

Income and Separation

by Bruce Bradbury and Kate Norris

Social Policy Research Centre

University of New South Wales

email: b.bradbury@unsw.edu.au

Version: 15 July 2005

Paper to be presented at the HILDA research conference, 29-30 September, 2005

A revised version of this paper will be published in *Journal of Sociology*, 41(2), December/2005 by SAGE Publications Ltd, All rights reserved. © The Australian Sociological Association. For more information please visit: www.sagepub.com

Income and Separation

Abstract

What factors are associated with marital separation? In particular, is there a 'social class gradient' for separation? This paper addresses these questions using data from two large Australian longitudinal data sets. The main focus is on the association between income support status/family income and the probability of separation. We find that income support recipients are more than twice as likely to separate as non-recipients of income support. De facto couples are more likely to separate than legally married couples, though separation rates within the de facto married population have more variation with income than among legally married couples. The relationship between separation and demographic and health characteristics are also explored. We find that couples where the husband has depressive symptoms are more likely to separate. The paper concludes by discussing the potential explanations for the association between income and separation.

1. Introduction¹

Apart from birth, the family structure change that has the most dramatic impact on the lives of family members is that of marital separation. In this paper we examine the factors associated with separation, with a particular focus on the differences between low and high-income families.

Though considerable research has been undertaken on the factors associated with marital separation, debate continues over the underlying causal mechanisms. For example, there is strong evidence that demographic characteristics such as previous cohabitations and age at marriage are associated with marital instability. However, these characteristics may be simply associated with other factors (such as attitudes to marriage or economic opportunities in and outside of marriage) that provide the causal impetus for separation.

This does not mean that these demographic associations are uninteresting, but rather that these underlying causal mechanisms must be considered when interpreting these patterns – particularly if one is contemplating policy interventions which are intended to change behaviour.

In their reviews, Clarke and Berrington (1999) and McAllister (1999) find evidence from several countries that people from a more disadvantaged social background will be more likely to separate. However, most researchers find that this statistical association disappears when age at marriage is held constant. Clarke and Berrington thus argue that most of this socio-economic association seems to act through disadvantaged people being more likely to marry earlier, or have other ‘marital factors’ such as premarital cohabitation which in turn lead to different attitudes to divorce and interpersonal behaviour.

Current financial circumstances are also associated with separation rates. These circumstances have been measured in the literature variously through income (eg South 1995), receipt of benefits (eg Kiernan and Mueller 1999) and unemployment – particularly of the male breadwinner (eg Kiernan and Mueller 1999, Lampard 1994, Bracher et al 1993). Results have been mixed, with only some researchers finding associations (depending partly on which other variables are held constant). Where associations are found, these have been interpreted either as direct impacts of the

financial circumstances (eg the relationship stress associated with unemployment) or as indicators for other socio-economic characteristics that might be associated with interpersonal behavioural patterns and attitudes to marriage.

In Australia, the small-scale qualitative study of Taylor and Fraser (2003) identified examples of self-perceived links between husbands' unemployment and marital stress and separation. This confirms the statistical association found in Bracher, et al (1993), using data from the 1986 *National Survey of the Australian Family*. They found a statistically significant higher rate of separation among couples with unemployed husbands. The relatively small sample size and retrospective nature of their survey, however, limited their ability to explore the wider impact of socio-economic status on marital dissolution.

As noted above, identifying the causal mechanisms underlying the association between past or present economic circumstances and marital separation is not straightforward. A number of potential explanations have been advanced in the literature. White and Rogers (2000) describe a theory of separation that sees lower income, job insecurity and unemployment of either partner increasing the risk of divorce by causing strain and tension. Fox and Chancey (1998) address part of this association, modelling marital quality (as measured by things such as self-esteem and psychological distress) as a function of economic well-being. Conger et al (1990) go a step further, with a theory that economic hardship produces economic strain, increasing hostility and decreasing warmth in the relationship. These changes in hostility and warmth impact not only on marital quality (and subsequently marital stability), but also directly on marital stability.

