

**SUBMITTED TO:**

**Queensland Department of Industrial Relations**

**Equivalent Salaries in Australian  
Capital Cities: An Update**

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*Commercial in Confidence*

Dr Paul Henman is the author of this report. The views and opinions expressed in the report are his and are not to be taken in any way to represent the policies or views of the Queensland Department of Employment of Industrial Relations. Dr Henman acknowledges the support of Fiona Malcolm in providing research assistance in preparing this report.

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## 1. Executive Summary

The research reported here was conducted at the request of the Queensland Department of Industrial Relations. This report represents an update of research previously conducted in both 2003 and 2005.

The aim of the research is to estimate equivalent salaries for certain Brisbane salaries that allow the achievement of a similar standard of living in Adelaide, Perth, Melbourne and Sydney.

The approach presented here draws extensively on budget standards for Australian households. Budget standards are costed baskets of goods and services required to meet a specific standard of living. Budget standards for households with a single adult, two adults, a couple with one child, a couple with two children and a sole parent with two children are used. Variations in housing tenure (whether renting privately, or purchasing one's own home) and in the labour force status of the second adult (working full-time or not working) are taken into account. Budget standards are calculated for these different household types at 3 different living standard levels: low cost; modest but adequate; and luxury. Prices are based on the September quarter 2006.

These budget standards provide knowledge about particular points of equivalence in household expenditure. From these points, multiple linear regressions are used to derive a set of functions, or equivalent expenditure equations, that given a household expenditure in Brisbane identifies the expenditure required in another capital city to achieve the same living standard. A mechanism for deriving gross private income from disposable income (and vice versa) provides the means for calculating a set of equivalent incomes between capital cities. The results are compared with those obtained in both 2003 and 2005, and the differences since that time discussed. The impact of varying the assumption of when home purchaser households bought their property, namely in March quarter 1993 and in September quarter 2006, is also presented.

Equivalent incomes relative to Brisbane households with total private annual income of between \$40,600 and \$174,000 are calculated for a range of household types. Overall, the results of the analyses suggest that:

- living in Sydney requires significantly more income than in Brisbane to maintain a similar living standard (averaging about 25% to 35%, but up to 55% in some cases);
- The gap between Sydney and Brisbane to maintain the same living standard has reduced in the last twelve months;
- Melbourne households generally require a greater income than Brisbane households to achieve identical living standards (averaging in the vicinity of 4% to 10%), and this has remained fairly constant since 2003;
- living in Adelaide requires about 5% to 10% smaller incomes than in Brisbane to obtain the same living standard), and this has remained fairly constant since 2003;
- for renters, living in Perth requires smaller incomes than in Brisbane to obtain the same living standard, but purchasers (in 2006) require more in Perth relative to Brisbane; and

- the relativities between Brisbane and Perth changed from a position whereby Perth was cheaper than Brisbane, but this has now altered in the last 12 months in several household situations.

**Average difference in incomes to achieve the same standard of living,  
September quarter 2006**

<b>Household private income in Brisbane</b>	<b>Sydney</b>	<b>Melbourne</b>	<b>Adelaide</b>	<b>Perth</b>
\$39,000	33%	11%	-14%	6%
\$55,700	24%	8%	-9%	1%
\$83,500	32%	9%	-7%	9%
\$111,300	24%	4%	-9%	5%
\$139,200	27%	4%	-7%	12%
\$167,000	28%	4%	-8%	14%
<b>Average</b>	<b>28%</b>	<b>7%</b>	<b>-8%</b>	<b>7%</b>

Equivalent salaries between Australian capital cities can vary considerably in nominal dollar amounts. As the above Table indicates, in general, as salaries in Brisbane increase, the variation between cities increases in Perth, declines in Adelaide and Melbourne, remains unchanged in Sydney.

The results should be regarded as indicative, defining the general range and direction of equivalent salaries, rather than as defining precisely defined numbers that can be subject to high levels of detailed analysis and use.

In the period from 2003 to 2005 and then to 2006 there have been some changes in the relativities between Brisbane and these other capital cities. The gap between Brisbane and Sydney has declined in the last 12 months, whereas the gap with Melbourne has remained rather stable, as has the gap between Brisbane and Adelaide. Costs in Perth relative to Brisbane has increased, with the average difference in salaries shifting from 7% less in Perth to 7% more compared with Brisbane. The changes since both 2003 and 2005 are largely due to changes in relativities in house rental and purchase prices, but also due to increased mortgage interest rates and changes in the income taxation system.

The results are tested to the sensitivity to assumptions about the date of purchase of dwellings for owner occupiers. It is found that the disparities in equivalent salaries reduces somewhat between Brisbane and Sydney and Perth, reduces marginally between Brisbane and Adelaide, and remains unchanged between Brisbane and Melbourne.

The findings presented in this report are accompanied by a set of spreadsheets detailing the calculations.

## **2. Aims and Purpose of the Research**

The research reported here was conducted at the request of the Queensland Department of Industrial Relations. This report represents an update of a previous reports of similar research conducted in 2003 and 2005.

As described in the *Project Brief* provided by the Queensland Department of Industrial Relations,

‘The task involves estimating equivalent salaries for certain Brisbane salaries that would allow the achievement of a similar standard of living in Adelaide, Perth, Melbourne and Sydney.’

This report provides the results of calculating such equivalent salaries using multiple linear regression analysis on budget standards for households in Australian capital cities. A set of spreadsheets – *Tables 2006.xls* and *Income Calculator 2006.xls* – accompanying this report provide the full detail of the calculations undertaken to arrive at the results reported here.

### **3. Research Methodology**

#### ***3.1. Possible Approaches***

There has been very little research that calculates equivalent living standards in Australian capital cities, and probably none that calculates equivalent salaries, except for the previous 2003 and 2006 reports which this report updates. There are two broad approaches to this task: a behavioural-based approach; and a normative, budget standards approach. Each approach involves identifying equivalent households at a number of points on the income/expenditure continuum from which a generalised equivalence relation can be derived.

#### **Behavioural-based approaches**

One approach is to use household expenditure data from each capital city. Households are regarded as having the same living standard level if they spend the same percentage of total expenditure on food (or some other carefully defined set of items). The reasoning is that food is an unavoidable necessity and that absolute expenditure on food is not significantly affected by changes in household income. Thus, as income rises, the percentage spent on food decreases. There is a range of alternative measures to food, including energy and other non-discretionary household goods or adult discretionary products. Such techniques are called the Engel method (see Espenshade 1984) and the Rothbarth method (Rothbarth 1943), and have been used most commonly in calculating the cost of children (see Percival et al 1999; Percival and Harding 2005).<sup>1</sup>

#### **Budget standards approach**

The second broad approach is normative, in the sense that it involves defining specific baskets of goods and services that a particular household consumes, and costing the items in the basket at market prices in each capital city. The costs of durable goods are averaged over their lifetime (i.e. similar to depreciation). This thereby results in a different dollar amount for a given basket in each location. Various living standards can be defined by defining baskets to reflect each living standard. This approach is called the budget standards method. It has traditionally been used to derive poverty measures, but increasingly budget standards are calculated for median and even higher living standards and used for a variety of purposes (see Section 3.4. for more details).

Each of the two approaches outlined above identify the expenditure required in different cities to achieve an equivalent living standard at a number of living standard levels. Having done so, mathematical models use these points to model the equivalence relationship between capital cities. Multiple regression is one key technique to do this (see e.g. Percival et al 1999; Percival and Harding 2005). Once such a model is derived, equivalent household expenditure between capital cities can be determined for any given level. It is important to note that as the above methods identify equivalent expenditure (or disposable income), gross or taxable income must be derived in order to obtain calculate equivalent salaries.

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<sup>1</sup> See Valenzuela (1999) for a alternative method for measuring the costs of children using behavioural data.

### ***3.2. How the Task was Undertaken***

In calculating equivalent salaries in different capital cities for a range of household types, the research reported here used the budget standards method, drawing on Australian budget standards for households in various capital cities. Equivalent salaries were calculated using these budget standards in a step-wise fashion, as follows.

1. Calculate up-to-date budget standards at five different levels, for various household types and for the studied capital cities, namely Brisbane, Sydney, Melbourne, Adelaide and Perth. These five levels define household expenditures in different capital cities required to meet the same living standard. They provide the basis for deriving a generalised expenditure equivalence relation between cities.
2. Model the expenditure differentials between Brisbane and other cities. Using the five points of equivalent expenditure in capital cities, a function is derived which, given a household expenditure in Brisbane, calculates the expenditure in another city to obtain the same living standard. Multiple linear regressions are used to derive this equivalence function.
3. Develop a mechanism to calculate household disposable income from gross private household income (and vice versa). Step 2 provides the means to calculate equivalent expenditure between capital cities. To calculate equivalent salaries, it is necessary to develop a procedure to calculate gross/taxable income from disposable income (i.e. expenditure), and vice versa. A separate spreadsheet entitled *Income Calculator 2006.xls* was developed for this purpose.
4. Using the equivalence equations from Step 2 and the 'Income Calculator' in Step 3, calculate equivalent incomes in other cities for specified income levels in Brisbane.

A detailed account of each of these steps is provided in Sections 4 and 5 of this report.

See the spreadsheets accompanying this report for the full details of the calculations undertaken to arrive at the results reported here.

### ***3.3. Strengths and Weaknesses of this Approach***

The strengths and weaknesses of the budget standards approach used here are considered alongside the strengths and weaknesses of alternative methodologies.

#### **Alternative behaviour-based approaches**

The main alternative to using budget standards research for this exercise, it to use behavioural data on household income and expenditure, for example, as collected by the Australian Bureau of Statistics Household Expenditure Survey (ABS 2005a). As explained above, approaches based on behavioural data usually derive equivalent expenditures and incomes by assuming that households have identical living standards if they spend the same percentage of their household expenditure on some set items, such as food, or adult discretionary items (e.g. Percival et al 1999; Percival and Harding 2005).

While this general assumption – i.e. that households spending similar percentages on food (or other items) have similar living standard levels – seems sound, the empirical data suggest that there is a poor relationship between income and percentages spent on food (or other items). That is, for a given household type, as household income rises, it is not true that the percentage consistently decreases. This undoubtedly reflects the variability of the way households choose to spend their income, even for similar household types and income levels. Accordingly, the results obtained from these methods must be used with caution.

Another difficulty with these behaviour-based approaches is that they are often limited in their sensitivity to a number of variables. In particular, once survey data are partitioned by city, household type, housing tenure and income level, it is highly likely that the number of entries in each cell will be too few to create a statistically valid model. Accordingly, the derived mathematical model often conflates household types in order to create sufficient entries, with a concomitant loss of sensitivity.

### **The budget standards approach**

The budget standards methodology provides a relatively straightforward approach means for calculating equivalent household expenditure. Identical budget standards – a specific basket of goods and services required by a household to meet a particular standard of living – are costed using local prices in each location (i.e. capital city) under examination.

One clear advantage of the budget standards approach is that equivalent living standard levels are based on costing an *identical* basket of goods and services in different locations. As such, different expenditure levels in different localities can be guaranteed to reflect identical standards of living. Budget standards are also sensitive to other circumstances and requirements of different household types, such as the number of adults and their labour market status, the age and sex of the children, and housing tenure.

The budget standards approach is also more transparent than those that use complex mathematical models of expenditure patterns. This is because new living standard levels can be constructed by adding or subtracting items from the basket (or altering their quantity and quality) and re-costing the basket. The main constraint is access to appropriate data on relevant prices of goods and services.

The budget standard methodology is, however, not readily suited for estimating expenditures required to achieve high and very high living standards. This is because high living standards have high levels of discretionary income, which in turn generate a great variety in the way households choose to spend and save this income. As a result of this variability at high living standards, it becomes problematic to define a *specific* basket of goods and services at these ‘affluent’ levels (see Saunders, et al 1998, pp. 628-631 for a discussion of these issues). When equivalent living standards at high living standard levels are required, the budget standards methodology is best combined with behavioural data that provides average estimates of expenditure for high-income households. This hybrid approach is adopted in this report for calculating a ‘luxury’ standard of living (see section 4.2). See Saunders et al (2004) for the creation of a higher ‘comfortably affluent but sustainable’ living standard for retirees. A further weakness of the budget standards approach is that the estimates technically relate to quite specific household types and cannot be immediately generalised to a range of households.

### ***3.4. History and Use of Budget Standards***

The budget standards methodology has a long history, dating back to the late nineteenth century. Rowntree (1901) used it in his pioneering study of poverty in London in the late 1890s. In Australia, Justice Higgins used budget standards to help set the basic wage in the 1907 Harvester Judgment (Commonwealth Arbitration Reports 1907). In the United States of America, budget standards were used to derive the official poverty line (Orshansky 1965).

While not extensively used during the twentieth century, there has been a recent resurgence of interest in budget standards, in order to provide more robust and meaningful measures of poverty and living standards. Since the 1990s they have been used in a wide range of countries, including the United Kingdom, Germany, Denmark, the USA, Canada, New Zealand, Malaysia and Hong Kong.

In Australia, the first major budget standards study was conducted by the Social Policy Research Centre of the University of New South Wales (Saunders et al 1998). Their original work calculated budget standards for over 50 household types living in Sydney at two standards of living. This original work has been extended to other capital cities (Henman 1998a; 2001) and to new household types. It has been used to measure the costs of raising children (Henman 2001), the cost of foster care (McHugh 2002), the cost of regular contact by non-resident parents (Henman and Mitchell 2001). Such findings have had important policy implications, including being used in assessing and revising child support policy (Henman 2005) and foster care payments (McHugh 2002), and has been used as evidence in Living Wage Cases heard by Industrial Relations Commission (Saunders 2004) and in medical negligence and other compensation cases.

## 4. How the Estimates were Calculated

After outlining the research on which the findings reported here are based (4.1 & 4.2), this section details the research process summarised in section 3.1.

### 4.1. *The Background Research*

The key features of the budget standards used by the consultant are also those of SPRC's budget standards (Saunders et al, 1998), on which this research is heavily based.

Budget standards were calculated by SPRC at two living standard levels:

- A '*modest but adequate*' standard, which represents middle Australia. It 'affords full opportunity to participate in contemporary Australian society and the basic options it offers. It is seen as lying between the standards of survival and decency and those of luxury ... It attempts to describe the situation of a household whose living standards falls somewhere around the median standard of living experienced within the Australian community as a whole' (Saunders et al 1998, p. 63); and
- A '*low cost*' standard representing low-income households. Although this level allows for social and economic participation consistent with Australian community standards, it is a frugal level 'below which it becomes increasingly difficult to maintain an acceptable living standard because of the increased risk of deprivation and disadvantage' (Saunders et al 1998, p. 63).

SPRC's original research involved the identification and costing of over 700 items of household goods and services required by each household type. The cost of household durables, such as furniture and white goods, were amortised over an assumed lifetime. Goods were grouped into nine categories: housing; energy; food; clothing and footwear; household goods and services; transport; leisure; health care; and personal care (see Henman 1998b for an overview of the items).

Over fifty household types were constructed by varying household composition (the number, age and sex of adults and children), the employment status of adults and housing tenure.

SPRC's original budget standards were costed in March 1997 for households living in Sydney only. Henman (2001) derived budget standards for other capital cities using a range of data on differential costs between cities. Data were obtained from a variety of sources: house prices and rents from the Real Estate Institute of Australia; child care from Department of Family and Community Services administrative data; and most other items from the Australian Bureau of Statistics (ABS Cat. No. 6403.0).

While differences in prices are of crucial importance in obtaining budget standards for other capital cities, it is also necessary to consider the way geography may impact on the required household basket of goods and services. In particular, different weather patterns require households in different capital cities to vary their energy and clothing requirements in order to keep warm or stay cool. In creating capital city budget standards Henman (2001) did take account of differential requirements for energy consumption, but not of clothing.

## 4.2. Extending and Updating Australian Budget Standards

The key to calculating equivalent incomes is to determine equivalence equations from a number of points where equivalent incomes (or expenditures) are known. The ‘low cost’ and ‘modest but adequate’ living standards, for which budget standards have been developed, provide the initial basis for this procedure as they define equivalent household expenditures, i.e. disposable incomes. By varying the housing tenure within each living standard more points of equivalence can be produced. For the purposes of this report, the Australian budget standards resulting from Saunders et al (1998) and Henman (2001) were also extended by creating a ‘luxury’ living standard to add further points from which to derive equivalence equations.

After careful consideration of the need to generate a number of expenditure levels for which equivalence was known and for a number of household types, budget standards for 34 household types were calculated by varying the living standard level, household tenure and labour market status (see Table 1).

**Table 1: Budget Standards Household Types**

	<b>Low Cost</b>	<b>Low Cost+</b>	<b>MBA</b>	<b>MBA+</b>	<b>Luxury</b>
	Private renters	Purchasers	Private renters	Purchasers	Purchasers
<i>Single adult</i>	2 bed unit; FT	2 bed unit; FT	2 bed unit; FT	2 bed unit; FT	2 bed unit; FT
<i>Couple no children</i>	2 bed unit; FT/NILF	2 bed unit; FT/NILF	2 bed unit; a) FT/NILF b) FT/FT	2 bed house; a) FT/NILF b) FT/FT	2 bed house; a) FT/NILF b) FT/FT
<i>Couple with one child</i>	3 bed unit; FT/NILF	3 bed unit; FT/NILF	3 bed house; a) FT/NILF b) FT/FT	3 bed house; a) FT/NILF b) FT/FT	3 bed house; a) FT/NILF b) FT/FT
<i>Couple with two children</i>	3 bed house; FT/NILF	3 bed house; FT/NILF	4 bed house; a) FT/NILF b) FT/FT	4 bed house; a) FT/NILF b) FT/FT	4 bed house; a) FT/NILF b) FT/FT
<i>Sole parent with two children</i>	3 bed house; FT	3 bed house; FT	4 bed house; FT	4 bed house; FT	4 bed house; FT

Key: FT=employed full-time; NILF=not in the labour force; MBA=modest but adequate living standard.<sup>2</sup>

<sup>2</sup> Due to the nature of budget standards research it is necessary to be define very specific characteristics of the household and its occupation, such as age, gender and location. The specific assumptions regarding the household types in Table 1 are based on SPRC’s original budget standards research: the single adult household is assumed to be a 40 year old male; the couple is a male and female aged 40 and 35 respectively; the one child household is assumed to include a girl aged 6; the couple with two children household includes a girl and boy aged 6 and 14 respectively; and the sole parent with two children household includes a girl and boy aged 6 and 10 respectively. SPRC also calculated budget standards for a single 35-year-old female that are slightly less than the budget standard for a single male.

Table 1 demonstrates that the hypothetical household types were constructed by varying the living standard levels (columns) and household composition (rows). In households at the ‘modest but adequate’ and ‘luxury’ levels, the labour force status of the second adult was also varied. Each household was allocated a specific housing type and housing tenure.

In selecting the hypothetical household types it was necessary to create a range of living standards that represent points from which an equation for equivalent expenditure in different capital cities can be generated. To this effect, the above household types have been slightly modified and extended from the earlier budget standards work on which this research is based. This was done partly to reflect the interest in households with a working adults, rather than those in receipt of Centrelink income support, which was the focus of the original SPRC research.

