation between the two.

Senator XENOPHON: But did you look for a correlation?

Mr Cassidy: We have.

Senator XENOPHON: Whenever there are shopper docket promotions like this going, either the 4c or the 8c a litre, do you continually monitor that in terms of margins?

Mr Cassidy: Yes, we are monitoring those things all the time.

Senator XENOPHON: So you reject the AAA analysis?

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Mr Cassidy: We do on that basis. We do also because, if the AAA analysis is right, that means that Coles and Woolworths must be the ones who are leading the price cycle and therefore moving the retail price around, but we have consistently over a period of time analysed the price cycle and published the results in our annual monitoring reports, and it is not Coles and Woolworths that lead the price cycle; it is the oil majors.

Senator XENOPHON: So you are saying you disagree with the AAA analysis, even though you have not requested it and you have not seen it?

Mr Cassidy: I am saying we disagree with it on the basis of what was reported—

Senator XENOPHON: You disagree with something on the basis of a report in the *Daily Telegraph*? I am not knocking the *Daily Telegraph*, but I am saying—

Mr Cassidy: And also on the basis of the AAA press release which we looked at. We understand what the AAA has done, but I am saying to you it is wrong. It is a nonsense.

Senator XENOPHON: So it is a nonsense but you have not seen it?

Mr Pearson: We have. We spoke with the gentleman who announced it. He mentioned then that he had something. He never bothered to tell us about it at the time. He had every opportunity to come to us and tell us. He never told us anything about it. We got this from a journalist on Friday afternoon, who called and said they were about to announce something on the weekend. The journalist sent us the report. This is all I have. I assume this is it. This is the report—

Senator XENOPHON: So you have seen it?

Mr Pearson: Yes, I have got it here.

Senator XENOPHON: Okay.

Mr Pearson: This is the report the ACCC did. That is a real analysis. That is an analysis done by experts with evidence. I take offence at what is being said here.

...

Mr Pearson: That document shows where we can show the growth margin, the margin that is being discussed in this analysis, and then it shows that, on that period of time that the AAA talks about, yes, it was high on that December period, but it also demonstrates that in January this year, where the 8c per litre document was, that period also was one of the lowest that we have had for those margins. It is really difficult then to say, 'Here is the correlation.' Any econometrician looking at that evidence would say that there is no correlation. That is the problem with trying to correlate that sort of evidence. That is what I am saying.

Senator XENOPHON: I do not have much time, because my colleagues have many questions to ask. I asked Mr Cassidy if you had seen the report. Perhaps it was a misunderstanding. I am not criticising Mr Cassidy, but you have seen the report and you say that it is wrong. Could you, on notice, provide further details as to why you consider it is wrong?

Mr Pearson: Yes, sorry.

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Answer:

On 22 February 2012 the ACCC was sent a copy of a report by the Australian Automobile Association (AAA) entitled *Supermarket fuel discount and gross retail margins: market analysis*.

The report suggested that fuel prices and gross retail margins (i.e. the difference between retail prices and wholesale prices) have been higher by up to 2.0 cents per litre (cpl) since late October 2011 following the introduction of 8.0 cpl shopper docket discount schemes by Coles Express and Woolworths. It also noted that the duration of price cycles had increased since late October.

Summary of ACCC assessment

- The ACCC monitors petrol prices and margins on a daily basis. It has specifically analysed the relationship between retail petrol margins and shopper dockets over the past 16 months.
- The ACCC has analysed these relationships over a longer period of time because petrol retail margins are volatile and vary significantly over time. This means that short-term comparisons can provide misleading results.
- From its analysis the ACCC concludes that there is no apparent relationship between retail petrol margins and the 8.0 cpl shopper docket discounts over the period analysed. This conclusion was confirmed by a statistical analysis conducted by the ACCC which concluded that there was no statistically significant relationship (see Appendix A).
- The ACCC also notes that prices are generally led up by the refiner-marketers rather than the supermarkets. It also examined supermarket average retail prices relative to market average retail prices.
- It also notes that the increase in the duration of price cycles in the eastern capital cities has been increasing since around mid-2010 (prior to which the average duration was seven days).
- The ACCC is currently examining the competition and consumer concerns that may arise from the trend of discounts above 4.0 cpl being offered more often.