In this paper we examine the socio-economic correlates of marital dissolution using data from two large Australian longitudinal surveys. The *Longitudinal Data Set* (LDS) is a 1% sample of administrative records of people receiving any Australian government income transfers (with personal identifying information removed). Section 2 presents results from the sub-sample of women receiving Family Tax Benefit (received by most mothers of dependent children). This large sample allows us to compare the situation of women in different income support categories (and hence family incomes). We find substantially higher separation rates among the lowest-income families. Among the sub-population of legally married mothers, the

difference is smaller, but still substantial. These results continue when we control for age and presence of children.

The LDS, however, does not allow us to control for the effect of key intervening variable such as age at marriage and duration of marriage. However, data available from the first two waves of the *Household Income and Labour Dynamics in Australia* (HILDA) survey allow us to introduce these and other variables (though the sample size is smaller than the LDS). Section 3 presents descriptive results from this survey, while Section 4 estimates a predictive model of the probability of between-wave marital separation. In addition to income support status and income level, duration of the union at wave one and demographic characteristics; the model includes measures of relationship functioning such as partner and life satisfaction, emotional well-being, vitality and the subjective pressures experience by the couple, such as being time or savings pressured. These (albeit limited in scope) potential intervening variables are used to examine the hypothesis that low income has an impact on marital stability via its impact on personal and relationship stresses.

In the models estimated with the HILDA data, the effect that income support status has on the probability of separation is smaller than that found in the LDS, though still substantial. The direct impact of income and income support status is lessened slightly with the inclusion of the demographic and intervening variables. This is consistent with the hypothesis that some of the impact of income may act via these variables, though we would not wish to claim that we have been able to capture all the intervening factors that lie between income and separation.

In Section 5 we consider the interpretation and implications of these results.

2. Low and High Income Family Tax Benefit Recipients (LDS)

The *Longitudinal Data Set* (LDS) is a longitudinal extract of administrative data for most income transfer recipients in Australia. In this study, we examine data from a 1% sample of women receiving Family Tax Benefit Part A (FTBA). FTBA is paid to most Australian families with dependent children, though with the rate of payment depending upon family income.

FTBA is usually paid fortnightly to the primary carer (typically the mother) in respect of dependent children aged under 16 and in some circumstances dependent children aged 16 to 24. Because the complicated interactions with other youth payments make identifying low-income families more difficult for the older group, this section restricts attention to FTBA recipient families with at least one child aged under 16. This population includes about three-quarters of Australian mothers with dependent children aged under 16. Not included are families with very high incomes, some families where FTBA payments are paid via the tax system and some families where payments are made to the father.²

The specific population for our analysis is women with at least one FTBA qualifying child aged under 16 in June 2001, who were receiving FTBA on two dates approximately one year apart (29 June 2001 and 14 June 2002) and who reported their marital status as partnered as at the first of these two dates. 'Partnered' includes both those legally married and those in de-facto, or common law, marriages.³

Table 1 groups these women according to their income support and family assistance receipt in June 2001. First, we distinguish women according to whether they were receiving only the base rate of payment or a higher rate. The higher rate is paid to income support recipients and to parents with low to moderate levels of family income. For example, in 2003-04, a family with two children aged 0-12 and not eligible for rent assistance would receive more than the base rate of payment as long as their adjusted taxable⁴ family annual income was less than \$47,133. Above this income level, they would only receive the base rate of payment. For this same family the base rate of payment ceased when their income reached \$92,637. (Families with even higher incomes are not included in this database).

Among those receiving more than the base rate of FTBA we distinguish between those receiving a partnered parenting payment, those receiving other forms of income support (eg Disability Support Pension or Newstart Allowance) and those receiving FTBA only (eg a family not receiving income support, but with a low to moderate income). In general, those women receiving a partnered parenting payment or some other form of income support have the lowest family income; those receiving more than the base rate of FTBA but not income support will generally have a somewhat higher income level, and those receiving the base rate of FTBA the highest income level.

[Table 1 about here]

The top panel of Table 1 shows the number of partnered women in each of these categories and the percentage of each group who were separated one year later. The bottom panel shows the same information for the sub-set of women who were legally married in June 2001. This distinction needs to be treated cautiously, as legal marital status does not influence payment entitlement and level, and so there no incentive for Centrelink to ensure that legal marital status is recorded accurately.