- The ‘low cost’ standard has been raised slightly to reflect the focus on full-time employment. SPRC’s original ‘low cost’ standards were mainly for households without any private income. In raising the standard, the ‘low cost’ household budget standards include the cost of employment and have a higher housing size than in SPRC’s original research. This is also to more accurately reflect community practice for workers.
- The housing size for ‘modest but adequate’ households has also been increased in order to be consistent with the housing size for ‘low cost’ households.
- A ‘luxury’ standard has been created. Due to the difficulties in constructing budget standards for high living standard levels (see section 3.2), the luxury standard has been created with the aid of behavioural data. Specifically, the ten different components of the ‘modest but adequate+’ budget standards (eg. energy, food, clothing) were adjusted according to the relativities of these components between the middle and top quintile households from the Household Expenditure Survey 2003-04 (ABS 2007). The behavioural data also took into account different household types.<sup>3</sup>
- Household size, housing type and location within the city are also varied between living standard levels to maintain the general increase in living standards from left to right across the table.<sup>4</sup> Broadly, the ‘low cost’ households were assumed to live in the outer zone of the city, the ‘modest but adequate’ households in the middle zone, and the ‘luxury’ standard in the inner zone of the city.<sup>5</sup> (Housing size was also increased down the table to take account of increased household size and family needs.)

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<sup>3</sup> The specially constructed data set from the HES 2003-04 involved three different household types: single adult households less than 65 years old; couple only households where the reference age was less than 65; and couple with children households where the reference age was less than 65. Each of these three populations were segmented into quintiles according to household income (not expenditure). The average expenditure for different expenditure categories was calculated for the households in each quintile. Budget standards for high income sole parents were based on the couple with children relativities.

<sup>4</sup> Note that mortgagees have a higher standard of living relative to renters as they are investing in their own property, a form of savings, whereas the private renters have no savings.

<sup>5</sup> The definitions of ‘inner’, ‘middle’ and ‘outer’ zones of capital cities follows that used by the Real Estate Institute of Australia (see REIA 2006, Table 1). To illustrate, in Brisbane, the middle zone is from 4 to 20 kilometres from the city centre, whereas in Melbourne it is from 10 to 20 kilometres from the centre.

- Employment status was varied to reflect different behavioural patterns. In order to model expenditure equivalence equations, it is also important that each household size (i.e. row) that there is a budget standard at each living standard level having the same labour force status. This ensures that the equivalence equations are not confounded by changes in labour force status, the cost of which can be separately identified.<sup>6</sup>

The budget standards for the household types listed in Table 1 were constructed from earlier budget standards developed by SPRC (Saunders et al 1998) and Henman (2001). Variations in housing size and labour force status were taken into account by drawing on appropriate budget standards.<sup>7</sup> The earlier budget standards were updated to the September quarter 2005 using ABS data on changes in prices, specifically the Consumer Price Index (CPI) detailed items for each capital city (ABS 2006). The budget standards components were updated using the most compatible sub-components of the CPI (cf Henman 2001).

Housing costs were, however, not updated in this manner, but were derived from data from the Real Estate Institute of Australia (REIA 2006) on rental costs and purchase prices for housing in the September quarter 2006 as follows.

- Rents for ‘low cost’ renters were based on low quartile rents for the relevant housing type in the middle zone of the city.<sup>8</sup>
- Rents for ‘modest but adequate’ renters were based on median rents for the relevant housing type in the middle zone of the city.<sup>9</sup>
- Housing purchase costs were based on the mortgage required to finance a house purchased in the September quarter 2006. Housing loans were assumed to be for 85 per cent of the property’s value and for 25 years. Mortgage repayments were calculated at the standard variable rate of 8.07 per cent for the September quarter 2006, paid

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<sup>6</sup> The report considers occasions when the second adult is either a full-time worker or not in the labour force, and does not consider the case of part-time work. Given the small effect to budget standards of the change from no work to full-time work, it was regarded that the inclusion of the part-time case was not warranted.

<sup>7</sup> Where relevant, energy budgets were adjusted to reflect the larger housing size than in original budget standards; transport costs were increased by 50 per cent for households living in the outer zone of the city to take account of longer work trips; and the costs of employment were used to construct budget standards with the appropriate labour force status.

<sup>8</sup> Although it was stated above that ‘[b]roadly, the “low cost” households were assumed to live in the outer zone of the city’, low cost renters were assumed to reside in the middle zone for a couple of reasons. Firstly, as purchasing involves a level of savings, the gradient between levels needs to be highly evident for this group, whereas the gradient between renters need not be so pronounced. Furthermore, for renters the difference between lower quartile to median rents provides a reasonable disparity between low cost and modest but adequate living standards, whilst maintaining a reasonably similar point of reference in terms of access to services and distance to work.

<sup>9</sup> As rental prices were not published for Perth for the September quarter 2006, the June quarter 2005 rental data were used.

fortnightly.<sup>10</sup> The housing costs component includes both repayment of interest and capital.

- Purchase prices for ‘low cost’ homeowners were based on low quartile prices for the relevant housing type in the outer zone of the city.
- Purchase prices for ‘modest but adequate’ home owners were based on median prices for the relevant housing type in the middle zone of the city.
- Purchase prices for ‘luxury’ homeowners were based on median prices for the relevant housing type in the inner zone of the city.

Table 2 lists the rental prices used in this report. Table 3 presents the assumed purchase price of housing for the owner households and their mortgage repayments.

Housing costs for purchasers varies greatly depending on the purchase price, interest rates, when the purchase was made and the point in housing cycles. While the main analysis was based on house purchases in September quarter 2006, further analyses were undertaken assuming house purchases in March quarter 1993. Details of this ‘sensitivity analysis’ to the findings is provided in section 5.3 below.

**Table 2: Housing Private Rental Prices (September 2006), \$/wk**

	Brisbane	Sydney	Melbourne	Adelaide	Perth
<i>Single Adult Households</i>					
1. S(F) Pri 2u LC	220	230	200	160	190
3. S(F) Pri 2u MBA	245	280	230	185	220
<i>Couple Adult Households</i>					
6. C(FN) Pri 2u LC	220	230	200	160	190
8. C(FN) Pri 2u MBA	245	280	230	185	220
<i>Couple with One Child Households</i>					
11. C(FN)+g6 Pri 3u LC	260	285	260	210	205
13. C(FN)+g6 Pri 3h MBA	280	340	285	250	250
<i>Couple with Two Children Households</i>					
16. C(FN)+g6b14 Pri 3h LC	255	285	250	220	220
18. C(FN)+g6b14 Pri 4h MBA	330	399	380	320	264
<i>Sole Parent with Two Children Households</i>					
21. S(F)+g6b10 Pri 3h LC	255	285	250	220	220
23. S(F)+g6b10 Pri 4h MBA	330	399	380	320	264

Source: RIEA (2006).

<sup>10</sup> The interest rate of 8.07% was derived from a survey by the author in January 2007 of standard variable rates among five major Australian banks. Fortnightly repayments were calculated using St George Bank’s Loan Repayments Calculator (found at <http://www.stgeorge.com.au/calculators/>).

**Table 3: Housing Purchase Prices (September 2006) and Mortgage Repayments**

<b>Household Type</b>	<b>Brisbane</b>	<b>Sydney</b>	<b>Melbourne</b>	<b>Adelaide</b>	<b>Perth</b>
<i>Single Adult Households</i>					
2. S Pur 03 2u LC					
Purchase price (\$'000s)	165.0	253.0	189.0	150.0	249
Mortgage (\$/fnt)	544.21	974.14	623.37	494.74	821.26
4. S Pur 03 2u MBA					
Purchase price (\$'000s)	275.0	360.3	292.7	210.0	315
Mortgage (\$/fnt)	907.01	1188.37	965.41	692.63	1038.94
5. S Pur 03 2u Lux					
Purchase price (\$'000s)	355.0	459.6	353.0	241.0	370
Mortgage (\$/fnt)	1170.87	1515.87	1164.28	794.87	1220.35
<i>Couple Adult Households</i>					
7. C Pur 03 2u LC					
Purchase price (\$'000s)	165.0	253.0	189.0	150.0	249.0
Mortgage (\$/fnt)	544.21	974.14	623.37	494.74	821.26
9. C Pur 03 2h MBA					
Purchase price (\$'000s)	325.9	530.3	323.9	281.6	380.8
Mortgage (\$/fnt)	1074.88	1748.96	1068.28	928.78	1255.97
10. C Pur 03 2h Lux					
Purchase price (\$'000s)	412.0	686.5	461.8	369.3	609.1
Mortgage (\$/fnt)	1358.91	2264.22	1523.28	1218.02	2008.86
<i>Couple with One Child Households</i>					
12. C+g6 Pur 03 3u LC					
Purchase price (\$'000s)	213.5	320.5	237.4	201.7	230.0
Mortgage (\$/fnt)	704.27	1056.99	783.12	665.35	758.52
14. C+g6 Pur 03 3h MBA					
Purchase price (\$'000s)	365.0	621.7	362.0	320.0	442
Mortgage (\$/fnt)	1203.86	2050.53	1193.96	1055.44	1457.82
15. C+g6 Pur 03 3h Lux					
Purchase price (\$'000s)	500.3	846.1	540.0	421.0	759
Mortgage (\$/fnt)	1650.13	2790.66	1781.05	1388.56	2503.36
<i>Couple with Two Children Households</i>					
17. C+g6b14 Pur 03 3h LC					
Purchase price (\$'000s)	231.0	330.0	240.0	190.0	340
Mortgage (\$/fnt)	761.89	1088.42	791.58	626.66	1121.40
19. C+g6b14 Pur 03 4h MBA					
Purchase price (\$'000s)	430.2	728.9	482.7	409.6	466.9
Mortgage (\$/fnt)	1418.82	2404.06	1591.96	1350.96	1540.04
20. C+g6b14 Pur 03 4h Lux					
Purchase price (\$'000s)	654.8	1042.8	611.1	517.0	771.5
Mortgage (\$/fnt)	2159.69	3439.48	2015.38	1705.23	2544.57
<i>Sole Parent with Two Children Households</i>					
22. S(F)+g6b10 Pur 3h LC					
Purchase price (\$'000s)	231.0	330.0	240.0	190.0	340.0
Mortgage (\$/fnt)	761.89	1088.42	791.58	626.66	1121.40
24. S(F)+g6b10 Pur 4h MBA					
Purchase price (\$'000s)	430.2	728.9	482.7	409.6	466.9
Mortgage (\$/fnt)	1418.82	2404.06	1591.96	1350.96	1540.04
25. S(F)+g6b10 Pur 4h Lux					
Purchase price (\$'000s)	654.8	1042.8	611.1	517.0	771.5
Mortgage (\$/fnt)	2159.69	3439.48	2015.38	1705.23	2544.57

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Source: Calculations from base data from REIA (2006). Mortgage calculated on a 25 year home loan of 85% of purchase price at standard variable rate of 8.07% paid fortnightly

Key: C= Couple; S= single adult; g6= girl aged 6; b10= boy aged 10; b14= boy aged 14; Pur 05= purchased home in 2005; 2u= 2 bedroom unit; 3h= 3 bedroom house; LC= low cost living standard; MBA= modest but adequate; Lux= luxury

Shaded cells indicate that purchase prices were obtained directly from published statistics, while the others were derived from relativities in rents.

Based on the above outlined assumptions, budget standards were calculated for the household types specified in Table 1 for the September quarter 2006. Table 4 summarises these budget standards in thousands of dollars per year. A breakdown of these budget standards into ten commodity groups is provided in the Technical Appendix, Tables A.1 to A.5.

**Table 4: Budget Standards for Various Households – September 2006 - \$000s/year**

<b>Household Type</b>	<b>Brisbane</b>	<b>Sydney</b>	<b>Melbourne</b>	<b>Adelaide</b>	<b>Perth</b>
<i>Single adult households</i>					
1. S(F) Pri 2u LC	23.98	24.93	23.33	21.34	22.70
2a. S(F) Pur 06 2u LC	31.15	42.72	33.78	30.56	38.67
3. S(F) Pri 2u MBA	29.17	31.47	28.85	26.72	28.42
4a. S(F) Pur 06 2u MBA	42.46	50.10	44.39	37.53	46.39
5a. S(F) Pur 06 2u Lux	57.98	67.58	58.38	49.24	60.15
<i>Couple Adult Households</i>					
6. C(FN) Pri 2u LC	29.07	30.20	28.41	26.45	27.98
7a. C(FN) Pur 06 2u LC	36.42	48.16	39.03	35.85	44.12
8a. C(FN) Pri 2u MBA	37.01	39.52	36.59	34.55	36.52
8b. C(FF) Pri 2u MBA	37.33	39.89	36.94	34.91	36.87
9a. C(FN) Pur 06 2h MBA	57.69	75.66	58.05	54.65	63.18
9b. C(FF) Pur 06 2h MBA	58.00	76.04	58.40	55.02	63.53
10a. C(FN) Pur 06 2h Lux	72.77	97.00	77.62	70.03	90.74
10b. C(FF) Pur 06 2h Lux	73.18	97.47	78.07	70.50	91.18
<i>Couple with One Child Households</i>					
11. C(FN)+g6 Pri 3u LC	35.28	37.38	35.77	33.30	32.97
12a. C(FN)+g6 Pur 06 3u LC	44.97	54.90	47.69	44.81	46.98
13a. C(FN)+g6 Pri 3h MBA	44.29	48.34	45.03	43.51	43.60
13b. C(FF)+g6 Pri 3h MBA	48.13	52.07	49.55	47.29	47.52
14a. C(FN)+g6 Pur 06 3h MBA	66.72	89.40	67.16	63.77	74.17
14b. C(FF)+g6 Pur 06 3h MBA	70.54	93.12	71.67	67.55	78.08
15a. C(FN)+g6 Pur 06 3h Lux	92.84	123.59	97.05	87.36	116.42
15b. C(FF)+g6 Pur 06 3h Lux	96.49	127.12	101.37	90.95	120.18
<i>Couple with Two Children Households</i>					
16. C(FN)+g6b14 Pri 3h LC	40.90	43.55	41.24	39.83	39.83
17a. C(FN)+g6b14 Pur 06 3h LC	54.32	63.70	56.01	51.81	64.42
18a. C(FN)+g6b14 Pri 4h MBA	56.63	61.47	59.88	57.10	54.31
18b. C(FF)+g6b14 Pri 4h MBA	59.09	63.86	63.06	59.53	56.85
19a. C(FN)+g6b14 Pur 06 4h MBA	80.69	107.33	86.08	80.07	84.92
19b. C(FF)+g6b14 Pur 06 4h MBA	84.51	111.06	90.59	83.84	88.83
20a. C(FN)+g6b14 Pur 06 4h Lux	118.39	153.28	115.70	108.23	130.14
20b. C(FF)+g6b14 Pur 06 4h Lux	122.05	156.81	120.02	111.83	133.90
<i>Sole Parent with Two Children Households</i>					
21. S(F)+g6b10 Pri 3h LC	41.44	43.50	43.10	39.99	40.12
22a. S(F)+g6b10 Pur 06 3h LC	54.38	63.17	57.39	51.48	64.24
23. S(F)+g6b10 Pri 4h MBA	53.39	58.21	58.63	52.24	49.27
24a. S(F)+g6b10 Pur 06 4h MBA	77.44	104.06	84.82	75.20	79.87
25a. S(F)+g6b10 Pur 06 4h Lux	109.40	144.53	109.11	96.52	118.00

Key: C=Couple; S=single adult; F=employed full-time; N=not in the labour force; g6=girl aged 6; b10=boy aged 10; b14=boy aged 14; Pri=renting privately; Pur 05=purchased home in 2005; 2u=2 bedroom unit; 3h=3 bedroom house; LC=low cost living standard; MBA=modest but adequate; Lux=luxury

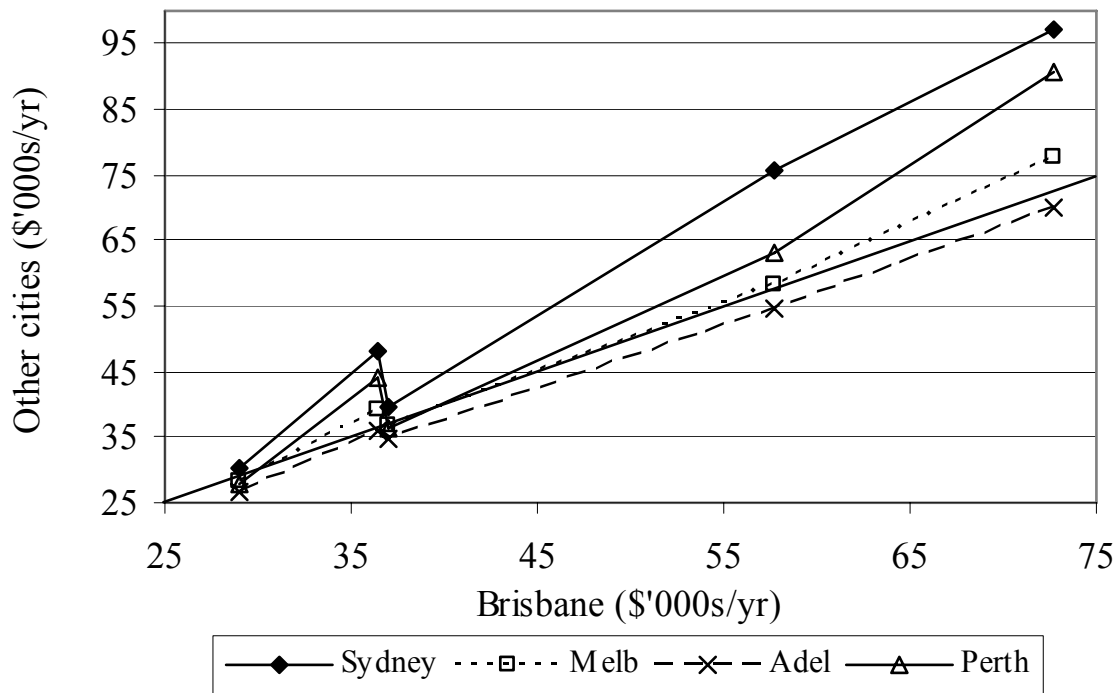
### 4.3. Calculating Equivalent Expenditure Equations

The next task was to derive formulae that, given a level of household expenditure in Brisbane, calculate the equivalent household expenditure in another capital city. Such an equivalent expenditure function for Sydney  $F_S$  is expressed mathematically as follows:

$$E_S = F_S(E_B, L, H) \quad (1)$$

where  $E_S$  is household expenditure in Sydney,  $E_B$  is household expenditure in Brisbane,  $L$  is the labour force status of the second adult, and  $H$  is the type of housing tenure. In other words, the equivalent household expenditure in Sydney ( $E_S$ ) is a function ( $F_S$ ) of household expenditure in Brisbane ( $E_B$ ), the labour force status of the second adult ( $L$ ) and the type of housing ( $H$ ) that is purchaser or renter.

**Figure 1: Budget Standards, Couple Household (FT/NILF), Relative to Brisbane (\$'000/yr)**



The budget standards for various households in different capital cities presented in Table 4 provide the basis for the development of such a set of equivalent *expenditure* equations or formulae (i.e. for disposable income, not net income). Specifically, the five columns in Table 1 yield five points in which expenditure in Brisbane can be charted against expenditure in Sydney, Melbourne, Adelaide and Perth. For example, Figure 1 illustrates this relation between these cities for couple adult households without children when one adult is working full-time and the other is not in the labour force. The line between points loosely demonstrates the equivalent *expenditure* (not income) relation between Brisbane and other cities.

The solid line from the bottom left hand side to half way up the right hand side is the point at which expenditure in another city is equal to that in Brisbane. Those points and lines above this line have greater costs than in Brisbane, whereas those below that line have lesser costs

than Brisbane. It shows that for any given expenditure in Brisbane, greater expenditure is required to achieve the same standard in Sydney, while less expenditure is generally required in Adelaide.

While the relationship of equivalent expenditure between cities appears to be primarily linear, the lines do have some distortions. This is particularly evident in the Brisbane-Sydney equivalence line where an *increase* in Brisbane expenditure from \$36,420 per annum to \$37,010 per annum is accompanied with a *decrease* in Sydney equivalent-expenditure from \$48,160 to \$39,520. This is a result of changing housing tenure (see Table 4 for details). Three of the five plots are for owner occupied housing, while two are for private rental. In the subsequent development of equivalent equations, the effect of housing is taken into account, producing effectively two lines for equivalent expenditure in Sydney – one for private renters and another for mortgagees.