A detailed assessment and statistical analysis follows.

Detailed assessment

Comparisons over a longer period of time

Fuel prices, and particularly petrol prices, are volatile and change frequently. For this reason, to identify any specific trends in petrol prices, the ACCC prefers to analyse fuel prices over a longer period of time. It considers that short-term comparisons can provide misleading results.

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Petrol retail margins are volatile and vary significantly

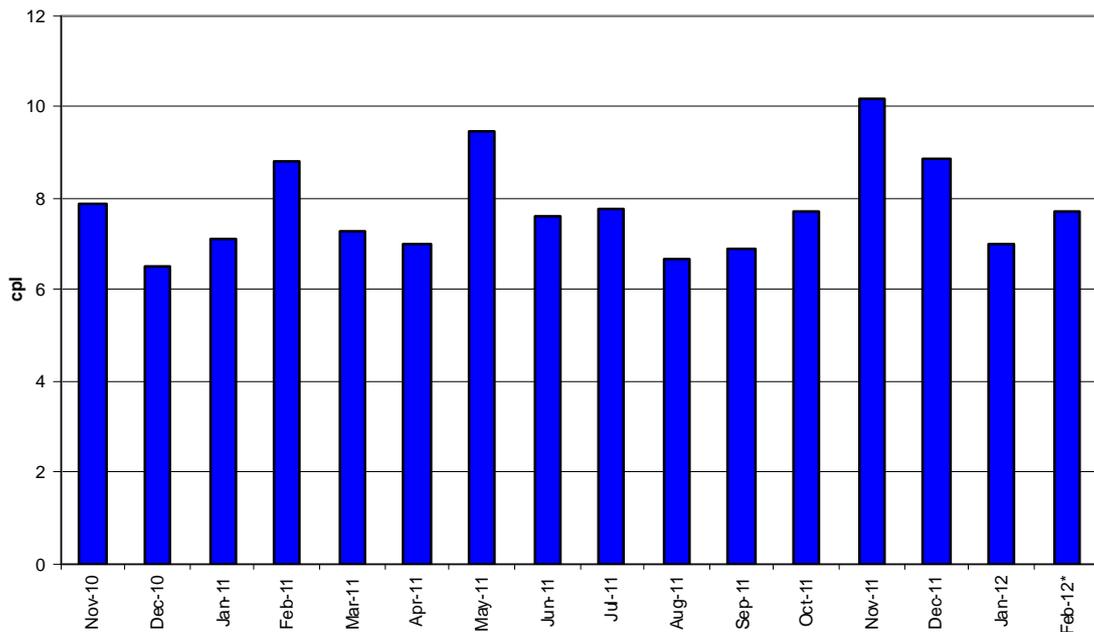
The fact that petrol prices are volatile and change frequently is evidenced by the movements in petrol margins.

Chart 1 shows monthly average margins across the five largest cities (Sydney, Melbourne, Brisbane, Adelaide and Perth) between November 2010 and February 2012.¹

This period was analysed because it covers the last three 8.0 cpl shopper docket discount periods.

Over this period, margins averaged 7.8 cpl. They ranged from a high of 10.2 cpl in November 2011 to a low of 6.5 cpl in December 2010.

Chart 1: Monthly average margins across the five largest cities - November 2010 to February 2012



* to 15 February

Source: ACCC calculations based on Informed Sources, AIP and data provided by the monitored companies.

¹ These are calculated by subtracting average monthly terminal gate prices (TGPs) from average monthly retail prices across the five largest cities. Data for February 2012 is up to 15 February. TGPs for February 2012 are sourced from the Australian Institute of Petroleum (AIP) website. Other TGPs are sourced from the monitored companies. All references to petrol in this note are to regular unleaded petrol.

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ACCC analysis of movements in terminal gate prices and retail prices over the last four years indicates that when there were significant changes in TGPs in a short period of time – both up and down – retail prices tended not to change by the same degree.