Among all partnered mothers, there is a clear income gradient, with the first two low-income groups having a much higher separation rate (8.9 and 7.2%) than the middle-income group (4.0%) or the high-income group (3.1%). De facto relationships are more likely to separate and so the bottom panel shows a lower separation rate for the remaining legally married women. This, in combination with the higher proportion of de facto relationships for mothers on income support, means that the income gradient among legally married women is less than among all women. Nonetheless, even among legally married women, a prominent income gradient still remains.

Table 2 shows the relationship between income support status and separation while controlling for age, relationship type (legal vs de facto) and the presence and number of children. This table shows the marginal effects estimated from logistic regressions with separation as the dependent variable. Estimates are shown for all partnered women and for legally married and de facto women separately.

[Table 2 about here]

The numbers show the predicted increase in the probability of separation for women with the specified characteristic. For example, the first data column shows that women receiving a partnered parenting payment have an approximate 3 percentage point higher separation rate than high-income women receiving only the low rate of FTBA – controlling for the other variables in the table.

Note that this gap, while statistically and substantively significant, is less than the unadjusted gap shown in Table 1 (5.8 percentage points). This arises because women receiving partnered parenting payments are more likely to be in a de facto relationship (27% for partner payment women vs 11% for FTBA base rate women), are slightly

younger (mean age of 34 vs 36), and have more young children present (64% vs 50%).

Women receiving other income support payments are even more likely to separate (+4 percentage points). They also have a high probability of being in a de facto relationship (17%), but are somewhat older (average 40).

Women in a de facto relationship are much more likely to separate (5 percentage points); having a young child present reduces the probability of separation; while having an older child slightly increases it. For the sub-set of women who were legally married, the impact of being on income support is slightly less, while for the sub-set who were de facto married, being on income support has a much larger impact. That is, the gap between income support recipients and high-income women is much larger among the de facto married than among the legally married, suggesting that the de facto married are a more heterogeneous group.

3. Separations Among Couples With and Without Children (HILDA)

The *Household Income and Labour Dynamics in Australia* (HILDA) survey is an area-based population survey, where respondents are interviewed at intervals of approximately twelve months.⁵ This data source has the advantage of being a nationally representative sample of households, though it has a smaller sample size than the 1% LDS sample. Here we use the data from the first two waves of this study.

The household response rate for the HILDA in wave one was 66 per cent (Watson 2005: 74). Once in the survey, the rate at which people were re-interviewed was high: of the 13,969 people interviewed in wave one, 11,993 were re-interviewed in wave 2, or 86 per cent (Watson 2005: Table 33).

The population for this analysis is mixed-sex couples in a de facto or marriage relationship in wave 1 of the HILDA survey where both members of the couple were aged 15-64 years. Many of our variables come from the self-completion questionnaire component of the HILDA and so the sample for the multivariate analysis in the next section is restricted to couples where both members supplied the relevant information in the person questionnaire (2,640 couples, of whom 1,494 had a dependent child in

the household aged 17 or less). This is a substantially smaller sample size than available from the LDS data and so we are not able to separately examine separation patterns among defacto couples (though we do include defacto status among our explanatory variables in the multivariate analysis in the next section).

In the HILDA data, we find similar associations to that found in the LDS between socio-economic status and separation – both for families both with and without dependent children.⁶ Figure 1 shows separation rates by receipt of any amount of income support (excepting family payments)⁷ and the presence of children for partnered (including de facto) men and women. For families both with and without children, there is a clear income gradient, with income support recipients much more likely to separate. For our analysis of the HILDA data, we define children as those aged under 18. (Note that no-children households include both those who have never had children and those whose children were over 18 or had left home).