Given that the equivalent expenditure relationship is substantially linear (as Figure 1 illustrates), the statistical technique multiple linear regression<sup>11</sup> was used to derive equivalent expenditure equations or formulae of the form expressed in formula (1) above. Linear regression is a technique which, given a set of data points in an X-Y plane, is used to determine the line which best approximates their patterning. It involves the identification of the linear equation that minimises the error between the actual data points and the line defined by that equation. Mathematically, this means the determination of the coefficients *a* and *b* in the following linear equation.

$$Y = aX + b.$$

This is the simplest form of regression. In cases when more than one *X* variable is present, as in our case of equivalent household expenditure, *multiple* linear regression involves the identification of the ‘line’ in multiple dimensional space that best approximates the given data points. Mathematically, this involves determining the coefficients *a*<sub>1</sub> to *a*<sub>*n*</sub> and *b* for the variables *X*<sub>1</sub> to *X*<sub>*n*</sub> in the following equation:

$$Y = a_1 X_1 + \dots + a_n X_n + b. \tag{2}$$

For occasions when the relationship between the variables appears more complex than a simple linear relationship, various multiple *non-linear* regression techniques can also be used to derive a *curve* that fits the data points (eg. Cohen and Cohen 1983; Ratkowsky 1990; Ryan 1997; von Eye and Schuster 1998). For example, the relationship between *X*s and *Y* can be expressed as a quadratic or as a logarithmic equation.

Accordingly, and referring to the equivalent expenditure function expressed abstractly at the beginning of this section (equation 1), our task to derive the equivalence expenditure function for Sydney relative to Brisbane involves determining the coefficients *a*, *b*, *c* and *d* in the following linear equation:

$$E_S = a E_B + b L + c H + d \tag{3}$$

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<sup>11</sup> For further information about multiple linear (and nonlinear) regression see, for example, Cohen and Cohen (1983), Ryan (1997) Ratkowsky (1990) and von Eye and Schuster (1998).

where the input variables are as follows:

- Brisbane expenditure ( $E_B$ );
- Housing type ( $H$ ) (0 = private renter; 1 = owner occupier);
- Labour market status of second adult ( $L$ ) (0 = not in the labour force; 1 = employed full-time);
- Equivalent other city expenditure ( $E_S, E_A, E_M, E_P$ ).

The values of the input variables were obtained from Table 4.

A range of both linear and non-linear regressions were undertaken to assess their relative performance in approximating the equivalent expenditure points. These regressions included the above linear equation and  $E_B^2$  and  $\ln(E_B)$  terms. Full details are in the accompanying spreadsheet Tables 2006.xls. It was found that the equation that included the logarithm of Brisbane expenditure – that is,  $\ln(E_B)$  – produced the most accurate approximation to the expenditure points, particularly at lower expenditures where small errors make have greater significance. As a result, the revised equation for which solutions were found is expressed as:

$$E_S = a E_B + b \ln(E_B) + c L + d H + e \quad (4)$$

Thus, for the purposes of this report and in order to enhance accuracy and simplicity, it was necessary to separately solve this equation for four different capital cities – one each for the relationship between Brisbane and Sydney, Brisbane and Melbourne, Brisbane and Adelaide, and Brisbane and Perth – and for each of the five household types – single adult, couple only, couple with one child, couple with two children, sole parent with two children. This means that 20 separate regressions were undertaken.<sup>12</sup>

In the equivalent expenditure exercise, the approach to multiple linear regression used here differs slightly to how the technique is normally used. Typically, regression is used to determine whether or not two variables have a linear relationship given a number of observations. In that case, it is important that there are sufficient observations to ensure that the linear equation that results is statistically significant.

In contrast, in the equivalent expenditure exercise discussed in this report we do not seek to determine the statistical significance of a linear relationship of a number of observations. Rather, regression analysis was used to identify the linear equations that best fit our equivalent expenditure points derived from the budget standards.

The equivalent expenditure equations resulting from the multiple linear regression analyses are provided as Tables A.6 to A.28 in the Technical Appendix. Here we simply explain these results by reference to the case of equivalent expenditure in Sydney for a couple only household.

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<sup>12</sup> It is possible to create larger regression models by including more than one city and/or household type. To do this, additional input variables would be required to indicate the city and the household size. The advantage is that the number of regression analyses are reduced. However, the complexity of the equations would increase and there would normally be a resulting loss of accuracy in the predictive value of the regression equations.

Table 5 presents the equivalent expenditure linear regression model for couple only households between Brisbane and Sydney. The main part of the table provides the input variables: from left to right, column two is the equivalent expenditure in Sydney ( $E_S$ ); the expenditure in Brisbane ( $E_B$ ); the natural logarithm of expenditure in Brisbane ( $\ln(E_B)$ ); the housing tenure ( $H$ ); and the employment status of the second adult ( $L$ ).

**Table 5: Regression Model – Brisbane-Sydney Equivalent Expenditure – Couple only Households – September Quarter 2006**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log of Bris exp $\ln(E_B)$ (\$'000/yr)	Housin R = 0; P = 1	Female Employ 1 = yes	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Sydney</i>							
6. C(FN) Pri 2u LC	30.20	29.07	3.37	0	0	30.30	0.10
7a. C(FN) Pur 06 2u LC	48.16	36.42	3.60	1	0	48.07	-0.09
8a. C(FN) Pri 2u MBA	39.52	37.01	3.61	0	0	39.49	-0.03
8b. C(FF) Pri 2u MBA	39.89	37.33	3.62	0	1	39.82	-0.07
9a. C(FN) Pur 06 2h MBA	75.66	57.69	4.06	1	0	75.75	0.08
9b. C(FF) Pur 06 2h MBA	76.04	58.00	4.06	1	1	76.12	0.09
10a. C(FN) Pur 06 2h Lux	97.00	72.77	4.29	1	0	96.93	-0.06
10b. C(FF) Pur 06 2h Lux	97.47	73.18	4.29	1	1	97.46	-0.01
Regression Coefficients	37.75	1.66	-16.52	9.29	-0.06	s.d.	0.0794

The bottom row presents the regression coefficients calculated by the analysis. In the bottom row, the third column indicates that when the other variables are held constant, for every \$1 spent in Brisbane, \$1.66 must be spent to achieve the same standard in Sydney. This relationship reflects the base case of a private renter household with the second adult not in the labour force. The fourth column of the last row shows that there is a negative relationship between the nature logarithm of Brisbane expenditure and expenditure in Sydney. The fifth column of the last row indicates that purchasing your own property in Sydney will add an additional \$9,290 per annum to the amount a household needs to spend, over and above the other elements, compared to Brisbane, in order to maintain the same standard of living. This can be called a 'home purchaser effect'. The 'labour force status effect' in the sixth column of the bottom row indicates that when the other variables are held constant, the full-time employment of the second adult decreases the estimated equivalent expenditure by \$60 per year in Sydney compared with Brisbane.<sup>13</sup>

The last two columns of Table 5 demonstrate how well the linear regression model replicates the input data. The last column shows the predicted value of  $E_S$ , that is the equivalent expenditure in Sydney, by the regression model given the input values of  $E_B$ . The difference between the regression model's predicted values and the actual input values are listed in the final column in Table 1. For example, the model predicts that for the 'low cost' private renter, couple household, which in Brisbane has expenditure of \$29,070 per annum, the

<sup>13</sup> A negative value for the 'employment effect' for the second adult does not mean that there are no labour force costs involved in the second adult moving from not in the labour force to full-time employment. Rather, such labour force costs in Sydney are less than in Brisbane.

equivalent expenditure in Sydney is \$30,300 per annum. This result is obtained by inserting the input values and regression coefficients into the regression equation (3) as follows:

$$30.30 = 1.66*29.07 + -16.52*\ln(29.07) + 9.29*0 + -0.06*0 + 37.75 \quad (5)$$

This predicted value is \$100 greater than the actual value, and is an error of 0.33 per cent. Indeed, Table 5 also demonstrates that the accuracy generally improves at the higher living standard levels to an error rate of less than 0.1 per cent. The bottom right hand box presents the standard deviation of the errors between the predicated and actual values for  $E_S$ .

As mentioned above, details of results of all the other regression analyses can be found in the Technical Appendix and in the spreadsheet Tables 2006.xls accompanying this report.

#### **4.4. Calculating gross and disposable incomes**

Having calculated regression equations to model equivalent expenditure between Brisbane and four other capital cities, the calculation of equivalent salaries requires the development of the means whereby the disposable income for a household can be calculated from their gross private income, and vice versa. For this report it is assumed that a household's expenditure and disposable income are one and the same, that is, a household spends all they receive and does not save (with the exception of mortgage principal repayments and superannuation).

In calculating household disposable income from household net private income the following government taxation and welfare policies were taken into account where relevant:

- Income taxation on wages/salaries;
- Medicare Levy and Medicare Surcharge;
- Low Income Rebate;
- Dependent Spouse Rebate
- Family Tax Benefit Parts A and B;
- Child Care Benefit;
- Child Care Rebate;<sup>14</sup>
- Income support payments for households with low income, namely, Parenting Payment (Partnered); Parenting Payment (Single); Newstart Allowance; Rent Assistance; and Allowance Rebate.

Income support payments were included for a few reasons. Part-time workers may be eligible to combine their wages with part-rate payment of Newstart Allowance. For couples with children, the primary carer is eligible for Parenting Payment (Partnered) if she has no income and her/his partner has a low-income. Rent Assistance is available for those households receiving either of these benefits, and Allowance Rebate is available in the tax system to avoid paying tax on income support payments.

There is one aspect of social security policy not included in the household disposable income calculations. Child Support has also not been included in the model for sole parents even though most sole parents should be entitled to receive Child Support payments. The reason for this absence is that child support is based on the non-resident parent's income and thus the amount received by a sole parent does not relate to the latter's income.

The policy settings as of 20 September to 31 December 2006 were used (Centrelink 2006). Details of the rates used for the above policies are provided in Table A.33 in the Technical Appendix, Section 8.3.

In calculating expenditure required to meet the various budget standards, consideration was also given to employee superannuation contributions, which normally are paid from gross

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<sup>14</sup> Since the previous January 2006 report, modelling of the Child Care Rebate has been included to reflect the introduction and operation of this payment. It should be noted, however, that the Rebate is not received concurrent with payment of childcare fees, but after the finalisation of the tax return of the financial year after payment of such fees.

income. When employees make their own superannuation contributions this is not available to meet current household expenses, but is saved for future retirement. For the purposes of this report, it is assumed employees contributed 5 per cent of their gross wages to their superannuation scheme.<sup>15</sup> Thus, in calculating the salary level required to meet a given expenditure level, an additional 5 per cent from gross private income was deducted to arrive at disposable income for current expenditure (see Section 5.1 for an example).

In calculating disposable incomes, spreadsheet models were constructed for the various household arrangements: single adult households; couple only households; and couples with children. The precise details of how gross and disposable incomes were calculated from each other are provided in the spreadsheet *Income Calculator 2006.xls* accompanying this report.

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<sup>15</sup> Although the Federal Government's Superannuation Guarantee does not require employee contributions, the figure of 5 per cent is based on the standard employee contribution in the Queensland Public Service.

## 5. Equivalent Salaries in Australian Capital Cities

The calculation of equivalent salaries between cities uses the equivalent expenditure equations and the conversation tool for gross-net income outlined in sections 4.3 and 4.4 respectively.

### 5.1. Results

Equivalent salaries in other cities were calculated for Brisbane households with salaries of \$40,600, \$58,000, \$87,000 and \$116,000. These salaries result from inflating the salaries of \$35,000, \$50,000, \$75,000 and \$100,000 for the March quarter 2003 by the seasonally adjusted wage price index (ABS Cat. No. 6345.0) to the September quarter 2006. In households with more than one working adult, a range of household incomes was used derived by combining salaries from these levels.

Tables 6 to 10 present the results of these calculations.

**Table 6: Equivalent Salaries and Disposable Incomes – Single adult households (\$'000/year)**

Brisbane		Sydney		Melbourne		Adelaide		Perth	
Salary	Disp Inc.*	Disp Inc.*	Salary	Disp Inc.*	Salary	Disp Inc.*	Salary	Disp Inc.*	Salary
<i>Single adult, Private renter</i>									
\$40,600	\$30,431	\$32,431	\$43,750	\$30,052	\$40,003	\$27,182	\$35,180	\$28,870	\$38,017
\$58,000	\$40,900	\$43,675	\$62,440	\$40,108	\$56,733	\$35,044	\$47,865	\$37,580	\$52,688
\$87,000	\$57,825	\$61,478	\$93,958	\$55,279	\$82,150	\$46,667	\$67,227	\$51,232	\$74,531
\$116,000	\$73,050	\$77,272	\$124,042	\$68,286	\$106,926	\$56,482	\$84,442	\$63,260	\$97,352
<i>Single adult, Purchaser 2006</i>									
\$40,600	\$30,431	\$40,859	\$57,934	\$32,991	\$44,631	\$29,399	\$38,906	\$37,378	\$52,365
\$58,000	\$40,900	\$50,390	\$73,184	\$43,046	\$61,434	\$37,261	\$52,178	\$46,088	\$66,301
\$87,000	\$57,825	\$66,904	\$104,293	\$58,218	\$87,749	\$48,885	\$70,776	\$59,740	\$90,648
\$116,000	\$73,050	\$82,411	\$133,830	\$71,225	\$112,524	\$58,700	\$88,667	\$71,768	\$113,558

\* Disposable income is after tax and after a 5% superannuation contribution from gross private income

As an illustration of how these figures have been calculated, consider the case of a Brisbane couple without children, privately renting, and where one adult earns \$58,000 and the other \$29,000. As indicated in Table 7, this household would have a household disposable income of \$64,985 after a 5 per cent employee contribution to superannuation from gross salary. This results from the following tax-benefit effects:

	Adult 1	Adult 2	Total
Private Income	\$58,000.00	\$29,000.00	\$87,000.00
Ordinary Tax	\$12,750.00	\$4,050.00	\$16,800.00
Medicare Payable	\$870.00	\$435.00	\$1,305.00
Low Income Rebate	\$0.00	\$440.00	\$440.00
Tax Liability	\$13,620.00	\$4,045.00	\$17,665.00
Disposable Income	\$44,380.00	\$24,955.00	\$69,335.00
Disposable Income (after 5% super)	\$41,480.00	\$23,505.00	\$64,985.00

**Table 7: Equivalent Salaries and Disposable Incomes – Couple only households (\$'000s/year)**

Brisbane		Sydney		Melbourne <sup>^</sup>		Adelaide		Perth		
Salary1	Salary2	Disp Inc.*	Salary1	Salary2	Disp Inc.*	Salary1	Salary2	Disp Inc.*	Salary1	Salary2
<i>Couple - One full-time - Private renter</i>										
\$40,600	\$0	\$32,041	\$43,598	\$0	\$31,545	\$39,807	\$0	\$29,647	\$22,045	\$0
\$58,000	\$0	\$43,090	\$61,940	\$0	\$43,511	\$58,663	\$0	\$40,018	\$53,162	\$0
\$87,000	\$0	\$60,305	\$94,157	\$0	\$62,154	\$90,456	\$0	\$55,695	\$78,383	\$0
\$116,000	\$0	\$73,500	\$125,779	\$0	\$76,443	\$121,715	\$0	\$67,483	\$104,317	\$0
<i>Couple - One full-time – Purchaser 2006</i>										
\$40,600	\$0	\$32,041	\$57,726	\$0	\$32,612	\$41,499	\$0	\$31,311	\$34,096	\$0
\$58,000	\$0	\$43,090	\$79,609	\$0	\$44,577	\$60,342	\$0	\$41,387	\$55,318	\$0
\$87,000	\$0	\$60,305	\$127,375	\$0	\$63,220	\$92,449	\$0	\$57,697	\$82,125	\$0
\$116,000	\$0	\$73,500	\$164,989	\$0	\$77,510	\$123,786	\$0	\$70,491	\$110,157	\$0
<i>Couple - Both full-time - Private renter</i>										
\$40,600	\$40,600	\$60,862	\$43,736	\$43,736	\$62,176	\$41,635	\$41,635	\$56,310	\$36,815	\$36,815
\$58,000	\$29,000	\$64,985	\$62,689	\$31,345	\$66,641	\$59,801	\$29,901	\$60,007	\$52,684	\$26,342
\$58,000	\$58,000	\$80,640	\$62,747	\$62,747	\$83,595	\$60,403	\$60,403	\$73,920	\$52,537	\$52,537
\$87,000	\$58,000	\$97,275	\$104,830	\$63,445	\$101,610	\$91,687	\$61,124	\$88,543	\$77,560	\$51,707
\$116,000	\$58,000	\$112,210	\$121,386	\$63,501	\$117,783	\$122,627	\$61,313	\$101,574	\$102,943	\$51,472
<i>Couple - Both full-time – Purchaser 2006</i>										
\$40,600	\$40,600	\$60,862	\$57,538	\$57,538	\$63,242	\$42,474	\$42,474	\$58,323	\$38,507	\$38,507
\$58,000	\$29,000	\$64,985	\$83,823	\$41,911	\$67,707	\$60,945	\$30,473	\$62,302	\$55,147	\$27,573
\$58,000	\$58,000	\$80,640	\$81,490	\$81,490	\$84,661	\$61,269	\$61,269	\$77,573	\$55,507	\$55,507
\$87,000	\$58,000	\$97,275	\$126,330	\$84,220	\$102,676	\$92,839	\$61,893	\$94,004	\$83,464	\$55,642
\$116,000	\$58,000	\$112,210	\$170,610	\$85,305	\$118,850	\$123,922	\$61,961	\$108,880	\$111,815	\$55,908

\* Disposable income is after tax and a 5% superannuation contribution from gross private income

<sup>^</sup> Linear regression without a logarithm were used for Adelaide and Perth due to distortions at the higher income households with the logarithm regression.

Shaded cells indicate that private income is supplemented by Newstart Allowance and, where relevant, Rent Assistance.

Given a household disposable income (which is assumed to equal household expenditure), the equivalent expenditure equation derived from linear regression is used to calculate the equivalent expenditure (and thus disposable income) in another city. From the regression analysis presented in Table 4, it can be seen that the equivalent expenditure in Sydney is \$69,333 per annum. This results from substituting the input values into equation (4) as follows (cf equation 5):

$$69.333 = 1.66*64.985 + -16.52*\ln(64.985) + 9.29*0 + -0.06*1 + 37.75$$

The gross salary for this Sydney couple to obtain \$69,333 per annum in disposable income after tax and benefits, and after a 5 per cent employee superannuation contribution is \$62,689 for the first adult and \$31,345 for the second, based on the same proportion of private income between the adults.<sup>16</sup> This results from the following tax-benefit effects:

	<b>Adult 1</b>	<b>Adult 2</b>	<b>Total</b>
Private Income	\$62,689.33	\$31,344.67	\$94,034.00
Ordinary Tax	\$14,136.80	\$4,753.40	\$18,910.20
Medicare Payable	\$940.34	\$470.17	\$1,410.51
Low Income Tax Offset	\$0.00	\$346.22	\$346.22
Tax Liability	\$15,097.14	\$4,877.36	\$19,974.50
Disposable Income	\$47,592.19	\$26,467.31	\$74,059.50
Disposable Income (after 5% super)	\$44,457.73	\$24,900.08	\$69,358.00

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<sup>16</sup> It is noted that the 5 per cent superannuation contribution for this Sydney household is nominally greater than that in Brisbane, representing a higher level of savings. There are a number of methodological pros and cons in assuming a higher level of savings is required in cities with higher costs.