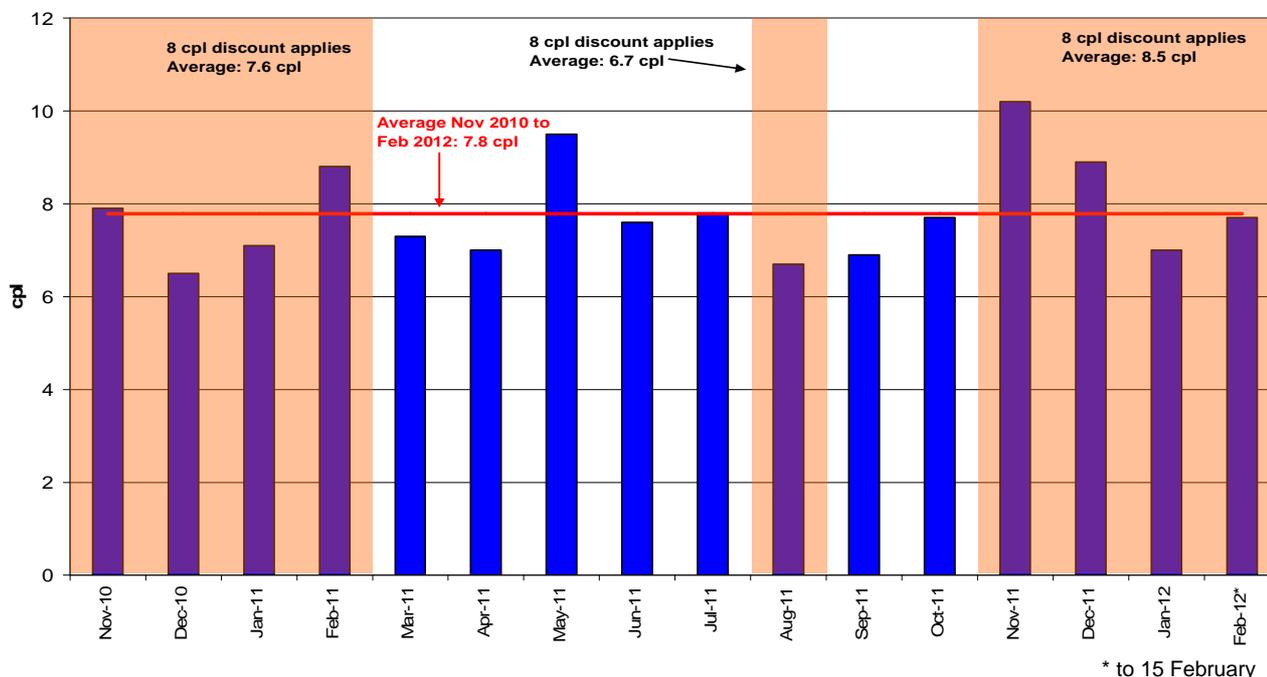
This means that when TGPs were increasing significantly, retail prices did not increase as quickly and therefore margins were lower than they otherwise would have been. This was the case in December 2010. Similarly, when TGPs were decreasing significantly, retail prices did not decrease as quickly and therefore margins were higher than they otherwise would have been. This was the case in November 2011.

Relationship between margins and the 8.0 cpl shopper docket discounts

During the last 16 months there were three periods during which Coles Express and Woolworths operated 8.0 cpl shopper docket schemes. These were: 5 November 2010 to 31 January 2011, 21 July 2011 to 3 August 2011 and 29 October 2011 to 31 January 2012.

Chart 2 shows these three discount periods and the monthly average margins across the five largest cities between November 2010 and February 2012.²

Chart 2: Monthly average margins across the five largest cities and 8.0 cpl shopper docket periods – November 2010 to February 2012



Source: ACCC calculations based on Informed Sources, AIP and data provided by the monitored companies.

² As the shopper dockets can be redeemed for 28 days after the 8.0 cpl shopper docket scheme ends we have taken the first shopper docket period to be November 2010 to February 2011, the second period to be August 2011 and the third period to be November 2011 to February 2012.

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Chart 2 shows that there was no apparent relationship between margins and the 8.0 cpl shopper docket discounts.