For parents, these separation rates are broadly comparable with those from the LDS shown in the previous section, though the gap is somewhat smaller. The separation rates for those not receiving income support are very similar; 3.3 per cent here compared to 3.1 and 4.0 per cent for the two groups of mothers not receiving income support payments in Table 1. The rates for those receiving income support are lower though; 5.6 per cent compared to 7.2 and 8.9 per cent. This difference is probably due to a combination of sampling variation and different definitions of dependent children (FTBA eligible children under 16 in Table 1, under 18 in Figure 1).⁸

[Figure 1 about here]

One potential explanation for this income gradient lies in possible differences in demographic characteristics such as age and duration of marriage between income support and non-income support recipients. Separation rates do generally fall with age. Figure 2 shows the probability of separation by age and the presence of children. For couples with no children aged less than 18 present, separation rates peak in the 15-24 age range and then again in the 35-44 age range. For couples with children, separation rates fall steadily up to age 45-54. They are high again for the oldest group, but this may reflect sampling variation (n=12). Note also that having children in itself does not systematically increase or decrease the probability of separation.

Despite this association with separation, age does not appear to be a major explanation for the differences between income support and non-income support recipients. Figure 3 shows the rate at which individuals separate in different age and income support groupings. Of people partnered in wave one of HILDA, income support recipients were more likely to separate than non-income support recipients at all ages. The high separation rate of 19 per cent for 15-24 year old income support recipients is not very precisely estimated (only 56 people in the group, 10 of whom separated). For the other groups, the gap between the income support and non-income support groups is constant at around 2.5 percentage points.

[Figure 2 about here]

[Figure 3 about here]

Though income support recipients are more likely to separate than non-income support recipients, the relationship of income with separation is less straightforward. Figure 4 shows separation rates for people with and without dependent children, across personal income quintiles (ie fifths of the income distribution). Income is measured here using the HILDA variable ‘imputed financial year final income’. This includes market income, private transfers, pensions and benefits, and family tax transfers and benefits received by the household (with imputation used in cases where some information is missing).

Again, there is not a great deal of difference between those with and without children, indicating that a presence or absence of children is not in itself associated with separation. The association with income is curvilinear, with the highest likelihood of separation being found in quintiles 2 and 3. The lower rates in the lowest quintile could be due to associations with age, self-employment status or family size. To disentangle these and other associations, we turn now to a multivariate analysis.

[Figure 4 about here]

4. Multivariate Analysis of HILDA Separation Data

We do this via a logistic regression model with marital separation in wave 2 as the dependent variable and income support status, income and other potential explanatory variables in wave 1 as independent variables.

4.1 Populations and Dependent Variable

As noted above, the population for the analysis is mixed sex couples of workforce age (with non-missing data). The dependent variable, *separation*, is set to zero if the couple was still intact in wave 2, and otherwise set equal to one. The unit of analysis is the couple (rather than the individual) as this is the unit that is randomly sampled in the survey design.

4.2 Independent Variables

The independent variables in the model fall into three classes. The first group are our two indicators of *income*, income level (in quintiles) and income support status (whether receiving income support or not). The second group of variables are those that might have a direct influence on separation but are unlikely to be influenced by income. We denote these as our *demographic* variables. The third group are those variables that might have a direct impact on separation but might also be influenced by income and/or income support status (or other factors closely associated with this). We denote these as (potential) *intervening* variables. All independent variables are measured as at wave 1.

The demographic variables include demographic and human capital characteristics: age, education level, self-employment, children, de facto status, duration of marriage and whether either of the parents are step or foster parents.

As noted in the introduction, a number of authors have suggested that the impact of poor economic circumstances acts via an increase in strain and tension in the relationship, leading to increasing hostility and decreasing warmth in the relationship and generally decreasing the quality of the marital relationship. The HILDA survey does not collect information on all these aspects. However, there are a number of questions on the nature of the relationship (satisfaction with partner, duration of relationship) and personal life situation (mental health and well-being, time pressure

and saving habits and general life satisfaction). We include measures of these as our potential intervening variables.

For the continuous scale variables about the nature of the relationship and health and well-being we test for the impact of two summary variables; the average for the husband and wife and the difference between the two. The specific definitions of the independent variables are as follows.

Income variables

- *Income support*: The same variable as used above; equal to one if either one or both people in the couple were receiving any income support in wave one, and zero otherwise.
- *Quintile1 (lowest), (Quintile2), Quintile3, Quintile4, Quintile5 (highest)*: The sum of imputed financial year final income for the husband and wife, converted into quintiles for the population of 2,640 couples (defined as in Section 3). Variations in needs with family size are accounted for by also including the number of children in the model as additional controlling variables. The second quintile of couple income is used as the reference category.