**Table 8: Equivalent Salaries and Disposable Incomes – Couple with one child households (\$'000s/year)<sup>17</sup>**

Brisbane		Sydney		Melbourne		Adelaide <sup>^</sup>		Perth			
Salary 1	Salary 2	Disp Inc.*	Disp Inc.*	Salary 1	Salary 2	Disp Inc.*	Salary 1	Salary 2	Disp Inc.*	Salary 1	Salary 2
<i>Couple + 1 - One full-time - Private renter</i>											
\$40,600	\$0	\$40,292	\$43,572	\$54,460	\$0	\$41,117	\$42,496	\$0	\$39,120	\$38,468	\$0
\$58,000	\$0	\$45,820	\$49,661	\$64,049	\$0	\$46,100	\$58,441	\$0	\$44,073	\$49,291	\$0
\$87,000	\$0	\$63,035	\$68,459	\$104,462	\$0	\$63,077	\$87,079	\$0	\$59,499	\$80,391	\$0
\$116,000	\$0	\$74,401	\$80,781	\$128,388	\$0	\$75,089	\$117,336	\$0	\$69,684	\$106,840	\$0
<i>Couple + 1 - One full-time - Purchaser 2006</i>											
\$40,600	\$0	\$37,140	\$45,101	\$56,868	\$0	\$39,573	\$46,193	\$0	\$40,151	\$47,521	\$0
\$58,000	\$0	\$45,820	\$58,030	\$77,645	\$0	\$47,252	\$60,255	\$0	\$45,105	\$56,874	\$0
\$87,000	\$0	\$63,035	\$82,786	\$132,281	\$0	\$64,229	\$90,011	\$0	\$60,531	\$82,320	\$0
\$116,000	\$0	\$74,401	\$98,724	\$164,651	\$0	\$76,241	\$119,572	\$0	\$70,716	\$108,844	\$0
<i>Couple + 1 - Both full-time - Private renter</i>											
\$40,600	\$40,600	\$63,993	\$69,101	\$45,539	\$45,539	\$64,574	\$41,091	\$41,091	\$60,985	\$37,917	\$37,917
\$58,000	\$29,000	\$67,865	\$73,303	\$68,555	\$34,277	\$68,625	\$58,903	\$29,452	\$64,454	\$54,093	\$27,047
\$58,000	\$58,000	\$81,200	\$87,729	\$63,309	\$63,309	\$82,988	\$59,454	\$59,454	\$76,404	\$54,101	\$54,101
\$87,000	\$58,000	\$97,835	\$105,650	\$95,449	\$63,633	\$101,575	\$91,043	\$60,696	\$91,310	\$79,946	\$53,298
\$116,000	\$58,000	\$112,770	\$121,689	\$126,690	\$63,345	\$118,715	\$123,079	\$61,539	\$104,693	\$106,051	\$53,026
<i>Couple + 1 - Both full-time - Purchaser 2006</i>											
\$40,600	\$40,600	\$63,993	\$82,509	\$59,065	\$59,065	\$65,726	\$42,065	\$42,065	\$62,016	\$38,852	\$38,852
\$58,000	\$29,000	\$67,865	\$87,959	\$85,731	\$42,865	\$69,777	\$61,473	\$30,736	\$65,486	\$55,283	\$27,642
\$58,000	\$58,000	\$81,200	\$106,520	\$79,282	\$79,282	\$84,140	\$60,391	\$60,391	\$77,435	\$54,939	\$54,939
\$87,000	\$58,000	\$97,835	\$129,335	\$121,719	\$81,146	\$102,727	\$92,289	\$61,526	\$92,341	\$81,061	\$54,040
\$116,000	\$58,000	\$112,770	\$149,588	\$162,141	\$81,071	\$119,867	\$124,477	\$62,239	\$105,724	\$107,303	\$53,652

\* Disposable income is after tax and a 5% superannuation contribution from gross private income.

<sup>^</sup> Linear regression without a logarithm were used for Adelaide and Perth due to distortions at the higher income households with the logarithm regression.

<sup>17</sup> Calculations when both parents work are based on Child Care Benefit for 1325 hours of child care annually for a child of 5 to 12 years old.

**Table 9: Equivalent Salaries and Disposable Incomes – Couple with two children households (\$'000s/year)<sup>18</sup>**

Brisbane		Sydney <sup>^</sup>		Melbourne <sup>^</sup>		Adelaide		Perth	
Salary 1	Salary 2	Disp Inc.*	Disp Inc.*	Salary 1	Salary 2	Disp Inc.*	Disp Inc.*	Salary 1	Salary 2
<i>Couple + 2 - One full-time - Private renter</i>									
\$40,600	\$0	\$45,625	\$47,635	\$45,220	\$0	\$47,173	\$44,159	\$39,749	\$0
\$58,000	\$0	\$50,042	\$53,549	\$58,816	\$0	\$52,525	\$56,462	\$51,099	\$0
\$87,000	\$0	\$64,863	\$73,391	\$114,038	\$0	\$68,235	\$94,803	\$87,507	\$0
\$116,000	\$0	\$74,401	\$86,160	\$138,833	\$0	\$77,023	\$121,091	\$114,677	\$0
<i>Couple + 2 - One full-time - Purchaser 2006</i>									
\$40,600	\$0	\$42,473	\$52,330	\$63,260	\$0	\$48,090	\$53,513	\$22,098	\$0
\$58,000	\$0	\$50,042	\$62,463	\$82,513	\$0	\$54,891	\$69,148	\$54,502	\$0
\$87,000	\$0	\$64,863	\$82,305	\$131,347	\$0	\$68,207	\$94,684	\$85,937	\$0
\$116,000	\$0	\$74,401	\$95,074	\$156,802	\$0	\$76,777	\$120,613	\$113,930	\$0
<i>Couple + 2 - Both full-time - Private renter</i>									
\$40,600	\$40,600	\$65,822	\$74,206	\$52,314	\$52,314	\$70,010	\$44,139	\$40,958	\$40,958
\$58,000	\$29,000	\$69,694	\$79,390	\$75,303	\$37,651	\$73,642	\$68,319	\$58,127	\$29,064
\$58,000	\$58,000	\$81,200	\$94,794	\$69,052	\$69,052	\$83,678	\$60,015	\$56,779	\$56,779
\$87,000	\$58,000	\$97,835	\$117,064	\$107,788	\$71,859	\$96,652	\$85,721	\$81,599	\$54,400
\$116,000	\$58,000	\$112,770	\$137,059	\$145,354	\$72,677	\$107,178	\$109,069	\$104,921	\$52,460
<i>Couple + 2 - Both full-time - Purchaser 2006</i>									
\$40,600	\$40,600	\$65,822	\$83,120	\$59,561	\$59,561	\$71,809	\$45,660	\$40,575	\$40,575
\$58,000	\$29,000	\$69,694	\$88,304	\$86,150	\$43,075	\$75,288	\$70,755	\$57,822	\$28,911
\$58,000	\$58,000	\$81,200	\$103,708	\$76,552	\$76,552	\$85,626	\$61,599	\$56,983	\$56,983
\$87,000	\$58,000	\$97,835	\$125,978	\$117,808	\$78,538	\$100,572	\$89,959	\$82,573	\$55,049
\$116,000	\$58,000	\$112,770	\$145,973	\$157,141	\$78,571	\$113,991	\$117,342	\$106,643	\$53,321

\* Disposable income is after tax and a 5% superannuation contribution from disposable private income.

<sup>^</sup> Linear regression without a logarithm were used for Adelaide and Perth due to distortions at the higher income households with the logarithm regression.

<sup>18</sup> *ibid.*

**Table 10: Equivalent Salaries and Disposable Incomes –  
Sole parent, two children households (\$'000s/year)<sup>19</sup>**

Brisbane		Sydney		Melbourne		Adelaide		Perth	
Salary	Disp Inc.*	Disp Inc.*	Salary	Disp Inc.*	Salary	Disp Inc.*	Salary	Disp Inc.*	Salary
<i>Sole parent with two children, Private renter</i>									
\$40,600	\$51,410	\$56,218	\$53,628	\$56,858	\$53,959	\$50,542	\$38,407	\$46,584	\$25,516
\$58,000	\$57,924	\$64,086	\$77,104	\$65,097	\$78,147	\$56,525	\$54,375	\$51,069	\$39,735
\$87,000	\$68,849	\$76,338	\$113,492	\$77,284	\$114,327	\$65,247	\$79,494	\$60,081	\$63,706
\$116,000	\$77,699	\$85,606	\$131,488	\$86,017	\$131,284	\$71,395	\$93,021	\$68,423	\$86,057
<i>Sole parent with two children, Purchaser 2006</i>									
\$40,600	\$48,258	\$56,200	\$62,000	\$50,196	\$44,583	\$45,797	\$32,606	\$58,762	\$67,311
\$58,000	\$54,772	\$66,428	\$82,041	\$58,874	\$66,765	\$52,936	\$53,209	\$62,846	\$74,422
\$87,000	\$68,849	\$87,731	\$135,614	\$74,941	\$109,777	\$66,440	\$82,009	\$74,126	\$109,122
\$116,000	\$77,699	\$100,717	\$161,994	\$83,674	\$126,734	\$73,949	\$108,800	\$82,467	\$125,218

\* Disposable income is after tax and after a 5% superannuation contribution from gross private income

Shaded cells indicate that private income is supplemented by Parenting Payment (Single) and, where relevant, Rent Assistance.

## 5.2. Observations

Tables 6 to 10 present the equivalent salaries for Sydney, Melbourne, Adelaide and Perth, relative to Brisbane households. The Tables should be read across each row. Thus, for example, Table 7 demonstrates that the equivalent salaries for the Brisbane private renter couple with no children having salaries of \$58,000 per annum and \$29,000 per annum are:

- Sydney: \$62,689 and \$31,345;
- Melbourne: \$59,801 and \$29,901;
- Adelaide: \$52,684 and \$26,342;
- Perth: \$60,129 and \$30,064.

Caution must be used when making comparing between different rows in Tables 6 to 10. For example, looking at Table 10, consider the sole parent household earning \$116,000 per annum in Brisbane. The equivalent Melbourne salaries are \$131,284 for a private renter household and \$126,734 for a purchaser household. One might draw the conclusion from this that less money is needed for purchaser households in Melbourne than renter households. Given the cost of mortgages, this conclusion would not seem to make sense. Indeed, it is an incorrect interpretation of the data. Rather, the Table is saying that for this household type, if you are renting and earning \$116,000 per annum in Brisbane you will need just over \$134,000 per annum in Melbourne. Whereas if you purchasing and earning \$116,000 per annum in Brisbane you will need almost \$127,000 per annum in Melbourne *to maintain that same standard of living*. Rather than needing less in Melbourne to purchase, the correct interpretation is that the salary relativities between Brisbane and Melbourne are greater for purchasers than for renters. Given current high property prices, this interpretation is also more consistent with common sense.

<sup>19</sup> *ibid.*

As with the above illustration, Tables 6 to 10 indicate that equivalent salaries to those in Brisbane are higher in Sydney, mostly higher in Melbourne (although to a lesser extent), almost always lower in Adelaide, and sometimes lower and sometimes higher in Perth.

These patterns reasonable reflect those of the budget standards presented in Table 4, from which the regression analyses are based.

The results presented in Tables 6 to 10 demonstrate that equivalent salaries between Australian capital cities can vary considerably in dollar amounts. As expected, in general as salaries in Brisbane increases, the variation increases. As a result, for some household types earning \$100,000 or more in Brisbane require an extra 50 per cent more private income is required in Sydney to achieve the same standard of living. This is a result of two main factors:

1. The much greater housing costs in Sydney, compared with Brisbane, particularly for mortgages; and
2. The high marginal taxation rates for high-income earners (45% income tax; 1.5% Medicare Levy; 1% Medicare Surcharge).

As a result of these two factors, differences in expenditure are almost doubled in terms of salary. For example, consider the case of the purchaser couple without children, when one adult is earning \$116,000 and the other has no income (see Table 7). In Brisbane, this equates to an expenditure of approximately \$73,500 per year, with an equivalent expenditure in Sydney of approximately \$98,000 per year; an increase of about \$24,500. The Sydney salary required to achieve this expenditure is found to be about \$165,000, or \$39,000 more than the Brisbane salary, representing a 42 per cent increase. These considerable variations are mainly evident for high-income households and only in Sydney.<sup>20</sup>

**Table 11: Percentage salary change to obtain equivalent salary relative to Brisbane, September quarter 2006**

Household type	Sydney	Melbourne	Adelaide	Perth
<i>Single adult households</i>	7% to 43%	-8% to 10%	-27% to -4%	-16% to 29%
<i>Couple only households</i>	7% to 47%	-2% to 7%	-46% to -4%	-15% to 30%
<i>Couple + 1 households</i>	9% to 52%	+0% to 14%	-15% to 17%	-13% to 37%
<i>Couple + 2 households</i>	1% to 56%	-6% to 32%	-46% to 1%	-18% to 32%
<i>Sole parent + 2 households</i>	13% to 56%	9% to 35%	-20% to -5%	-37% to 66%
<i>Overall (range)</i>	1% to 56%	-8% to 35%	-46% to 17%	-37% to 66%
<i>Overall (average)</i>	28%	7%	-8%	7%

<sup>20</sup> For families with children, this marginal tax rate can increase by a further 30 per cent in the tapering out of Family Tax Benefit Part A around the vicinity of private household incomes of \$90,000 to \$110,000.

Table 11 provides the range of relativities between Brisbane and other capital city for different household types. The Table reinforces the previous observation about the higher costs in Sydney. The bottom row of the Table shows that compared with Brisbane an increased private income of 28 per cent is required for households living in Sydney, an increase of 7 per cent in Melbourne and Perth, and incomes in Adelaide are required to be 8 per cent less than Brisbane. Table 11 also indicates that at times salaries in Adelaide need to be close to half that of Brisbane salaries to obtain the same living standard. This occurs when the Adelaide households can supplement private income with social security benefits. See Tables A.30 to A.34 for more details.

Looking down the columns of Table 11, it appears that *the larger the household size, the larger the variation between Brisbane and another capital city.*

Table 12 presents both the range and the average variation in equivalent salaries, relative to Brisbane, for households of different private income levels. For example, the Table indicates that Brisbane households with a total private household income of \$58,000 require between a 1 per cent and a 42 per cent increase in salaries in Sydney with an average increase of 24 per cent. In contrast, an average increase of 8 per cent and 1 per cent is required at this income level in Melbourne and Perth respectively, and an 9 per cent *decline* is required in Adelaide to maintain the same standard of living.

**Table 12: Range and average salary change to maintain living standard equivalence, by total private household income, September quarter 2006**

Household private income in Brisbane		Sydney	Melbourne	Adelaide	Perth
\$40,600	<i>Range</i>	7% to 56%	-2% to 33%	-46% to 17%	-37% to 66%
	<i>Average</i>	<b>33%</b>	<b>11%</b>	<b>-14%</b>	<b>6%</b>
\$58,000	<i>Range</i>	1% to 42%	-3% to 35%	-17% to -2%	-31% to 28%
	<i>Average</i>	<b>24%</b>	<b>8%</b>	<b>-9%</b>	<b>1%</b>
\$87,000	<i>Range</i>	8% to 56%	-6% to 31%	-23% to 1%	-27% to 30%
	<i>Average</i>	<b>32%</b>	<b>9%</b>	<b>-7%</b>	<b>9%</b>
\$116,000	<i>Range</i>	7% to 42%	-8% to 13%	-27% to -1%	-26% to 27%
	<i>Average</i>	<b>24%</b>	<b>4%</b>	<b>-9%</b>	<b>5%</b>
\$145,000	<i>Range</i>	9% to 45%	-1% to 7%	-11% to -4%	-5% to 31%
	<i>Average</i>	<b>27%</b>	<b>4%</b>	<b>-7%</b>	<b>12%</b>
\$174,000	<i>Range</i>	9% to 47%	-6% to 7%	-11% to -4%	-6% to 37%
	<i>Average</i>	<b>28%</b>	<b>4%</b>	<b>-8%</b>	<b>14%</b>
<b>Overall Average</b>		<b>28%</b>	<b>7%</b>	<b>-8%</b>	<b>7%</b>

Table 12 also suggests that as total household income rises, the increased equivalent household income in Sydney is relatively stable, whereas the disparity between Brisbane and Adelaide and Melbourne declines as household income increases. In contrast, disparity between Brisbane and Perth households appears to increase with household income.

### 5.3. Changes Since 2003

As indicated earlier in this report, this report updates earlier studies undertaken in 2003 and 2005 (Henman 2003; 2006). What, if any, have been the changes in the results since the previous study and this current one?

To be clear, there have been some small differences in the two studies. These are:

- the present (2006) and 2005 studies undertake an analysis of sole parent households, whereas the 2003 one did not;
- the 2006 study is for the September quarter 2006, the 2005 study is for the September quarter 2005, whereas the 2003 one is for the March quarter 2003;
- the regression models in the 2006 and 2005 studies include a logarithm of Brisbane expenditure, whereas the results in the 2003 are based on regression models without such a variable; and
- the three studies are each based on the taxation and social security settings applicable at that time, and there has been considerable changes to these settings in the intervening period.

**Table 13: Percentage salary change to obtain equivalent salary relative to Brisbane, March quarter 2003, September quarter 2005, September quarter 2006**

Household type	Year	Sydney	Melbourne	Adelaide	Perth
<i>Single adult households</i>	2003	17% to 49%	5% to 29%	-12% to -5%	-16% to 23%
	2005	8% to 39%	1% to 8%	-23% to -3%	-18% to -0%
	2006	7% to 43%	-8% to 10%	-27% to -4%	-16% to 29%
<i>Couple only households</i>	2003	9% to 50%	6% to 18%	-9% to 3%	-17% to 5%
	2005	9% to 57%	-3% to 8%	-8% to -5%	-12% to 10%
	2006	7% to 47%	-2% to 7%	-15% to 17%	-15% to 30%
<i>Couple + 1 households</i>	2003	12% to 59%	13% to 21%	-97% to 0%	-99% to 4%
	2005	11% to 64%	1% to 13%	-7% to 3%	-21% to 25%
	2006	9% to 52%	+0% to 14%	-15% to 17%	-13% to 37%
<i>Couple + 2 households</i>	2003	4% to 58%	12% to 38%	-24% to 6%	-17% to -8%
	2005	6% to 63%	-4% to 27%	-17% to 1%	-21% to 9%
	2006	1% to 56%	-6% to 32%	-46% to 1%	-18% to 32%
<i>Sole parent + 2 households</i>	2005	36% to 75%	13% to 40%	-44% to -6%	-67% to 13%
	2006	13% to 56%	9% to 35%	-20% to -5%	-37% to 66%
<i>Overall (range)</i>	2003	4% to 59%	5% to 38%	-97% to 6%	-99% to 23%
	2005	6% to 75%	-4% to 40%	-44% to 3%	-67% to 25%
	2006	1% to 56%	-8% to 35%	-46% to 17%	-37% to 66%
<i>Overall (average)</i>	2003	39%	15%	-7%	-7%
	2005	40%	7%	-7%	-4%
	2006	28%	7%	-8%	7%

To provide an overview for comparison, Tables 13 and 14 expand Tables 11 and 12 above to provide a comparison over the three studies.

Looking first at Table 13 – that is, differences in equivalent salaries by household type – it is clear that in the period from early 2003 to late 2005, the gap between Brisbane and Sydney in equivalent incomes has remained somewhat similar, yet with a discernable, but slight, increase in the gap. In the year from late 2005 to late 2006, the equivalent income gap between Brisbane and Sydney has noticeably declined. The 2003 overall average of 39% increase (see bottom row in Table 13) remains unchanged at 39% in 2005<sup>21</sup>, whereas in 2006 the overall averaged dropped considerably to 28%. In short, Sydney has gotten more affordable relative to Brisbane in the past year.