The average margin over the 16 months was 7.8 cpl. The average margins in two of the three periods with 8.0 cpl shopper dockets were lower than this (7.6 cpl in November 2010 to February 2011 and 6.7 cpl in August 2011) and higher in the third period (8.5 cpl in November 2011 to February 2012).

The average margin in the nine months in which shopper docket arrangements applied was 7.9 cpl and the average margin in the seven months without 8.0 cpl shopper dockets was 7.7 cpl.

Both the highest monthly average and the lowest monthly average occurred in months when the 8.0 cpl shopper dockets arrangements were operating.

Price cycles are generally led up by the refiner-marketers rather than the supermarkets

The ACCC 2011 Petrol Monitoring Report noted that petrol price cycles are generally led up by BP or Caltex, rather than the supermarkets.

Any instance of the supermarket retailers leading price increases to accommodate the increased fuel discounts would be at odds with this experience.

Supermarket average retail prices relative to market average retail prices

As with margins, the difference between supermarket average prices and market average prices varies over time. On average over the 15 months to January 2012 the difference between the two prices was -0.1 cpl. The difference during the seven months with the 8.0 cpl shopper docket discount and during the months without the shopper docket varied from 0.1 to -0.2 cpl. This is shown in Chart 3.

Over the past 15 months, supermarket average prices were lower than refiner-marketer branded average prices in all but one month (February 2011).³

³ Refiner-marketer branded sites includes company-owned company-operated sites, commission agent sites, franchisee sites and refiner-marketer branded but independently owned sites.

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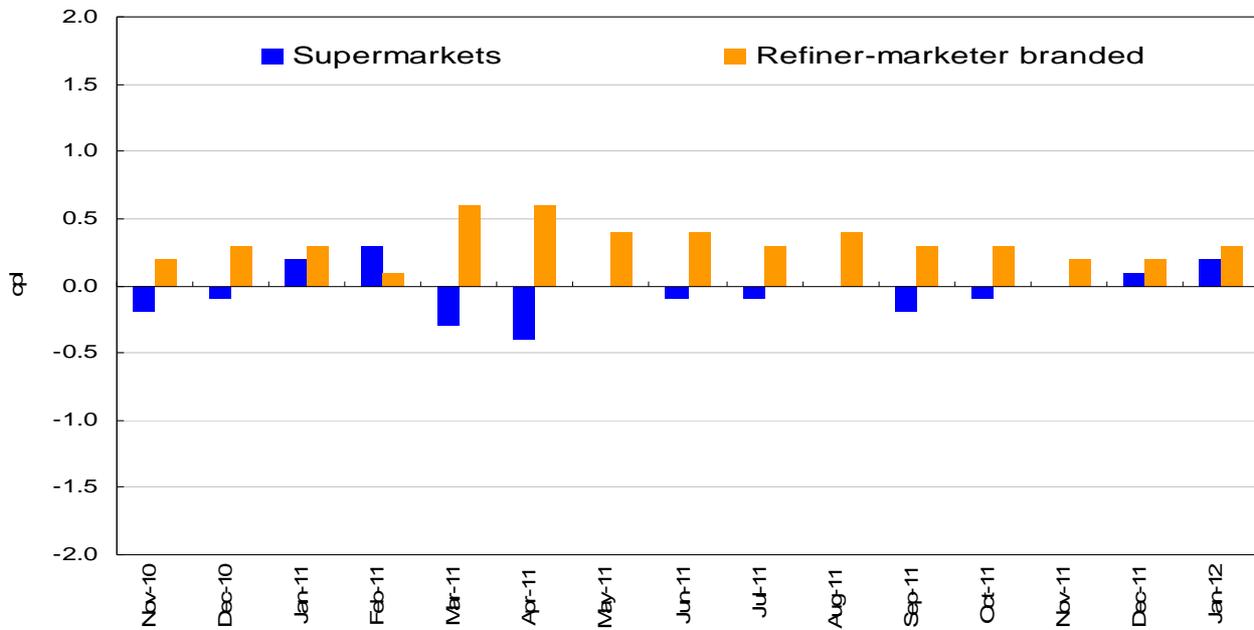
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Chart 3: Monthly average differences between the average retail price of the supermarkets and refiner-marketer branded sites and the market average - five largest cities - November 2010 to January 2012



Source: ACCC calculations based on Informed Sources data.