Demographic variables

- *De facto*: an indicator variable equal to one if the couple are unmarried and zero otherwise.
- *Ever de facto*: An indicator variable equal to one if either member of the couple lived as a de facto prior to their marriage (with their current partner or someone else). Set to one for all couples who are currently de facto. Note that to describe the impact of currently being in a de facto relationship vs never having been in a de facto relationship, one must add together this coefficient and that for the *de facto* variable.
- *Duration, Duration (squared)*: The duration of the relationship, measured in years (or fractions thereof). For de facto couples this is just the time spent living with that partner. For married couples, this is calculated as the sum of time spent living together as a married couple, as well as any previous time with the same partner as a de facto couple. The square of duration is also included in the model.

- *Age at marriage, Age at marriage (squared)*: Continuous variables of the average age of the couple when they first were married (or started living together). The square of this variable is also included in the model. As noted in the introduction, previous research found age at marriage to be an important explanatory variable for separation. Note that we do not include the current ages of the husband and wife in the model as these are a function of age at marriage and duration of marriage.
- *Post-secondary(husb), Secondary(husb), Other(husb), Post-secondary(wife), Secondary(wife), Other(wife)*: Systems of indicator variables denoting the highest education qualification of the husband and wife (first 3 variables for husband, second 3 for wife). Equal to one if the husband (or wife) had completed a post-secondary school qualification; secondary schooling; or less than secondary schooling / other. Secondary education is used as the reference category. ‘Not classifiable’ was coded as ‘other’.
- *Self-employed*: An indicator variable equal to one if either the husband or wife indicated that they were an employee of an own business, self-employed or an employer. Among other reasons, it is useful to control for self-employment status because income may be measured differently in these families.
- *Number of children*: Continuous variables equal to the maximum number of resident (own step or foster) and non-resident children that the husband or wife had responsibility for.
- *Age of youngest child 0-4 and Age of youngest child 5-12* : Dummy variables flagging the age of the youngest child (13-17 omitted). Both equal to zero if no children.
- *Age of oldest child*: Continuous variable equal to the age of the oldest child residing in the household (=0 if no children). In conjunction with the age at marriage and duration of marriage variables, this variable holds the parents’ age at the birth of their first child constant (approximately – since we don’t take account of children that have left the household, and the children might not be children of both parents).
- *Step parent*: An indicator variable equal to one if either the husband or wife says they have responsibility for a step or foster child in the household.

Two supplementary variables comparing husband and wife characteristics were also tested. These included the difference in age at marriage between husband and wife and a variable flagging the wife as the main income earner in wave 1. Neither of these variables was statistically significant in any of our models and so they are not included in the main results. Note that we deliberately do not include husband and wife employment status as this is strongly correlated with our main variables of interest (income support and income). With a very large sample it might be interesting to look at how income affects separation while holding employment status constant. But this is not feasible with our current sample size.

Intervening variables

- *Life satisfaction (average), Life satisfaction (difference)*: People were asked to locate their 'life satisfaction' on a scale of 0 to 10, 10 being totally satisfied. This is a continuous variable in the model. The average of this scale and the difference between partners (husband minus wife) are used in the model.
- *Relationship satisfaction (average), Relationship satisfaction (difference)*: People were asked the question 'How satisfied are you with your relationship with your partner?' and asked to locate the relationship on a scale of 0 to 10, 10 being totally satisfied. The average of this scale and the difference between partners are used in the model.

The SF-36 General Health and Well-being survey formed part of the HILDA self-completion questionnaire. From this several scales are derived that rate a person's mental health, emotional well-being, social functioning, and vitality. Each of these enters the model as a continuous variable 0-100, with higher values indicating good health and well-being.

- *Mental health (average), Mental health (difference)*: Mental health scale from the SF-36 General Health and Well-being module. The average of this scale and the difference between partners are used in the model.
- *Emotional well-being (average), Emotional well-being (difference)*: Emotional well-being scale from the SF-36 General Health and Well-being module. The average of this scale and the difference between partners are used in the model.