The relativity between Brisbane and Melbourne has decreased somewhat from 2003 to 2005, to the extent that expenses in Melbourne are today more equivalent to those in Brisbane, but the gap has remained steady from 2005 to 2006. The average increased salary in Melbourne has dropped from 15 per cent in 2003, to 7 per cent in 2005<sup>22</sup> to 7 per cent in 2006.

Comparing the ranges in salary differences between Brisbane and Perth, the gap between these two cities narrowed from 2003 to 2005. However, in the last 12 months there has been a significant change in relativities. For a number of household types, but not all, residents in Perth now require more than those in Brisbane to achieve the same living standard. Indeed, the overall average moved slightly from 2003 salaries of 7 per cent less in Perth compared with Brisbane, to 4 per cent less, but in 2006 the overall average in Perth is 7 per cent more, which is on par with residents in Melbourne.

The gap between Brisbane and Adelaide has remained quite constant in the period since 2003. The overall average has moved only slightly from 2003 salaries of 7 per cent less in Adelaide compared with Brisbane, to 8 per cent less in 2006.

When we compare the changes between 2003 and 2006 on the basis of total household private income (see Table 14) a similar picture emerges.

What explains the differences observed since 2003? The first and most obvious point to note is that much of these differences result from changes in the household budget standards over this period. In particular, changes in relativities are most significantly due to changes in housing cost relativities. This is especially due to the fact that housing costs makes up a considerable component of a household budget standard. Indeed, when looking at the housing costs calculated for 2003 and 2005 for capital cities there is a distinct change in the relativities between Melbourne and Brisbane, both in private rental and home purchase prices. It is also observed that in September quarter 2006, housing prices in Perth have now exceeded the equivalent housing in Brisbane (see Table 3). Although rental prices in Perth remain lower than those in Brisbane (Table 2). This helps to explain the variation in equivalent salaries in Perth being sometimes less than and sometimes greater than those in Brisbane.

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<sup>21</sup> Table 13 states that it is 40%, but this includes the sole parent households for which analysis was not done in 2003, so the 39% is the correct comparison figure.

<sup>22</sup> As with the previous note, the correct comparison between 2003 and 2005 is 15% and 5%.

**Table 14: Average salary change to maintain living standard equivalence, by total private household income, March quarter 2003, September quarter 2005, September quarter 2006**

<b>Household private income in Brisbane</b>	<b>Year</b>	<b>Sydney</b>	<b>Melbourne</b>	<b>Adelaide</b>	<b>Perth</b>
\$35,000	2003	27%	13%	-24%	-42%
\$39,000	2005	30%	9%	-13%	-13%
\$40,600	2006	33%	11%	-14%	6%
\$50,000	2003	35%	9%	-8%	-11%
\$55,700	2005	30%	7%	-8%	-10%
\$58,000	2006	24%	8%	-9%	1%
\$75,000	2003	44%	13%	-5%	-8%
\$83,500	2005	47%	10%	-7%	-5%
\$87,000	2006	32%	9%	-7%	9%
\$100,000	2003	43%	12%	-4%	-8%
\$111,300	2005	40%	6%	-6%	-2%
\$116,000	2006	24%	4%	-9%	5%
\$125,000	2003	43%	13%	-3%	-6%
\$139,200	2005	49%	6%	-4%	7%
\$145,000	2006	27%	4%	-7%	12%
\$150,000	2003	42%	13%	-2%	-5%
\$167,000	2005	52%	6%	-4%	12%
\$174,000	2006	28%	4%	-8%	14%
<b>Average</b>	2003	<b>39%</b>	<b>15%</b>	<b>-7%</b>	<b>-7%</b>
	2005	<b>40%</b>	<b>7%</b>	<b>-7%</b>	<b>-4%</b>
	2006	<b>28%</b>	<b>7%</b>	<b>-8%</b>	<b>7%</b>

A related element that has contributed to changes in relative incomes from 2003 to 2006 is a change in mortgage interest rates. The regular variable interest rate has increased from 6.57 per cent per annum in March quarter 2003, to 7.32 per cent per annum in the September quarter 2005, to 8.07 per cent in the September quarter 2006. This can further exacerbate any growth in the difference in house purchase prices since 2003.

A third key element that is likely to have contributed to the changed observations, albeit to a less noticeable extent, is policy changes in the taxation system, in particular, the increase in the threshold for the top rate of income taxation from \$60,000 in 2002-03 financial year, to \$95,000 in the 2005-06 financial year, and then to \$150,000 in 2006-07. Furthermore, the top rate of tax has reduced in the last 12 months from 48 cents in the dollar, to 45. What this change means is that in relation to households with high expenditure levels, the disparity in nominal private income to achieve the same standard of living is not as great in 2005 and 2006 as in 2003. This is because the tax changes result in a greater level of disposable income for a given private income. Similarly, for households with children, there has been a noticeable increase in family benefits – especially the child care rebate in the last 12 months –

which may have slightly tempered the difference in equivalent salaries required to meet any differences in equivalent expenditure.

**5.4. Sensitivity Analysis**

As discussed in Section 4.2, the budget standards for home purchaser households are calculated on the assumption that the household had purchased a home in the September quarter 2006. It was noted that housing costs are highly sensitive to base assumptions, and that this assumption may well define a maximum level of household costs. This is due to the recent growth in housing prices and the fact that the mortgage was obtained recently. Generally, as time passes since a mortgage was obtained, the real value of repayments decrease.

For these reasons, it is important to be aware of the sensitivity of the findings in section 5 to the base assumptions. Such sensitivity was undertaken by comparing the results based on home owners who purchased their homes in the present with those purchasing over a decade earlier in March quarter 1993.

Table 15 provides a summary table of these findings based on these revised assumptions, which can be compared with Table 12. To be sure, Table 15 provides the analysis of relativities between Brisbane and other capital cities based on privately renting households and purchaser household who purchased in March quarter 1993, rather than 2006.

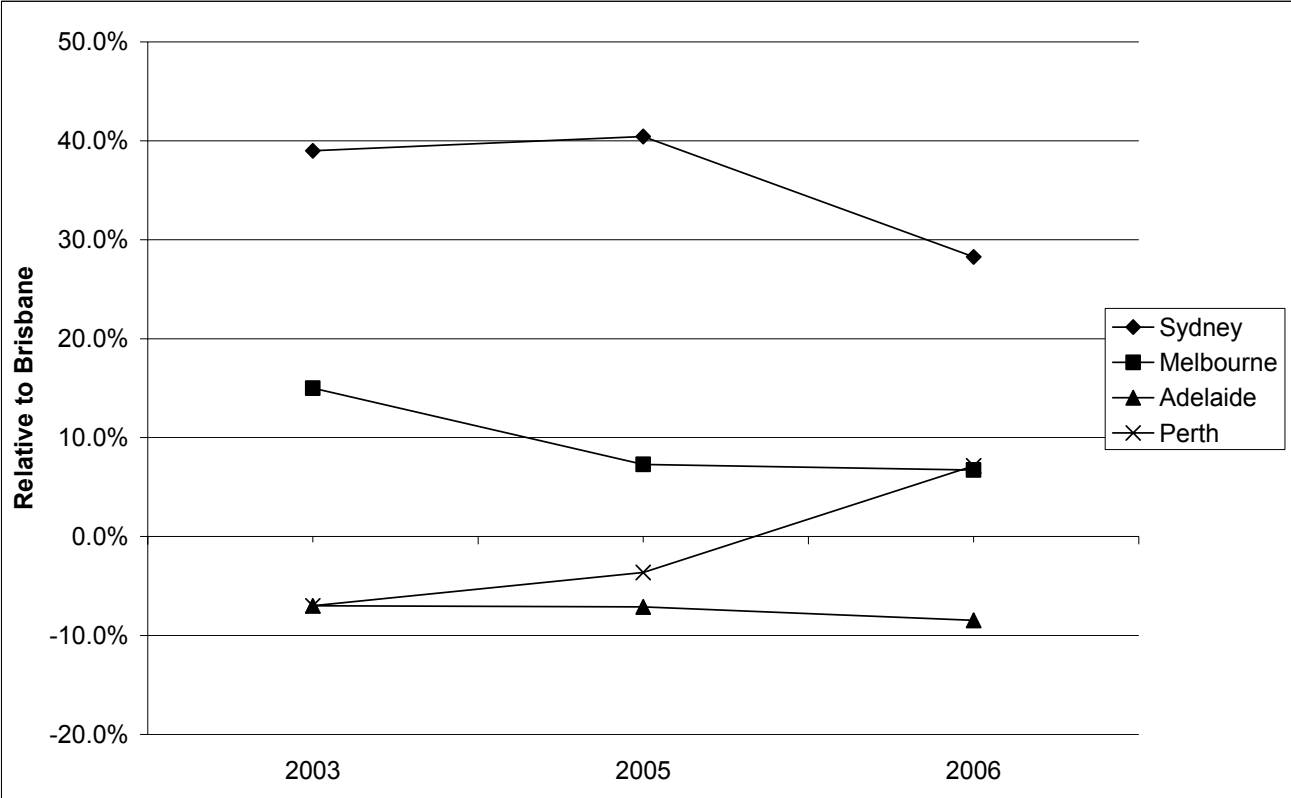
**Table 15: Average salary change to maintain living standard equivalence, by total private household income, September quarter 2006, purchasing 1993**

<b>Household private income in Brisbane</b>	<b>Sydney</b>	<b>Melbourne</b>	<b>Adelaide</b>	<b>Perth</b>
\$40,600	19%	9%	-8%	-12%
\$58,000	14%	7%	-7%	-11%
\$87,000	20%	9%	-6%	-4%
\$116,000	12%	4%	-8%	-3%
\$145,000	13%	4%	-7%	2%
\$174,000	12%	3%	-8%	3%
<b>Average</b>	<b>15%</b>	<b>6%</b>	<b>-7%</b>	<b>-4%</b>

It can be seen by comparing Tables 12 and 15 that varying the time when a house is purchased, and thus the housing costs, can reduce the measured disparity between salaries in capital cities required to achieve the same standard of living. Notably, the disparity between Brisbane and Sydney reduces by 10 to 16 percentage points, whereas the difference in salaries between Brisbane and Adelaide, and Brisbane and Melbourne reduces more slightly, if at all. The disparity between Brisbane and Perth is significant, in that the assumption of the earlier purchase of a dwelling results in equivalent salaries in Perth being less than those required in Brisbane, whereas the recent house price increases in Perth lead to an average increased income required in Perth when it is assumed that a dwelling is purchased in 2006.

Figure 2 provides a graphical summary of the change in relativities between Brisbane and other capital cities in early 2003, late 2005 and late 2006.

**Figure 2: Average relativity between Brisbane and other capital cities, 2003-2006**



## 6. Conclusions

This report has sought to calculate the equivalent salaries – that is, household incomes required to maintain the same standard of living – in different Australian capital cities. The research presented here represents an update of research conducted in both 2003 and 2005.

The approach drew extensively on, and developed, budget standards for Australian households. These budget standards – costed baskets of goods and services required to meet a specific standard of living – provided knowledge about particular points of equivalence in household expenditure. From these points multiple linear regression was used to derive a set of functions, or equivalent expenditure equations, that given a household expenditure in Brisbane would identify the expenditure required in another capital city to achieve the same living standard. A mechanism for deriving gross private income from disposable income (and vice versa) provided the means for calculating a set of equivalent incomes between capital cities. The results were tested by varying the assumption of when home purchaser households bought their property.

The results of the analyses suggest that:

- living in Sydney requires significantly more income than in Brisbane to maintain a similar living standard (up 56% in some cases);
- Melbourne households generally require a slightly greater income than Brisbane households to achieve identical living standards (from about -8% to almost 35%);
- living in Adelaide usually requires about 5% to 10% smaller incomes than in Brisbane to obtain the same living standard;
- living in Perth requires smaller incomes than in Brisbane for renter households, but requires higher incomes for households purchasing a dwelling in 2006.

Comparisons in the equivalent salaries between these cities for late 2006, late 2005 and for early 2003 indicate that the gap between Brisbane and Melbourne, and between Brisbane and Sydney has declined somewhat, and the gap between Brisbane and Adelaide has remained somewhat stable. Between Brisbane and Perth, the salaries required in Perth have generally increased so that in many instances the gap is reduced, but in some (purchaser) cases Perth households now need more to achieve the same standard of living than do Brisbane households.

While all efforts have been undertaken to enhance accuracy, the research is necessarily limited by the published datasets from which it has heavily drawn.

The results should be regarded as indicative, defining the general range and direction of equivalent salaries, rather than as defining precisely defined numbers that can be subject to high levels of detailed analysis and use.

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8. Technical Appendix  
8.1. Australian Household Budget Standards

Table A.1: Budget Standards for Single Adult Households – September Quarter 2006 - \$'000/year

Household Type	Housing	Energy	Food	Clothing	Commodity Group						Total
					HGS	Childcare	Health	Transport	Leisure	Personal	
<i>Single Adult Households</i>											
1. S(F) Pri 2u LC											
Brisbane	11.90	0.73	3.45	0.73	1.39	0.00	0.31	3.87	1.18	0.41	23.98
Sydney	12.35	0.87	3.62	0.78	1.38	0.00	0.30	3.97	1.26	0.41	24.93
Melbourne	10.81	1.07	3.42	0.75	1.37	0.00	0.29	4.02	1.21	0.39	23.33
Adelaide	8.66	1.07	3.42	0.77	1.37	0.00	0.28	4.08	1.25	0.43	21.34
Perth	10.27	0.79	3.58	0.72	1.34	0.00	0.30	3.97	1.23	0.50	22.70
2a. S(F) Pur 06 2u LC											
Brisbane	17.14	0.73	3.45	0.73	1.39	0.00	0.31	5.81	1.18	0.41	31.15
Sydney	28.16	0.87	3.62	0.78	1.38	0.00	0.30	5.95	1.26	0.41	42.72
Melbourne	19.24	1.07	3.42	0.75	1.37	0.00	0.29	6.03	1.21	0.39	33.78
Adelaide	15.85	1.07	3.42	0.77	1.37	0.00	0.28	6.12	1.25	0.43	30.56
Perth	24.26	0.79	3.58	0.72	1.34	0.00	0.30	5.95	1.23	0.50	38.67
3. S(F) Pri 2u MBA											
Brisbane	13.20	0.82	3.64	1.21	1.74	0.00	0.31	5.05	1.50	1.69	29.17
Sydney	14.96	0.98	3.80	1.30	1.73	0.00	0.30	5.14	1.60	1.66	31.47
Melbourne	12.37	1.21	3.65	1.25	1.72	0.00	0.30	5.22	1.54	1.59	28.85
Adelaide	9.96	1.21	3.60	1.29	1.71	0.00	0.28	5.29	1.59	1.78	26.72
Perth	11.84	0.90	3.78	1.19	1.67	0.00	0.30	5.14	1.56	2.03	28.42

**Table A.1: Budget Standards for Single Adult Households – September Quarter 2006 - \$'000/year (cont.)**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Personal	Total
					HGS	Childcare	Health	Transport	Leisure		
4a. S(F) Pur 06 2u MBA											
Brisbane	26.57	0.52	3.64	1.21	1.96	0.00	0.31	5.05	1.50	1.69	<b>42.46</b>
Sydney	33.73	0.62	3.80	1.30	1.95	0.00	0.30	5.14	1.60	1.66	<b>50.10</b>
Melbourne	28.14	0.76	3.65	1.25	1.94	0.00	0.30	5.22	1.54	1.59	<b>44.39</b>
Adelaide	20.99	0.76	3.60	1.29	1.94	0.00	0.28	5.29	1.59	1.78	<b>37.53</b>
Perth	29.92	0.57	3.78	1.19	1.89	0.00	0.30	5.14	1.56	2.03	<b>46.39</b>
5a. S(F) Pur 06 2u Lux											
Brisbane	33.43	0.67	5.04	2.43	2.26	0.00	0.51	7.56	3.19	2.89	<b>57.98</b>
Sydney	42.25	0.79	5.26	2.61	2.24	0.00	0.49	7.70	3.40	2.84	<b>67.58</b>
Melbourne	33.31	0.98	5.06	2.51	2.23	0.00	0.48	7.82	3.26	2.73	<b>58.38</b>
Adelaide	23.65	0.98	4.98	2.59	2.23	0.00	0.46	7.92	3.38	3.06	<b>49.24</b>
Perth	34.64	0.73	5.22	2.40	2.17	0.00	0.49	7.70	3.32	3.49	<b>60.15</b>

**Table A.2: Budget Standards for Couple Adult Households – September Quarter 2006 - \$'000/year**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Total	
					HGS	Childcare	Health	Transport	Leisure		Personal
<i>Couple Adult Households</i>											
6. C(FN) Pri 2u LC											
Brisbane	11.90	0.73	6.23	1.44	1.73	0.00	0.53	4.24	1.36	0.91	29.07
Sydney	12.35	0.87	6.55	1.54	1.72	0.00	0.51	4.31	1.45	0.90	30.20
Melbourne	10.81	1.07	6.21	1.48	1.71	0.00	0.51	4.38	1.39	0.86	28.41
Adelaide	8.66	1.07	6.17	1.53	1.71	0.00	0.48	4.43	1.44	0.96	26.45
Perth	10.27	0.79	6.50	1.41	1.67	0.00	0.52	4.31	1.42	1.10	27.98
7a. C(FN) Pur 06 2u LC											
Brisbane	17.14	0.73	6.23	1.44	1.73	0.00	0.53	6.36	1.36	0.91	36.42
Sydney	28.16	0.87	6.55	1.54	1.72	0.00	0.51	6.46	1.45	0.90	48.16
Melbourne	19.24	1.07	6.21	1.48	1.71	0.00	0.51	6.56	1.39	0.86	39.03
Adelaide	15.85	1.07	6.17	1.53	1.71	0.00	0.48	6.65	1.44	0.96	35.85
Perth	24.26	0.79	6.50	1.41	1.67	0.00	0.52	6.46	1.42	1.10	44.12
8a. C(FN) Pri 2u MBA											
Brisbane	13.20	0.74	7.96	1.82	2.13	0.00	0.77	5.70	2.28	2.40	37.01
Sydney	14.96	0.87	8.29	1.95	2.11	0.00	0.75	5.79	2.43	2.37	39.52
Melbourne	12.37	1.08	7.94	1.88	2.10	0.00	0.74	5.88	2.33	2.27	36.59
Adelaide	9.96	1.08	7.86	1.94	2.10	0.00	0.70	5.96	2.41	2.54	34.55
Perth	11.84	0.80	8.23	1.80	2.05	0.00	0.75	5.79	2.37	2.90	36.52
8b. C(FF) Pri 2u MBA											
Brisbane	13.20	0.74	8.01	2.13	2.13	0.00	0.77	5.67	2.28	2.40	37.33
Sydney	14.96	0.87	8.34	2.28	2.11	0.00	0.75	5.79	2.43	2.37	39.89
Melbourne	12.37	1.08	7.99	2.20	2.10	0.00	0.74	5.87	2.33	2.27	36.94
Adelaide	9.96	1.08	7.91	2.26	2.10	0.00	0.70	5.95	2.41	2.54	34.91
Perth	11.84	0.80	8.27	2.10	2.05	0.00	0.75	5.78	2.37	2.90	36.87
9a. C(FN) Pur 06 2h MBA											
Brisbane	32.49	0.74	7.96	1.82	3.47	0.00	0.77	5.70	2.32	2.40	57.69
Sydney	49.75	0.87	8.29	1.95	3.43	0.00	0.75	5.79	2.47	2.37	75.66
Melbourne	32.48	1.08	7.94	1.88	3.41	0.00	0.74	5.88	2.37	2.27	58.05
Adelaide	28.71	1.08	7.86	1.94	3.42	0.00	0.70	5.96	2.45	2.54	54.65
Perth	37.11	0.80	8.23	1.80	3.39	0.00	0.75	5.79	2.41	2.90	63.18