Petrol price cycles have been changing since mid-2010

It was observed in the AAA report that the duration of petrol price cycles in the four eastern cities increased from around 10 days to around 11 days on average in late 2011. This is broadly consistent with ACCC analysis.

However, the increase in the duration of price cycles in the eastern capital cities is not a new phenomenon. It has been increasing since around mid-2010 (prior to which the average duration was seven days). This is shown in Chart 4.

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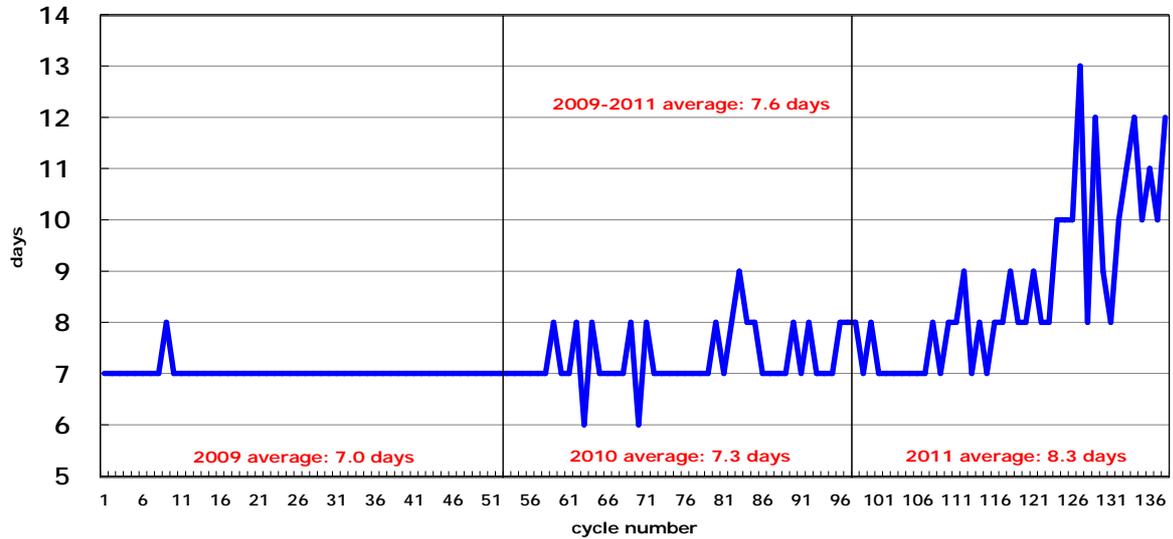
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Chart 4: Duration of price cycles in Melbourne – January 2009 to December 2011⁴



Source: ACCC calculations based on Informed Sources data.

⁴ The duration of a price cycle is the number of days from the peak of one price cycle to the peak of the next. Note that the chart excludes 3 failed price cycles in Melbourne during this period.

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APPENDIX A - THE RELATIONSHIP BETWEEN FUEL DISCOUNTS AND MARGINS: A STATISTICAL ANALYSIS

An inspection of Chart 2 suggests there is not a significant and robust relationship between margins and 8.0 cpl shopper docket discounts. This conclusion is supported by further statistical analysis of the data.

The statistical analysis is divided into two parts:

1. a preliminary analysis of the correlation between margins and discounts. It finds that the sign of the correlation is sensitive to the time period chosen, and thus the correlation is not robust.
2. analysis using econometric methods to evaluate the statistical significance of the relationship between margins and discounts. It fails to find a statistically significant relationship between margins and discounts.

1. Analysis of the correlation between margins and discounts

The correlation between margins and discounts can be analysed by creating a dummy variable that takes on a value of 1 in those months during the 8.0 cpl discount periods⁵ and a value of 0 in other months.

It is then possible to calculate a correlation coefficient between this dummy variable and the monthly average margins.

This correlation coefficient was calculated for two sets of monthly average margin data:⁶

- data from November 2010 to February 2012, for each of the five largest cities (the number of observations is $5 \times 16 = 80$)
-
- data from October 2010 to February 2012, for each of the five largest cities (the number of observations is $5 \times 17 = 85$).