- *Social functioning (average), Social functioning (difference)*: Social functioning scale from the SF-36 General Health and Well-being module. The average of this scale and the difference between partners are used in the model.
- *Vitality (average), Vitality (difference)*: Vitality scale from the SF-36 General Health and Well-being module. The average of this scale and the difference between partners are used in the model.
- *Rushed (average), Rushed (difference)*: Respondents were asked ‘How often do you feel rushed or pressed for time?’ The scale responses ranged from 1-5, with 1 indicating that a person always felt rushed and 5 indicating that they never felt rushed. The average of this scale and the difference between partners are used in the model.
- *Saving (average), Saving (difference)*: Respondents were asked to best match their and their family’s saving habits to a statement. The statements offered reflected the degree to which their savings were planned or unplanned – and the extent to which savings was happening. (1- ‘Don’t save, spend more than income’ through to 5 – ‘Save regularly by putting money aside’). The average of this scale and the difference between partners are used in the model.

The means and standard deviations of all the dependent and independent variables are shown in Appendix Table 1.

4.3 Models Estimated

We estimate a number of different models for the population of couples at wave one for which we had complete data (2,640 couples) with different sub-sets of variables.

Model 1	Income quintile
Model 2	Income quintile + demographic
Model 3	Income quintile + demographic + intervening
Model 4	Income support
Model 5	Income support + demographic
Model 6	Income support + demographic + intervening
Model 7	Income support + income quintile + demographic + intervening

The first of these models shows the bivariate association between income and separation. The difference between the income effect shown in this model and the

income effect shown in Model 2 can be interpreted as a measure of the extent to which the association is due to demographic characteristics. For example, if the main effect of income on separation arises from the fact that it is associated with an earlier marriage then we should find a lower income association in Model 2. Model 3 similarly tests the extent to which the association is due to the levels of the potential intervening variables. Models 4 to 6 repeat this analysis, but here we use income support receipt as our indicator of socio-economic status. Finally model 7 includes all the potentially explanatory variables.

Table 3 shows the percentage point marginal effects from the above models for all couples. As for the LDS results, the table shows the predicted increase (or decrease) in the probability of separation for couples with the specified characteristic. For example, couples receiving some form of income support are estimated to have a 1.8 (model 7) to 2.8 (model 4) percentage point higher separation rate than couples not receiving such support (other variables held constant at the average).

[Table 3 about here]

Model 1 has income quintile as the only variable, and so the patterns follow those shown in Figure 4 (even though here we use family rather than individual income). Separation rates are highest for the second quintile, though only the 3rd and 5th quintiles are significantly different. When we control for demographic characteristics the separation rate in the lowest quintile converges to that in the second quintile and the difference between the 2nd and the upper quintiles diminishes. Given the pattern of coefficients shown in models 2 and 3 (and taking into account statistical significance), the best summary of the association of separation with income is that separation rates are about 2 percentage points higher in the bottom two quintiles than in the top three quintiles of the income distribution.

Similarly, separation rates are higher among families receiving income support, though this link also diminishes as other variables are included (models 4 to 6). As might be expected, both income and income support variables become only marginally significant when both are included in the model because of their strong correlation.

The fact that the difference between the lower and upper quintiles diminishes somewhat as the other variables are included in the model provides some support for the hypothesis that the impact of low income is an indirect one, via other factors such as age at marriage and health and social functioning. (We have also undertaken this analysis for the sub-sample of parents – available from the authors on request. In this sub-sample, the impact of income is similar to that in the overall sample, though the smaller sample size means the relationship is generally not as significant.)

As the previous literature (and Section 2) suggests, *de facto* couples are much more likely to separate than those who are legally married. Note that, because the *ever de facto* variable also includes people currently *de facto*, the parameter for the *de facto* variable shows the impact of being currently *de facto* versus currently being legally married after having been in a *de facto* relationship in the past. To estimate the impact of being currently in a *de facto* relationship vs never being in such a relationship it is necessary to add the *de facto* and *ever de facto* parameters together. This calculation shows that those currently in a *de facto* relationship are around 3.4 to 5.0 percentage points more likely to separate than those never in a *de facto* relationship. The higher end of this range (which applies when only demographic variables are held constant) is similar to the result found in Table 2 for the LDS data (5.2 percentage points).