**Table A.2: Budget Standards for Couple Adult Households – September Quarter 2006 – \$'000/year (cont.)**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Total	
					HGS	Childcare	Health	Transport	Leisure		Personal
9b. C(FF) Pur 06 2h MBA											
Brisbane	32.49	0.74	8.01	2.13	3.47	0.00	0.77	5.67	2.32	2.40	<b>58.00</b>
Sydney	49.75	0.87	8.34	2.28	3.43	0.00	0.75	5.79	2.47	2.37	<b>76.04</b>
Melbourne	32.48	1.08	7.99	2.20	3.41	0.00	0.74	5.87	2.37	2.27	<b>58.40</b>
Adelaide	28.71	1.08	7.91	2.26	3.42	0.00	0.70	5.95	2.45	2.54	<b>55.02</b>
Perth	37.11	0.80	8.27	2.10	3.39	0.00	0.75	5.78	2.41	2.90	<b>63.53</b>
10a. C(FN) Pur 06 2h Lux											
Brisbane	39.88	0.82	10.95	2.29	4.75	0.00	0.76	6.69	3.51	3.13	<b>72.77</b>
Sydney	63.15	0.97	11.41	2.45	4.68	0.00	0.73	6.79	3.75	3.07	<b>97.00</b>
Melbourne	44.31	1.20	10.92	2.36	4.66	0.00	0.72	6.90	3.59	2.95	<b>77.62</b>
Adelaide	36.23	1.20	10.81	2.43	4.67	0.00	0.69	6.99	3.72	3.31	<b>70.03</b>
Perth	56.69	0.89	11.32	2.25	4.64	0.00	0.74	6.79	3.66	3.77	<b>90.74</b>
10b. C(FF) Pur 06 2h Lux											
Brisbane	39.88	0.82	11.02	2.67	4.75	0.00	0.76	6.65	3.51	3.13	<b>73.18</b>
Sydney	63.15	0.97	11.47	2.86	4.68	0.00	0.73	6.79	3.75	3.07	<b>97.47</b>
Melbourne	44.31	1.20	10.99	2.76	4.66	0.00	0.72	6.89	3.59	2.95	<b>78.07</b>
Adelaide	36.23	1.20	10.88	2.84	4.67	0.00	0.69	6.98	3.72	3.31	<b>70.50</b>
Perth	56.69	0.89	11.39	2.63	4.64	0.00	0.74	6.79	3.66	3.77	<b>91.18</b>

**Table A.3: Budget Standards for Couples with One Child – September Quarter 2006 - \$'000/year**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Personal	Total
					HGS	Childcare	Health	Transport	Leisure		
<i>Couple with One Child Households</i>											
11. C(FN)+g6 Pri 3u LC											
Brisbane	13.99	0.85	7.99	2.08	2.23	0.00	0.69	4.74	1.76	0.97	<b>35.28</b>
Sydney	15.22	1.00	8.39	2.23	2.22	0.00	0.66	4.83	1.88	0.95	<b>37.38</b>
Melbourne	13.94	1.24	7.98	2.15	2.20	0.00	0.66	4.91	1.80	0.91	<b>35.77</b>
Adelaide	11.27	1.24	7.91	2.21	2.20	0.00	0.62	4.97	1.87	1.02	<b>33.30</b>
Perth	11.04	0.92	8.32	2.05	2.15	0.00	0.67	4.83	1.83	1.16	<b>32.97</b>
12a. C(FN)+g6 Pur 06 3u LC											
Brisbane	21.30	0.85	7.99	2.08	2.23	0.00	0.69	7.11	1.76	0.97	<b>44.97</b>
Sydney	30.32	1.00	8.39	2.23	2.22	0.00	0.66	7.25	1.88	0.95	<b>54.90</b>
Melbourne	23.40	1.24	7.98	2.15	2.20	0.00	0.66	7.36	1.80	0.91	<b>47.69</b>
Adelaide	20.28	1.24	7.91	2.21	2.20	0.00	0.62	7.46	1.87	1.02	<b>44.81</b>
Perth	22.63	0.92	8.32	2.05	2.15	0.00	0.67	7.25	1.83	1.16	<b>46.98</b>
13a. C(FN)+g6 Pri 3h MBA											
Brisbane	15.07	0.86	10.22	2.52	2.82	0.00	0.99	5.88	3.66	2.27	<b>44.29</b>
Sydney	18.12	1.02	10.63	2.70	2.80	0.00	0.95	5.97	3.91	2.23	<b>48.34</b>
Melbourne	15.28	1.26	10.20	2.60	2.78	0.00	0.94	6.07	3.75	2.15	<b>45.03</b>
Adelaide	13.38	1.26	10.08	2.68	2.77	0.00	0.89	6.15	3.88	2.40	<b>43.51</b>
Perth	13.44	0.94	10.55	2.48	2.71	0.00	0.96	5.97	3.82	2.74	<b>43.60</b>
13b. C(FF)+g6 Pri 3h MBA											
Brisbane	15.07	0.86	10.27	2.83	2.82	3.90	0.99	5.85	3.01	2.55	<b>48.13</b>
Sydney	18.12	1.02	10.68	3.03	2.80	3.79	0.95	5.97	3.21	2.50	<b>52.07</b>
Melbourne	15.28	1.26	10.25	2.92	2.78	4.59	0.94	6.06	3.08	2.40	<b>49.55</b>
Adelaide	13.38	1.26	10.14	3.00	2.77	3.83	0.89	6.14	3.19	2.69	<b>47.29</b>
Perth	13.44	0.94	10.60	2.78	2.71	3.93	0.96	5.97	3.13	3.07	<b>47.52</b>
14a. C(FN)+g6 Pur 06 3h MBA											
Brisbane	36.04	0.86	10.22	2.52	4.22	0.00	0.99	5.88	3.71	2.27	<b>66.72</b>
Sydney	57.76	1.02	10.63	2.70	4.17	0.00	0.95	5.97	3.96	2.23	<b>89.40</b>
Melbourne	35.99	1.26	10.20	2.60	4.15	0.00	0.94	6.07	3.80	2.15	<b>67.16</b>
Adelaide	32.22	1.26	10.08	2.68	4.15	0.00	0.89	6.15	3.93	2.40	<b>63.77</b>
Perth	42.56	0.94	10.55	2.48	4.11	0.00	0.96	5.97	3.87	2.74	<b>74.17</b>

**Table A.3: Budget Standards for Couples with One Child – September Quarter 2006 - \$'000/year (cont.)**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Total	
					HGS	Childcare	Health	Transport	Leisure		Personal
14b. C(FF)+g6 Pur 06 3h MBA											
Brisbane	36.04	0.86	10.27	2.83	4.22	3.90	0.99	5.85	3.05	2.55	<b>70.54</b>
Sydney	57.76	1.02	10.68	3.03	4.17	3.79	0.95	5.97	3.25	2.50	<b>93.12</b>
Melbourne	35.99	1.26	10.25	2.92	4.15	4.59	0.94	6.06	3.12	2.40	<b>71.67</b>
Adelaide	32.22	1.26	10.14	3.00	4.15	3.83	0.89	6.14	3.23	2.69	<b>67.55</b>
Perth	42.56	0.94	10.60	2.78	4.11	3.93	0.96	5.97	3.17	3.07	<b>78.08</b>
15a. C(FN)+g6 Pur 06 3h Lux											
Brisbane	47.65	1.10	13.56	3.89	6.30	0.00	1.90	7.63	6.81	4.00	<b>92.84</b>
Sydney	77.00	1.31	14.11	4.16	6.22	0.00	1.82	7.75	7.27	3.94	<b>123.59</b>
Melbourne	51.25	1.61	13.54	4.01	6.19	0.00	1.81	7.88	6.97	3.79	<b>97.05</b>
Adelaide	40.88	1.61	13.38	4.13	6.19	0.00	1.72	7.98	7.22	4.24	<b>87.36</b>
Perth	69.74	1.20	14.00	3.83	6.14	0.00	1.85	7.75	7.10	4.83	<b>116.42</b>
15b. C(FF)+g6 Pur 06 3h Lux											
Brisbane	47.65	1.10	13.62	4.36	6.30	3.90	1.90	7.58	5.59	4.49	<b>96.49</b>
Sydney	77.00	1.31	14.17	4.67	6.22	3.79	1.82	7.75	5.96	4.42	<b>127.12</b>
Melbourne	51.25	1.61	13.60	4.50	6.19	4.59	1.81	7.86	5.72	4.24	<b>101.37</b>
Adelaide	40.88	1.61	13.45	4.63	6.19	3.83	1.72	7.97	5.92	4.74	<b>90.95</b>
Perth	69.74	1.20	14.06	4.29	6.14	3.93	1.85	7.74	5.82	5.41	<b>120.18</b>

**Table A.4: Budget Standards for Couples with Two Children – September Quarter 2006 – \$'000/year**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Personal	Total
					HGS	Childcare	Health	Transport	Leisure		
<i>Couple with Two Children Households</i>											
16. C(FN)+g6b14 Pri 3h LC											
Brisbane	13.73	0.97	10.92	2.84	3.40	0.00	0.83	4.92	2.13	1.17	<b>40.90</b>
Sydney	15.22	1.15	11.51	3.04	3.38	0.00	0.80	5.02	2.27	1.15	<b>43.55</b>
Melbourne	13.41	1.42	10.95	2.93	3.36	0.00	0.79	5.09	2.18	1.10	<b>41.24</b>
Adelaide	11.79	1.42	10.84	3.02	3.36	0.00	0.75	5.16	2.26	1.24	<b>39.83</b>
Perth	11.84	1.06	11.41	2.79	3.28	0.00	0.80	5.02	2.22	1.41	<b>39.83</b>
17a. C(FN)+g6b14 Pur 06 3h LC											
Brisbane	24.68	0.97	10.92	2.84	3.40	0.00	0.83	7.38	2.13	1.17	<b>54.32</b>
Sydney	32.86	1.15	11.51	3.04	3.38	0.00	0.80	7.53	2.27	1.15	<b>63.70</b>
Melbourne	25.64	1.42	10.95	2.93	3.36	0.00	0.79	7.64	2.18	1.10	<b>56.01</b>
Adelaide	21.18	1.42	10.84	3.02	3.36	0.00	0.75	7.75	2.26	1.24	<b>51.81</b>
Perth	33.92	1.06	11.41	2.79	3.28	0.00	0.80	7.53	2.22	1.41	<b>64.42</b>
18a. C(FN)+g6b14 Pri 4h MBA											
Brisbane	17.71	1.18	14.00	3.32	5.74	0.00	1.15	6.08	4.81	2.63	<b>56.63</b>
Sydney	21.21	1.40	14.62	3.56	5.68	0.00	1.11	6.18	5.13	2.59	<b>61.47</b>
Melbourne	20.26	1.72	14.03	3.43	5.65	0.00	1.10	6.28	4.92	2.49	<b>59.88</b>
Adelaide	17.06	1.72	13.85	3.53	5.66	0.00	1.04	6.36	5.10	2.78	<b>57.10</b>
Perth	14.20	1.28	14.50	3.27	5.58	0.00	1.12	6.17	5.01	3.17	<b>54.31</b>
18b. C(FF)+g6b14 Pri 4h MBA											
Brisbane	17.71	1.18	14.06	3.63	4.40	3.90	1.15	6.04	4.11	2.91	<b>59.09</b>
Sydney	21.21	1.40	14.66	3.89	4.38	3.79	1.11	6.17	4.39	2.86	<b>63.86</b>
Melbourne	20.26	1.72	14.08	3.75	4.35	4.59	1.10	6.26	4.21	2.74	<b>63.06</b>
Adelaide	17.06	1.72	13.90	3.86	4.35	3.83	1.04	6.35	4.36	3.07	<b>59.53</b>
Perth	14.20	1.28	14.55	3.57	4.24	3.93	1.12	6.17	4.29	3.50	<b>56.85</b>
19a. C(FN)+g6b14 Pur 06 4h MBA											
Brisbane	41.76	1.18	14.00	3.32	5.74	0.00	1.15	6.08	4.82	2.63	<b>80.69</b>
Sydney	67.06	1.40	14.62	3.56	5.68	0.00	1.11	6.18	5.14	2.59	<b>107.33</b>
Melbourne	46.45	1.72	14.03	3.43	5.65	0.00	1.10	6.28	4.93	2.49	<b>86.08</b>
Adelaide	40.02	1.72	13.85	3.53	5.66	0.00	1.04	6.36	5.11	2.78	<b>80.07</b>
Perth	44.80	1.28	14.50	3.27	5.58	0.00	1.12	6.17	5.02	3.17	<b>84.92</b>

**Table A.4: Budget Standards for Couples with Two Children – September Quarter 2006 - \$'000/year (cont.)**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Total	
					HGS	Childcare	Health	Transport	Leisure		Personal
19b. C(FF)+g6b14 Pur 06 4h MBA											
Brisbane	41.76	1.18	14.06	3.63	5.74	3.90	1.15	6.04	4.15	2.91	<b>84.51</b>
Sydney	67.06	1.40	14.66	3.89	5.68	3.79	1.11	6.17	4.43	2.86	<b>111.06</b>
Melbourne	46.45	1.72	14.08	3.75	5.65	4.59	1.10	6.26	4.25	2.74	<b>90.59</b>
Adelaide	40.02	1.72	13.90	3.86	5.66	3.83	1.04	6.35	4.40	3.07	<b>83.84</b>
Perth	44.80	1.28	14.55	3.57	5.58	3.93	1.12	6.17	4.32	3.50	<b>88.83</b>
20a. C(FN)+g6b14 Pur 06 4h Lux											
Brisbane	61.02	1.51	18.58	5.12	8.57	0.00	2.22	7.89	8.84	4.64	<b>118.39</b>
Sydney	93.98	1.79	19.39	5.49	8.48	0.00	2.13	8.01	9.43	4.56	<b>153.28</b>
Melbourne	57.45	2.21	18.62	5.29	8.44	0.00	2.11	8.14	9.05	4.39	<b>115.70</b>
Adelaide	49.23	2.21	18.37	5.45	8.45	0.00	2.01	8.25	9.37	4.91	<b>108.23</b>
Perth	70.92	1.64	19.24	5.05	8.33	0.00	2.16	8.01	9.21	5.59	<b>130.14</b>
20b. C(FF)+g6b14 Pur 06 4h Lux											
Brisbane	61.02	1.51	18.65	5.60	8.57	3.90	2.22	7.84	7.62	5.13	<b>122.05</b>
Sydney	93.98	1.79	19.46	6.00	8.48	3.79	2.13	8.01	8.13	5.04	<b>156.81</b>
Melbourne	57.45	2.21	18.68	5.78	8.44	4.59	2.11	8.12	7.79	4.83	<b>120.02</b>
Adelaide	49.23	2.21	18.44	5.95	8.45	3.83	2.01	8.24	8.07	5.41	<b>111.83</b>
Perth	70.92	1.64	19.30	5.51	8.33	3.93	2.16	8.01	7.94	6.18	<b>133.90</b>

**Table A.5: Budget Standards for Sole Parent with Two Children Households – September Quarter 2006 - \$'000/year**

Household Type	Housing	Energy	Food	Clothing	Commodity Group					Personal	Total
					HGS	Childcare	Health	Transport	Leisure		
<i>Single Adult Households</i>											
21. S(F)+g6b10 Pri 3h LC											
Brisbane	13.73	0.58	6.97	2.04	2.86	8.38	0.52	3.96	1.73	0.67	41.44
Sydney	15.22	0.69	7.31	2.19	2.85	8.15	0.51	4.07	1.84	0.66	43.50
Melbourne	13.41	0.85	7.01	2.11	2.83	9.87	0.50	4.13	1.77	0.63	43.10
Adelaide	11.79	0.85	6.92	2.17	2.83	8.24	0.47	4.19	1.83	0.71	39.99
Perth	11.84	0.63	7.25	2.01	2.76	8.45	0.51	4.07	1.80	0.81	40.12
22a. S(F)+g6b10 Pur 06 3h LC											
Brisbane	24.68	0.58	6.97	2.04	2.86	8.38	0.52	5.94	1.73	0.67	54.38
Sydney	32.86	0.69	7.31	2.19	2.85	8.15	0.51	6.11	1.84	0.66	63.17
Melbourne	25.64	0.85	7.01	2.11	2.83	9.87	0.50	6.19	1.77	0.63	57.39
Adelaide	21.18	0.85	6.92	2.17	2.83	8.24	0.47	6.28	1.83	0.71	51.48
Perth	33.92	0.63	7.25	2.01	2.76	8.45	0.51	6.11	1.80	0.81	64.24
23. S(F)+g6b10 Pri 4h MBA											
Brisbane	17.71	0.98	8.90	2.64	3.77	8.38	0.69	5.39	2.96	1.98	53.39
Sydney	21.21	1.16	9.27	2.82	3.75	8.15	0.67	5.49	3.15	2.53	58.21
Melbourne	20.26	1.43	8.94	2.72	3.72	9.87	0.66	5.57	3.02	2.43	58.63
Adelaide	17.06	1.43	8.81	2.80	3.72	8.24	0.63	5.65	3.13	0.78	52.24
Perth	14.20	1.06	9.19	2.60	3.63	8.45	0.67	5.49	3.08	0.90	49.27
24a. S(F)+g6b10 Pur 06 4h MBA											
Brisbane	41.76	0.98	8.90	2.64	3.77	8.38	0.69	5.39	2.96	1.98	77.44
Sydney	67.06	1.16	9.27	2.82	3.75	8.15	0.67	5.49	3.15	2.53	104.06
Melbourne	46.45	1.43	8.94	2.72	3.72	9.87	0.66	5.57	3.02	2.43	84.82
Adelaide	40.02	1.43	8.81	2.80	3.72	8.24	0.63	5.65	3.13	0.78	75.20
Perth	44.80	1.06	9.19	2.60	3.63	8.45	0.67	5.49	3.08	0.90	79.87
23. S(F)+g6b10 Pur 06 4h Lux											
Brisbane	61.02	1.25	11.81	4.07	5.63	8.38	1.33	6.99	5.43	3.49	109.40
Sydney	93.98	1.48	12.30	4.36	5.59	8.15	1.28	7.12	5.79	4.47	144.53
Melbourne	57.45	1.83	11.87	4.20	5.55	9.87	1.27	7.23	5.55	4.29	109.11
Adelaide	49.23	1.83	11.69	4.32	5.55	8.24	1.20	7.33	5.75	1.38	96.52
Perth	70.92	1.36	12.20	4.00	5.42	8.45	1.30	7.12	5.65	1.58	118.00

## 8.2. Equivalent Expenditure Equations from Multiple Linear Regression

**Table A.6: Regression Model – Brisbane-Sydney Equivalent Expenditure – Single Adult Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing R = 0; P = 1	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Sydney</i>						
1. S(F) Pri 2u LC	24.93	23.98	3.18	0	26.04	1.11
2a. S(F) Pur 06 2u LC	42.72	31.15	3.44	1	41.49	-1.23
3. S(F) Pri 2u MBA	31.47	29.17	3.37	0	30.35	-1.11
4a. S(F) Pur 06 2u MBA	50.10	42.46	3.75	1	51.87	1.76
5a. S(F) Pur 06 2u Lux	67.58	57.98	4.06	1	67.06	-0.53
Regression Coefficients	25.18	1.15	-8.39	9.41	s.d.	1.3572