For the dataset beginning in November 2010, the correlation coefficient is 0.040, but for the dataset beginning in October 2010, the correlation coefficient is -0.005.

A small change in the time period, therefore, changes the correlation from positive to negative. The sign of the correlation is sensitive to the period chosen.

⁵The months of the 8.0 cpl discounts are November 2010 – February 2011, August 2011, and November 2011 – February 2012.

⁶The final observation is 15 February, 2012, so the average for February 2012 is based only on the first 15 days of the month.

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This simple calculation indicates that the correlation between margins and discounts is not robust, at least for the time period from the final quarter of 2010 to the present.

2. Significance of the relationship between margins and discounts

The statistical significance of the relationship between margins and discounts was evaluated using regression analysis.

The regression used cycle averages rather than monthly averages, in order to increase the number of observations, and thus potentially to increase the significance of the coefficients.

It was a panel data regression.⁷ Heterogeneity between the five largest cities was captured using dummy variables. Melbourne was taken as the base case, and a dummy variable was created for Sydney (SYD), Adelaide (AD), Brisbane (BRIS) and Perth (PER).

Another dummy variable (DISC) was created which has a value of 1 in the months during the 8.0 cpl discount periods and 0 in other months.

The dependent variable was the margin (MARG).

MARG was regressed on DISC, SYD, AD, BRIS and PER, using a linear model with a constant, and the least squares method.

The previous section found that the sign of the correlation coefficient between margins and discounts changed depending on whether the period began in October 2010 or November 2010. Because of this lack of robustness, the regression was performed for two time periods:⁸

- from October 2010 to February 2012 (291 observations)
- from November 2010 to February 2012 (267 observations)

For the two regressions, the signs on the coefficients are the same.

In both regressions, the Brisbane dummy variable was strongly significant with a positive coefficient while in the regression beginning in October 2010, the Adelaide and Perth dummy variables were significant at a 5 per cent level with a negative coefficient. This indicates that, all else equal, margins tend to be higher in Brisbane than in the reference city Melbourne and tend to be lower in Adelaide and Perth than in Melbourne. (Note, however, that for the regression beginning in November, the coefficients on the Adelaide and Perth dummy variables are no longer significant at a 5 per cent level.)

In neither of the regressions was the discount dummy variable statistically significant, at either a 1, 5 or 10 per cent level.

⁷Panel data are data that have both cross-sectional and time-series dimensions.

⁸The final observation is 15 February, 2012.

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At least for the period from the final quarter of 2010 to the present, therefore, there is not a statistically significant relationship between margins and discounts.

The results of the two regressions are reported in Table 1.

Table 1: Regression of margins on discount and city variables

| Time Period: October 2010 to February 2012 | | | | |
|---|--------------------|-------------------|--------------------|--------------|
| <i>Variable</i> | <i>Coefficient</i> | <i>Std. Error</i> | <i>t-Statistic</i> | <i>Prob.</i> |
| Constant | 7.874*** | 0.253 | 31.077 | 0.000 |
| AD | -0.796** | 0.337 | -2.364 | 0.019 |
| BRIS | 2.747*** | 0.335 | 8.201 | 0.000 |
| PER | -0.738** | 0.315 | -2.346 | 0.020 |
| SYD | -0.033 | 0.330 | -0.099 | 0.921 |
| DISC | -0.207 | 0.201 | -1.001 | 0.318 |
| Time Period: November 2010 to February 2012 | | | | |
| <i>Variable</i> | <i>Coefficient</i> | <i>Std. Error</i> | <i>t-Statistic</i> | <i>Prob.</i> |
| Constant | 7.647*** | 0.272 | 28.140 | 0.000 |
| AD | -0.662* | 0.357 | -1.858 | 0.064 |
| BRIS | 2.855*** | 0.355 | 8.052 | 0.000 |
| PER | -0.524 | 0.330 | -1.586 | 0.114 |
| SYD | -0.047 | 0.349 | -0.136 | 0.892 |
| DISC | -0.075 | 0.218 | -0.345 | 0.730 |

*** Significant at 1 per cent level.

** Significant at 5 per cent level.

* Significant at 10 per cent level.