**Table A.7: Regression Model – Brisbane-Melbourne Equivalent Expenditure – Single Adult Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing R = 0; P = 1	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Melbourne</i>						
1. S(F) Pri 2u LC	23.33	23.98	3.18	0	23.39	0.06
2a. S(F) Pur 06 2u LC	33.78	31.15	3.44	1	33.71	-0.07
3. S(F) Pri 2u MBA	28.85	29.17	3.37	0	28.79	-0.06
4a. S(F) Pur 06 2u MBA	44.39	42.46	3.75	1	44.49	0.10
5a. S(F) Pur 06 2u Lux	58.38	57.98	4.06	1	58.35	-0.03
Regression Coefficients	-20.24	0.73	8.24	2.94	s.d.	0.0750

**Table A.8: Regression Model – Brisbane-Adelaide Equivalent Expenditure – Single Adult Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing R = 0; P = 1	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Adelaide</i>						
1. S(F) Pri 2u LC	21.34	23.98	3.18	0	21.87	0.54
2a. S(F) Pur 06 2u LC	30.56	31.15	3.44	1	29.97	-0.60
3. S(F) Pri 2u MBA	26.72	29.17	3.37	0	26.18	-0.54
4a. S(F) Pur 06 2u MBA	37.53	42.46	3.75	1	38.38	0.85
5a. S(F) Pur 06 2u Lux	49.24	57.98	4.06	1	48.99	-0.25
Regression Coefficients	-16.74	0.52	8.24	2.22	s.d.	0.6558

**Table A.9: Regression Model – Brisbane-Perth Equivalent Expenditure – Single Adult Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing R = 0; P = 1	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Perth</i>						
1. S(F) Pri 2u LC	22.70	23.98	3.18	0	23.32	0.62
2a. S(F) Pur 06 2u LC	38.67	31.15	3.44	1	37.99	-0.68
3. S(F) Pri 2u MBA	28.42	29.17	3.37	0	27.80	-0.62
4a. S(F) Pur 06 2u MBA	46.39	42.46	3.75	1	47.36	0.98
5a. S(F) Pur 06 2u Lux	60.15	57.98	4.06	1	59.86	-0.29
Regression Coefficients	-4.76	0.74	3.25	8.51	s.d.	0.7530

**Table A.10: Regression Model – Brisbane-Sydney Equivalent Expenditure – Couple Only Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing R = 0; P = 1	Female Employ 1 = yes	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Sydney</i>							
6. C(FN) Pri 2u LC	30.20	29.07	3.37	0	0	30.30	0.10
7a. C(FN) Pur 06 2u LC	48.16	36.42	3.60	1	0	48.07	-0.09
8a. C(FN) Pri 2u MBA	39.52	37.01	3.61	0	0	39.49	-0.03
8b. C(FF) Pri 2u MBA	39.89	37.33	3.62	0	1	39.82	-0.07
9a. C(FN) Pur 06 2h MBA	75.66	57.69	4.06	1	0	75.75	0.08
9b. C(FF) Pur 06 2h MBA	76.04	58.00	4.06	1	1	76.12	0.09
10a. C(FN) Pur 06 2h Lux	97.00	72.77	4.29	1	0	96.93	-0.06
10b. C(FF) Pur 06 2h Lux	97.47	73.18	4.29	1	1	97.46	-0.01
Regression Coefficients	37.75	1.66	-16.52	9.29	-0.06	s.d.	0.0794

**Table A.11: Regression Model – Brisbane-Melbourne Equivalent Expenditure – Couple only Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing R = 0; P = 1	Female Employ 1 = yes	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Melbourne</i>							
6. C(FN) Pri 2u LC	28.41	29.07	3.37	0	0	29.83	1.42
7a. C(FN) Pur 06 2u LC	39.03	36.42	3.60	1	0	37.75	-1.29
8a. C(FN) Pri 2u MBA	36.59	37.01	3.61	0	0	35.90	-0.69
8b. C(FF) Pri 2u MBA	36.94	37.33	3.62	0	1	36.22	-0.72
9a. C(FN) Pur 06 2h MBA	58.05	57.69	4.06	1	0	59.20	1.15
9b. C(FF) Pur 06 2h MBA	58.40	58.00	4.06	1	1	59.61	1.21
10a. C(FN) Pur 06 2h Lux	77.62	72.77	4.29	1	0	77.04	-0.58
10b. C(FF) Pur 06 2h Lux	78.07	73.18	4.29	1	1	77.59	-0.48
Regression Coefficients	76.77	1.61	-27.83	2.35	0.05	s.d.	1.0700

**Table A.12: Regression Model – Brisbane-Adelaide Equivalent Expenditure – Couple only Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Female Employ $1 = \text{yes}$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Adelaide</i>							
6. C(FN) Pri 2u LC	26.45	29.07	3.37	0	0	27.11	0.66
7a. C(FN) Pur 06 2u LC	35.85	36.42	3.60	1	0	35.26	-0.60
8a. C(FN) Pri 2u MBA	34.55	37.01	3.61	0	0	34.21	-0.33
8b. C(FF) Pri 2u MBA	34.91	37.33	3.62	0	1	34.59	-0.32
9a. C(FN) Pur 06 2h MBA	54.65	57.69	4.06	1	0	55.18	0.53
9b. C(FF) Pur 06 2h MBA	55.02	58.00	4.06	1	1	55.58	0.56
10a. C(FN) Pur 06 2h Lux	70.03	72.77	4.29	1	0	69.78	-0.26
10b. C(FF) Pur 06 2h Lux	70.50	73.18	4.29	1	1	70.26	-0.24
Regression Coefficients	13.24	1.04	-4.88	1.58	0.09	s.d.	0.4959

**Table A.13: Regression Model – Brisbane-Perth Equivalent Expenditure – Couple only Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Female Employ $1 = \text{yes}$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Perth</i>							
6. C(FN) Pri 2u LC	27.98	29.07	3.37	0	0	30.98	3.00
7a. C(FN) Pur 06 2u LC	44.12	36.42	3.60	1	0	41.39	-2.73
8a. C(FN) Pri 2u MBA	36.52	37.01	3.61	0	0	35.07	-1.45
8b. C(FF) Pri 2u MBA	36.87	37.33	3.62	0	1	35.31	-1.55
9a. C(FN) Pur 06 2h MBA	63.18	57.69	4.06	1	0	65.62	2.44
9b. C(FF) Pur 06 2h MBA	63.53	58.00	4.06	1	1	66.08	2.55
10a. C(FN) Pur 06 2h Lux	90.74	72.77	4.29	1	0	89.48	-1.26
10b. C(FF) Pur 06 2h Lux	91.18	73.18	4.29	1	1	90.18	-1.00
Regression Coefficients	192.69	2.68	-71.08	6.76	0.00	s.d.	2.2679

**Table A.14: Regression Model – Brisbane-Sydney Equivalent Expenditure – Couple + 1 Child Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Female Employ $1 = \text{yes}$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Sydney</i>							
11. C(FN)+g6 Pri 3u LC	37.38	35.28	3.56	0	0	35.60	-1.79
12a. C(FN)+g6 Pur 06 3u LC	54.90	44.97	3.81	1	0	56.78	1.88
13a. C(FN)+g6 Pri 3h MBA	48.34	44.29	3.79	0	0	49.10	0.76
13b. C(FF)+g6 Pri 3h MBA	52.07	48.13	3.87	0	1	53.10	1.02
14a. C(FN)+g6 Pur 06 3h MBA	89.40	66.72	4.20	1	0	87.98	-1.42
14b. C(FF)+g6 Pur 06 3h MBA	93.12	70.54	4.26	1	1	91.71	-1.41
15a. C(FN)+g6 Pur 06 3h Lux	123.59	92.84	4.53	1	0	124.15	0.56
15b. C(FF)+g6 Pur 06 3h Lux	127.12	96.49	4.57	1	1	127.51	0.39
Regression Coefficients	-41.59	1.27	9.09	6.68	-1.63	s.d.	1.3544

**Table A.15: Regression Model – Brisbane-Melbourne Equivalent Expenditure – Couple + 1 Child Households**

<b>Case</b>	<b>Equiv. expenses</b> $E_S$ (\$'000/yr)	<b>Brisbane expenses</b> $E_B$ (\$'000/yr)	<b>Log Bris exp</b> $\ln(E_B)$	<b>Housing</b> $R = 0;$ $P = 1$	<b>Female Employ</b> $1 = \text{yes}$	<b>Pred. Expense</b> (\$000/yr)	<b>Diff.</b> (\$000/yr)
<i>Melbourne</i>							
11. C(FN)+g6 Pri 3u LC	35.77	35.28	3.56	0	0	36.89	1.12
12a. C(FN)+g6 Pur 06 3u LC	47.69	44.97	3.81	1	0	46.47	-1.22
13a. C(FN)+g6 Pri 3h MBA	45.03	44.29	3.79	0	0	44.69	-0.34
13b. C(FF)+g6 Pri 3h MBA	49.55	48.13	3.87	0	1	48.77	-0.78
14a. C(FN)+g6 Pur 06 3h MBA	67.16	66.72	4.20	1	0	68.07	0.91
14b. C(FF)+g6 Pur 06 3h MBA	71.67	70.54	4.26	1	1	72.61	0.95
15a. C(FN)+g6 Pur 06 3h Lux	97.05	92.84	4.53	1	0	96.58	-0.47
15b. C(FF)+g6 Pur 06 3h Lux	101.37	96.49	4.57	1	1	101.21	-0.16
Regression Coefficients	54.20	1.32	-17.91	1.15	0.50	s.d.	0.8816

**Table A.16: Regression Model – Brisbane-Adelaide Equivalent Expenditure – Couple + 1 Child Households**

<b>Case</b>	<b>Equiv. expenses</b> $E_S$ (\$'000/yr)	<b>Brisbane expenses</b> $E_B$ (\$'000/yr)	<b>Log Bris exp</b> $\ln(E_B)$	<b>Housing</b> $R = 0;$ $P = 1$	<b>Female Employ</b> $1 = \text{yes}$	<b>Pred. Expense</b> (\$000/yr)	<b>Diff.</b> (\$000/yr)
<i>Adelaide</i>							
11. C(FN)+g6 Pri 3u LC	33.30	35.28	3.56	0	0	34.03	0.73
12a. C(FN)+g6 Pur 06 3u LC	44.81	44.97	3.81	1	0	44.09	-0.72
13a. C(FN)+g6 Pri 3h MBA	43.51	44.29	3.79	0	0	43.03	-0.47
13b. C(FF)+g6 Pri 3h MBA	47.29	48.13	3.87	0	1	47.04	-0.26
14a. C(FN)+g6 Pur 06 3h MBA	63.77	66.72	4.20	1	0	64.33	0.56
14b. C(FF)+g6 Pur 06 3h MBA	67.55	70.54	4.26	1	1	68.06	0.51
15a. C(FN)+g6 Pur 06 3h Lux	87.36	92.84	4.53	1	0	87.26	-0.09
15b. C(FF)+g6 Pur 06 3h Lux	90.95	96.49	4.57	1	1	90.70	-0.25
Regression Coefficients	-27.04	0.76	9.66	0.39	0.30	s.d.	0.5317

**Table A.17: Regression Model – Brisbane-Perth Equivalent Expenditure – Couple + 1 Child Households**

<b>Case</b>	<b>Equiv. expenses</b> $E_S$ (\$'000/yr)	<b>Brisbane expenses</b> $E_B$ (\$'000/yr)	<b>Log Bris exp</b> $\ln(E_B)$	<b>Housing</b> $R = 0;$ $P = 1$	<b>Female Employ</b> $1 = \text{yes}$	<b>Pred. Expense</b> (\$000/yr)	<b>Diff.</b> (\$000/yr)
<i>Perth</i>							
11. C(FN)+g6 Pri 3u LC	32.97	35.28	3.56	0	0	33.99	1.02
12a. C(FN)+g6 Pur 06 3u LC	46.98	44.97	3.81	1	0	45.79	-1.19
13a. C(FN)+g6 Pri 3h MBA	43.60	44.29	3.79	0	0	43.56	-0.04
13b. C(FF)+g6 Pri 3h MBA	47.52	48.13	3.87	0	1	46.55	-0.97
14a. C(FN)+g6 Pur 06 3h MBA	74.17	66.72	4.20	1	0	75.01	0.84
14b. C(FF)+g6 Pur 06 3h MBA	78.08	70.54	4.26	1	1	79.07	0.98
15a. C(FN)+g6 Pur 06 3h Lux	116.42	92.84	4.53	1	0	115.80	-0.63
15b. C(FF)+g6 Pur 06 3h Lux	120.18	96.49	4.57	1	1	120.17	-0.01
Regression Coefficients	102.44	2.06	-39.63	1.44	-1.63	s.d.	0.8820

**Table A.18: Regression Model – Brisbane-Sydney Equivalent Expenditure – Couple + 2 Children Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Female Employ $1 = \text{yes}$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Sydney</i>							
16. C(FN)+g6b14 Pri 3h LC	43.55	40.90	3.71	0	0	40.34	-3.21
17a. C(FN)+g6b14 Pur 06 3h LC	63.70	54.32	3.99	1	0	67.88	4.18
18a. C(FN)+g6b14 Pri 4h MBA	61.47	56.63	4.04	0	0	62.99	1.53
18b. C(FF)+g6b14 Pri 4h MBA	63.86	59.09	4.08	0	1	65.54	1.68
19a. C(FN)+g6b14 Pur 06 4h MBA	107.33	80.69	4.39	1	0	104.16	-3.17
19b. C(FF)+g6b14 Pur 06 4h MBA	111.06	84.51	4.44	1	1	108.39	-2.66
20a. C(FN)+g6b14 Pur 06 4h Lux	153.28	118.39	4.77	1	0	153.95	0.67
20b. C(FF)+g6b14 Pur 06 4h Lux	156.81	122.05	4.80	1	1	157.80	0.98
Regression Coefficients	-51.25	1.20	11.40	8.15	-0.90	s.d.	2.7136

**Table A.19: Regression Model – Brisbane-Melbourne Equivalent Expenditure – Couple + 2 Children Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Female Employ $1 = \text{yes}$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Melbourne</i>							
16. C(FN)+g6b14 Pri 3h LC	41.24	40.90	3.71	0	0	40.06	-1.18
17a. C(FN)+g6b14 Pur 06 3h LC	56.01	54.32	3.99	1	0	57.60	1.59
18a. C(FN)+g6b14 Pri 4h MBA	59.88	56.63	4.04	0	0	60.10	0.22
18b. C(FF)+g6b14 Pri 4h MBA	63.06	59.09	4.08	0	1	64.02	0.96
19a. C(FN)+g6b14 Pur 06 4h MBA	86.08	80.69	4.39	1	0	84.90	-1.18
19b. C(FF)+g6b14 Pur 06 4h MBA	90.59	84.51	4.44	1	1	89.52	-1.07
20a. C(FN)+g6b14 Pur 06 4h Lux	115.70	118.39	4.77	1	0	116.24	0.55
20b. C(FF)+g6b14 Pur 06 4h Lux	120.02	122.05	4.80	1	1	120.13	0.11
Regression Coefficients	-132.76	0.40	42.12	0.18	1.13	s.d.	1.0504

**Table A.20: Regression Model – Brisbane-Adelaide Equivalent Expenditure – Couple + 2 Children Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Female Employ $1 = \text{yes}$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Adelaide</i>							
16. C(FN)+g6b14 Pri 3h LC	39.83	40.90	3.71	0	0	38.70	-1.13
17a. C(FN)+g6b14 Pur 06 3h LC	51.81	54.32	3.99	1	0	53.34	1.53
18a. C(FN)+g6b14 Pri 4h MBA	57.10	56.63	4.04	0	0	57.30	0.21
18b. C(FF)+g6b14 Pri 4h MBA	59.53	59.09	4.08	0	1	60.46	0.93
19a. C(FN)+g6b14 Pur 06 4h MBA	80.07	80.69	4.39	1	0	78.95	-1.12
19b. C(FF)+g6b14 Pur 06 4h MBA	83.84	84.51	4.44	1	1	82.80	-1.04
20a. C(FN)+g6b14 Pur 06 4h Lux	108.23	118.39	4.77	1	0	108.75	0.52
20b. C(FF)+g6b14 Pur 06 4h Lux	111.83	122.05	4.80	1	1	111.94	0.11
Regression Coefficients	-116.68	0.41	37.34	-1.46	0.56	s.d.	1.0097

**Table A.21: Regression Model – Brisbane-Perth Equivalent Expenditure – Couple + 2 Children Households**

Case	Equiv. expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log Bris exp $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Female Employ $1 = \text{yes}$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Perth</i>							
16. C(FN)+g6b14 Pri 3h LC	39.83	40.90	3.71	0	0	41.86	2.03
17a. C(FN)+g6b14 Pur 06 3h LC	64.42	54.32	3.99	1	0	61.73	-2.69
18a. C(FN)+g6b14 Pri 4h MBA	54.31	56.63	4.04	0	0	53.66	-0.65
18b. C(FF)+g6b14 Pri 4h MBA	56.85	59.09	4.08	0	1	55.47	-1.38
19a. C(FN)+g6b14 Pur 06 4h MBA	84.92	80.69	4.39	1	0	86.91	1.99
19b. C(FF)+g6b14 Pur 06 4h MBA	88.83	84.51	4.44	1	1	90.62	1.79
20a. C(FN)+g6b14 Pur 06 4h Lux	130.14	118.39	4.77	1	0	129.46	-0.68
20b. C(FF)+g6b14 Pur 06 4h Lux	133.90	122.05	4.80	1	1	133.49	-0.41
Regression Coefficients	114.19	1.49	-35.96	10.02	-0.34	s.d.	1.7512

**Table A.22: Regression Model – Brisbane-Sydney Equivalent Expenditure – Sole Parent with Two Children Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Sydney</i>						
21. S(F)+g6b10 Pri 3h LC	43.50	41.44	3.72	0	41.28	-2.22
22a. S(F)+g6b10 Pur 06 3h LC	63.17	54.38	4.00	1	65.81	2.64
23. S(F)+g6b10 Pri 4h MBA	58.21	53.39	3.98	0	60.42	2.22
24a. S(F)+g6b10 Pur 06 4h MBA	104.06	77.44	4.35	1	100.34	-3.72
25a. S(F)+g6b10 Pur 06 4h Lux	144.53	109.40	4.69	1	145.61	1.08
Regression Coefficients	-75.78	1.22	17.81	3.86	s.d.	2.8187

**Table A.23: Regression Model – Brisbane-Melbourne Equivalent Expenditure – Sole Parent with Two Children Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing $R = 0;$ $P = 1$	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Melbourne</i>						
21. S(F)+g6b10 Pri 3h LC	43.10	41.44	3.72	0	42.28	-0.83
22a. S(F)+g6b10 Pur 06 3h LC	57.39	54.38	4.00	1	58.37	0.98
23. S(F)+g6b10 Pri 4h MBA	58.63	53.39	3.98	0	59.46	0.83
24a. S(F)+g6b10 Pur 06 4h MBA	84.82	77.44	4.35	1	83.43	-1.39
25a. S(F)+g6b10 Pur 06 4h Lux	109.11	109.40	4.69	1	109.51	0.40
Regression Coefficients	-187.49	0.17	59.81	-2.34	s.d.	1.0509

**Table A.24: Regression Model – Brisbane-Adelaide Equivalent Expenditure – Sole Parent with Two Children Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing R = 0; P = 1	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Adelaide</i>						
21. S(F)+g6b10 Pri 3h LC	39.99	41.44	3.72	0	39.12	-0.87
22a. S(F)+g6b10 Pur 06 3h LC	51.48	54.38	4.00	1	52.52	1.04
23. S(F)+g6b10 Pri 4h MBA	52.24	53.39	3.98	0	53.12	0.87
24a. S(F)+g6b10 Pur 06 4h MBA	75.20	77.44	4.35	1	73.74	-1.46
25a. S(F)+g6b10 Pur 06 4h Lux	96.52	109.40	4.69	1	96.95	0.42
Regression Coefficients	-131.41	0.26	42.86	-1.64	s.d.	1.1105

**Table A.25: Regression Model – Brisbane-Perth Equivalent Expenditure – Sole Parent with Two Children Households**

Case	Equivalent expenses $E_S$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Log (Bris exp) $\ln(E_B)$	Housing R = 0; P = 1	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Perth</i>						
21. S(F)+g6b10 Pri 3h LC	40.12	41.44	3.72	0	41.52	1.40
22a. S(F)+g6b10 Pur 06 3h LC	64.24	54.38	4.00	1	62.57	-1.67
23. S(F)+g6b10 Pri 4h MBA	49.27	53.39	3.98	0	47.87	-1.40
24a. S(F)+g6b10 Pur 06 4h MBA	79.87	77.44	4.35	1	82.21	2.35
25a. S(F)+g6b10 Pur 06 4h Lux	118.00	109.40	4.69	1	117.32	-0.68
Regression Coefficients	175.00	1.69	-54.63	14.04	s.d.	1.7795

As indicated in the Tables 7 and 10, straight linear regression is used instead of including a logarithm component as the latter provided distortions in the results. The following regressions were use in these cases.

**Table A.26: Linear Regression Model – Brisbane-Melbourne Equivalent Expenditure – Couple No Child Households**

Case	Equivalent expenses $E_A$ (\$'000/yr)	Brisbane expenses $E_B$ (\$'000/yr)	Housing R = 0; P = 1	Female Employed 1 = yes	Pred. Expense (\$000/yr)	Diff. (\$000/yr)
<i>Melbourne</i>						
6. C(FN) Pri 2u LC	28.41	29.07	0	0	28.32	-0.08
7a. C(FN) Pur 06 2u LC	39.03	36.42	1	0	37.36	-1.68
8a. C(FN) Pri 2u MBA	36.59	37.01	0	0	36.93	0.34
8b. C(FF) Pri 2u MBA	36.94	37.33	0	1	36.69	-0.25
9a. C(FN) Pur 06 2h MBA	58.05	57.69	1	0	60.38	2.33
9b. C(FF) Pur 06 2h MBA	58.40	58.00	1	1	60.15	1.74
10a. C(FN) Pur 06 2h Lux	77.62	72.77	1	0	76.72	-0.91
10b. C(FF) Pur 06 2h Lux	78.07	73.18	1	1	76.58	-1.49
Regression Coefficients	-3.15	1.08	1.07	-0.58	s.d.	1.4391

**Table A.27: Linear Regression Model – Brisbane-Perth Equivalent Expenditure – Couple No Child Households**

<b>Case</b>	<b>Equivalent expenses</b>	<b>Brisbane expenses</b>	<b>Housing</b>	<b>Female Employed</b>	<b>Pred. Expense</b>	<b>Diff.</b>
<i>Perth</i>	<b>E<sub>A</sub></b> (\$'000/yr)	<b>E<sub>B</sub></b> (\$'000/yr)	R = 0; P = 1	1 = yes	(\$000/yr)	(\$000/yr)
6. C(FN) Pri 2u LC	27.98	29.07	0	0	27.15	-0.83
7a. C(FN) Pur 06 2u LC	44.12	36.42	1	0	40.41	-3.72
8a. C(FN) Pri 2u MBA	36.52	37.01	0	0	37.70	1.18
8b. C(FF) Pri 2u MBA	36.87	37.33	0	1	36.52	-0.35
9a. C(FN) Pur 06 2h MBA	63.18	57.69	1	0	68.63	5.45
9b. C(FF) Pur 06 2h MBA	63.53	58.00	1	1	67.45	3.93
10a. C(FN) Pur 06 2h Lux	90.74	72.77	1	0	88.66	-2.08
10b. C(FF) Pur 06 2h Lux	91.18	73.18	1	1	87.60	-3.58
Regression Coefficients	-11.44	1.33	3.49	-1.60	s.d.	3.3444

**Table A.28: Linear Regression Model – Brisbane-Adelaide Equivalent Expenditure – Couple with One Child Households**

<b>Case</b>	<b>Equivalent expenses</b>	<b>Brisbane expenses</b>	<b>Housing</b>	<b>Female Employed</b>	<b>Pred. Expense</b>	<b>Diff.</b>
<i>Adelaide</i>	<b>E<sub>A</sub></b> (\$'000/yr)	<b>E<sub>B</sub></b> (\$'000/yr)	R = 0; P = 1	1 = yes	(\$000/yr)	(\$000/yr)
11. C(FN)+g6 Pri 3u LC	33.30	35.28	0	0	34.63	1.33
12a. C(FN)+g6 Pur 06 3u LC	44.81	44.97	1	0	44.34	-0.46
13a. C(FN)+g6 Pri 3h MBA	43.51	44.29	0	0	42.70	-0.80
13b. C(FF)+g6 Pri 3h MBA	47.29	48.13	0	1	46.77	-0.52
14a. C(FN)+g6 Pur 06 3h MBA	63.77	66.72	1	0	63.83	0.06
14b. C(FF)+g6 Pur 06 3h MBA	67.55	70.54	1	1	67.89	0.34
15a. C(FN)+g6 Pur 06 3h Lux	87.36	92.84	1	0	87.24	-0.12
15b. C(FF)+g6 Pur 06 3h Lux	90.95	96.49	1	1	91.14	0.19
Regression Coefficients	3.02	0.90	1.03	0.63	s.d.	0.6616

**Table A.29: Linear Regression Model – Brisbane-Perth Equivalent Expenditure – Couple with One Child Households**

<b>Case</b>	<b>Equivalent expenses</b>	<b>Brisbane expenses</b>	<b>Housing</b>	<b>Female Employed</b>	<b>Pred. Expense</b>	<b>Diff.</b>
<i>Perth</i>	<b>E<sub>A</sub></b> (\$'000/yr)	<b>E<sub>B</sub></b> (\$'000/yr)	R = 0; P = 1	1 = yes	(\$000/yr)	(\$000/yr)
11. C(FN)+g6 Pri 3u LC	32.97	35.28	0	0	31.53	-1.44
12a. C(FN)+g6 Pur 06 3u LC	46.98	44.97	1	0	44.75	-2.23
13a. C(FN)+g6 Pri 3h MBA	43.60	44.29	0	0	44.92	1.31
13b. C(FF)+g6 Pri 3h MBA	47.52	48.13	0	1	47.65	0.13
14a. C(FN)+g6 Pur 06 3h MBA	74.17	66.72	1	0	77.07	2.89
14b. C(FF)+g6 Pur 06 3h MBA	78.08	70.54	1	1	79.79	1.70
15a. C(FN)+g6 Pur 06 3h Lux	116.42	92.84	1	0	115.89	-0.53
15b. C(FF)+g6 Pur 06 3h Lux	120.18	96.49	1	1	118.35	-1.83
Regression Coefficients	-20.90	1.49	-1.17	-2.97	s.d.	1.8408

**Table A.30: Linear Regression Model – Brisbane-Sydney Equivalent Expenditure – Couple with Two Children Households**

<b>Case</b>	<b>Equivalent expenses</b> <b>E<sub>A</sub></b> (\$'000/yr)	<b>Brisbane expenses</b> <b>E<sub>B</sub></b> (\$'000/yr)	<b>Housing</b> R = 0; P = 1	<b>Female Employed</b> 1 = yes	<b>Pred. Expense</b> (\$000/yr)	<b>Diff.</b> (\$000/yr)
<i>Sydney</i>						
16. C(FN)+g6b14 Pri 3h LC	43.55	40.90	0	0	41.32	-2.24
17a. C(FN)+g6b14 Pur 06 3h LC	63.70	54.32	1	0	68.19	4.49
18a. C(FN)+g6b14 Pri 4h MBA	61.47	56.63	0	0	62.37	0.90
18b. C(FF)+g6b14 Pri 4h MBA	63.86	59.09	0	1	65.19	1.34
19a. C(FN)+g6b14 Pur 06 4h MBA	107.33	80.69	1	0	103.49	-3.84
19b. C(FF)+g6b14 Pur 06 4h MBA	111.06	84.51	1	1	108.15	-2.91
20a. C(FN)+g6b14 Pur 06 4h Lux	153.28	118.39	1	0	153.97	0.69
20b. C(FF)+g6b14 Pur 06 4h Lux	156.81	122.05	1	1	158.39	1.58
Regression Coefficients	-13.45	1.34	8.91	-0.47	s.d.	2.7765

**Table A.31: Linear Regression Model – Brisbane-Melbourne Equivalent Expenditure – Couple with Two Children Households**

<b>Case</b>	<b>Equivalent expenses</b> <b>E<sub>A</sub></b> (\$'000/yr)	<b>Brisbane expenses</b> <b>E<sub>B</sub></b> (\$'000/yr)	<b>Housing</b> R = 0; P = 1	<b>Female Employed</b> 1 = yes	<b>Pred. Expense</b> (\$000/yr)	<b>Diff.</b> (\$000/yr)
<i>Melbourne</i>						
16. C(FN)+g6b14 Pri 3h LC	41.24	40.90	0	0	43.66	2.42
17a. C(FN)+g6b14 Pur 06 3h LC	56.01	54.32	1	0	58.73	2.72
18a. C(FN)+g6b14 Pri 4h MBA	59.88	56.63	0	0	57.79	-2.09
18b. C(FF)+g6b14 Pri 4h MBA	63.06	59.09	0	1	62.74	-0.32
19a. C(FN)+g6b14 Pur 06 4h MBA	86.08	80.69	1	0	82.43	-3.65
19b. C(FF)+g6b14 Pur 06 4h MBA	90.59	84.51	1	1	88.60	-1.98
20a. C(FN)+g6b14 Pur 06 4h Lux	115.70	118.39	1	0	116.30	0.60
20b. C(FF)+g6b14 Pur 06 4h Lux	120.02	122.05	1	1	122.33	2.31
Regression Coefficients	6.91	0.90	3.02	2.74	s.d.	2.4118

**Table A.32: Linear Regression Model – Brisbane-Perth Equivalent Expenditure – Couple with Two Children Households**

<b>Case</b>	<b>Equivalent expenses</b> <b>E<sub>A</sub></b> (\$'000/yr)	<b>Brisbane expenses</b> <b>E<sub>B</sub></b> (\$'000/yr)	<b>Housing</b> R = 0; P = 1	<b>Female Employed</b> 1 = yes	<b>Pred. Expense</b> (\$000/yr)	<b>Diff.</b> (\$000/yr)
<i>Perth</i>						
16. C(FN)+g6b14 Pri 3h LC	39.83	40.90	0	0	38.79	-1.04
17a. C(FN)+g6b14 Pur 06 3h LC	64.42	54.32	1	0	60.76	-3.66
18a. C(FN)+g6b14 Pri 4h MBA	54.31	56.63	0	0	55.64	1.33
18b. C(FF)+g6b14 Pri 4h MBA	56.85	59.09	0	1	56.56	-0.29
19a. C(FN)+g6b14 Pur 06 4h MBA	84.92	80.69	1	0	89.02	4.10
19b. C(FF)+g6b14 Pur 06 4h MBA	88.83	84.51	1	1	91.40	2.58
20a. C(FN)+g6b14 Pur 06 4h Lux	130.14	118.39	1	0	129.41	-0.73
20b. C(FF)+g6b14 Pur 06 4h Lux	133.90	122.05	1	1	131.62	-2.29
Regression Coefficients	-5.04	1.07	7.60	-1.71	s.d.	2.5499

### 8.3. Tax and Benefit Details

**Table A.33: Taxation and Social Security Policy Parameters Used – Effective September 2006**

<b>Parameter</b>	<b>Per week</b>	<b>Per year</b>
<b><i>Income Taxation</i></b>		
Tax-free Threshold	\$115.38	\$6,000
Income Tax – First Rate	15.0%	
Income Tax – Second step	\$480.77	\$25,000
Income Tax – Second Rate	30.0%	
Income Tax – Third step	\$1,442.31	\$75,000
Income Tax – Third Rate	40.0%	
Income Tax – Fourth step	\$2,884.62	\$150,000
Income Tax – Fourth Rate	45.0%	
<b><i>Medicare Levy and Surcharge</i></b>		
Medicare Levy Threshold Single	\$313.15	\$16,284.00
Medicare Levy Threshold Family	\$610.17	\$31,729.00
Medicare Levy Child Disregard	\$48.52	\$2,523.00
Medicare Levy Shade In Rate	20.0%	
Medicare Levy General	1.5%	
Medicare Levy High Income Increase	1.0%	
Medicare High – Single Threshold	\$961.54	\$50,000
Medicare High – Couple Threshold	\$1,923.08	\$100,000
Medicare High – Child Increase	\$28.85	\$1,500
<b><i>Low Income Tax Offset</i></b>		
Maximum Amount	\$11.54	\$600.00
Income Threshold	\$480.77	\$25,000.00
Taper	4.0%	
<b><i>Dependent Spouse Tax Offset</i></b>		
Maximum Amount	\$30.96	\$1,610.00
Threshold	\$5.42	\$282.00
Taper	25.00%	
<b><i>Family Tax Benefits</i></b>		
Part A – Maximum Rate – Under 13 years	\$83.04	\$4,317.95
Part A – Maximum Rate – 13 to 15 years	\$102.55	\$5,332.65
Part A – Maximum Rate – 16 to 17 years	\$35.17	\$1,828.65
Part A – Minimum Rate	\$35.17	\$1,828.65
Part A – Threshold 1	\$769.23	\$40,000.00
Part A – Threshold 2	\$1,704.27	\$88,622.00
Part A – Child Disregard	\$67.38	\$3,504.00
Part A – Taper Rate 1	20.00%	
Part A – Taper Rate 2	30.00%	
Part B – Maximum Rate – Under 5 years	\$66.68	\$3,467.50
Part B – Maximum Rate – Over 5 years	\$48.29	\$2,511.20
Part B – Partner Threshold	\$81.42	\$4,234.00
Part B – Taper Rate	20.00%	

**Table A.33: Taxation and Social Security Policy Parameters Used –  
Effective September 2005 (cont.)**

<b>Parameter</b>	<b>Per week</b>	<b>Per year</b>
<b><i>Child Care Benefit</i></b>		
Minimum Rate (per hour)	\$0.497	
Maximum Rate (per hour)	\$2.96	
Threshold 1	\$659.81	\$34,310.00
Threshold 2	\$1,891.31	\$98,348.00
Child Disregard 1	\$159.25	\$8,281.00
Child Disregard 2	\$278.87	\$14,501.00
Child Disregard 3	\$388.87	\$20,221.00
<b><i>Child Care Tax Rebate</i></b>		
Maximum (per child)	\$76.92	\$4,000.00
Rate	30.0%	
<b><i>Parenting Payment (Partnered) &amp; Newstart Allowance</i></b>		
Allowance – Maximum Rate – Single	\$227.65	
Allowance – Maximum Rate – Couple	\$189.90	
Allowance – Threshold 1	\$31.00	
Allowance – Taper Rate 1	50%	
Allowance – Threshold 2	\$125.00	
Allowance – Taper Rate 2	60%	
Allowance – Spouse Taper Rate	60%	
<b><i>Parenting Payment (Single)</i></b>		
Pension – Maximum Rate – Single	\$256.05	
Pension – Threshold 1	\$64.00	
Pension – Threshold Child Disregard	\$12.30	
Pension – Taper Rate 1	40.00%	
<b><i>Rent Assistance</i></b>		
Rent Threshold – Single No Children	\$45.90	
Rent Threshold – Single With Children	\$60.41	
Rent Threshold – Couple No Children	\$74.70	
Rent Threshold – Couple With Children	\$89.39	
Taper Rate	75.0%	
Maximum Rate – Families 1 to 2 Children	\$60.62	
Maximum Rate – Families 3 or more Children	\$68.53	
Maximum Rate – Couple No Children	\$48.70	
Maximum Rate – Single No Children	\$51.60	

## 9. Abridged Curriculum Vitae for Dr Paul Henman

*Dr Paul Henman* has conducted social policy related research for over a decade. He is published widely in academic, governmental, professional and popular outlets, and his work has received widespread media attention. Paul has conducted and published a wide range of original research using the budget standards methodology, including estimating the costs of raising children and the costs of contact of non-resident parents. He is the only person to have produced budget standards for different Australian capital cities. Paul has been contracted by a range of government and private agencies to use a budget standards methodology to analyse various public policy and social issues. In 2004-05, Paul served on the Federal Ministerial Taskforce to evaluate Child Support policy. In 2005, Paul worked with the Queensland Department of Housing to develop and deploy alternative benchmarks for housing affordability. Since 2001, Paul has prepared over seventy expert reports for legal firms on the costs of raising children.

### Qualifications & Professional Awards

B.Sc. University of Queensland, 1987  
B.Sc.Hons (1<sup>st</sup>, computer science) University of Queensland, 1989  
Ph.D. (sociology/social policy) University of Queensland, 1996  
MIM Holdings Award, for best honours result in Computer Science (1989)

### Professional Membership

Member, The Australian Sociological Association  
Member, Social Policy Association

### Relevant Publications

Greg Waite and Paul Henman (2006) 'Applying budget standards to assess housing affordability', *National Housing Conference 2005: Building for Diversity*, 27-28 October, Perth.

Paul Henman (2005) 'Updated costs of children using Australian budget standards' in *In The Best Interests of Children – Reforming the Child Support Scheme*, Report of the Ministerial Taskforce on Child Support, Vol 2: Research papers underpinning the Taskforce's approach, Department of Family and Community Services, Canberra, June 2005.

Paul Henman (2003) 'How adequate are Australian social security benefits?: a geographical assessment' paper presented at the *Australian Social Policy Conference 2003*, 9-11 July 2003, University of New South Wales, Sydney.

Paul Henman (2001) *Updating Australian budget standards costs of children estimates*, Policy Research Paper No. 7, Australian Department of Family and Community Services, Canberra, January 2001, pp. viii + 102.

Paul Henman and Kyle Mitchell (2001), 'Estimating the Costs of Contact for Non-resident Parents: a budget standards approach', *Journal of Social Policy*, 2001, 30(3), 495-520.

Paul Henman (1998) 'Different assumptions, different scenarios: extending and developing SPRC's budget standards', *Social Security Journal*, 1998/1, 171-193.

## Recent Employment History

- Current      Lecturer in Social Policy  
School of Social Work and Applied Human Sciences  
University of Queensland
- 2003-2004    Research Manager  
Centre for Research on Social Inclusion  
Macquarie University
- 1999-2003    Research Fellow  
Department of Sociology  
Macquarie University
- 2000          Post-doctoral Research Fellow  
Department of Social Policy  
University of Edinburgh
- 1996-1999    Senior Project Officer & Assistant Director  
Strategic Policy and Analysis Branch  
Commonwealth Department of Family and Community Services

## Recent Research Grants & Consultancies

- 2005          Queensland Department of Housing, Consultancy to provide research advice on the using budget standards for an alternative measure of housing affordability
- 2004-05      University of Queensland, New Staff Research Start-Up Grant, *Estimating the cost of raising children with disabilities*
- 2004          IBM Center for the Business of Government, Research Stipend, *International Comparison of E-government in Social Security*
- 2003          Institute of Public Administration Australia, Consultancy to write two thought papers on directions in e-government in collective accountability and targeting
- 2003          Alzheimer's Association NSW, Consultancy for *Quality Support Groups Research Project* (with Dr Michael Fine)
- 2002-04      'E-government: prospects for public administration, citizenship & social theory', Australian Research Council (with Prof. Mitchell Dean)

## Contact Details

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