Among those currently legally married, the impact of being in a previous *de facto* relationship is described by the *ever de facto* parameter on its own. The literature suggests that this group should have a higher separation rate than those people who were never in a *de facto* relationship (the reference category). This pattern is confirmed here (1.2 to 1.4 percentage points higher), but this is never significantly different from zero in any of our models.

Though the duration of the relationship was not found to be significant in any of the models, age at marriage (or when first started living together) was marginally significant (10% level) in some specifications, with people who married at younger ages being more likely to separate.

The demographic variables of education and self-employment are generally not associated with the couple separating (though one category of the wife's education level is marginally significant). The age of the youngest child is, however, significant for the models that do not control for the 'intervening' variables. That is, parents of

young children are less likely to separate, but this appears to act via the association with these intervening variables (possibly via ‘vitality’).

In terms of these potential intervening variables, some of the observed relationships are to be expected. For example, couples in which the partners rate each other highly are much less likely to separate (a one standard deviation effect of around 2.3 percentage points).

The variable expressing the difference between each partner’s mental health is significant and negative across the models. Our construction of variables as averages and differences means that this should be interpreted as meaning that in couples where the husband is anxious or depressed (ie a lower score on the mental health index) there is a higher chance that they will separate.

High average social functioning for the couple is associated with a lower separation rate (marginally significant). However, a higher level of vitality is associated with a higher separation rate. People have high scores for vitality in the SF36 scale when they do not report being tired or lacking energy. We speculate that low levels of vitality may be one of the reasons for the low separation rates among families with young children.

5. Summary and Discussion

Our analysis using these two datasets has identified a clear and strong ‘income gradient’ in separation rates in Australia. Income support recipient parents are almost three times more likely to separate over a twelve-month period than middle and high-income families. Similarly, couples in the lower two quintiles (ie two-fifths) of the income distribution are more likely to separate than higher-income families. These income gradients still exist, but are weaker, when we hold constant marital status (legal/de facto), demographic characteristics and indicators of health, stress and relationship functioning.

In addition, we confirm the results found in other studies that de facto married couples are much more likely to separate than married couples (both in families with and without children). On the other hand, we are unable to confirm the finding of the

previous literature that people marrying younger are more likely to separate – though our findings are not inconsistent with this conclusion.

We also find that couples where the husband is expressing depressive symptoms in wave 1 are more likely to separate by wave 2, and (more puzzlingly) that couples which are more ‘vital’ are more likely to separate.

The fact that the association between our income indicators and separation weakens as we hold constant the health, stress and relationship variables provides some support for the hypothesis that some of this association works via these variables. However, in this area of research, it is very difficult to empirically demonstrate clear causal links.

In general, the time dimension of longitudinal data assists researchers in establishing whether variable A influences variable B or vice versa. However, the data still needs to be interpreted in the context of the hypothesised causal processes. For example, we find that husband depression in wave 1 is associated with separation in wave 2. However, we would generally expect that marital disharmony would exist for some time prior to separation. Possibly, this disharmony might be cause of the depressive symptoms (and hence of the observed association), in which case it might not be the case that the depression caused the marital separation. This particular hypothesis can be addressed when we have a longer run of data. Similarly, further waves of the data will help us establish whether it is long-term low income or short-term income shocks (such as recent unemployment) that are most strongly associated with separation.

However, longitudinal data on their own are not sufficient to identify many potential causal links. This is particularly the case with respect to the reasons for the income (or social class) gradient in marital separation. Explanations for this association generally fall into two categories, the direct effects of socio-economic circumstances vs the impact of unobserved ‘third variables’ that influence both income levels and marital stability.

Examples of the first type of explanation include the role of financial stress, and the role of income support payments. Financial stress and unemployment may have impacts on personal stress levels and hence relationship functioning. The qualitative research by Taylor and Fraser (2003) provides examples of families where these factors are identified as being important contributors to relationship break-up.

Similarly, another mechanism through which low-income may have an impact stems from the interaction of family circumstances and the income support system. To a certain extent, income support payments cushion couples from the economic costs of separation because total payments increase when an income support couple separates. This cushioning is not available to the same extent for higher income couples. If these financial incentives matter for separation decisions, then they could explain the higher separation rates among lower income couples.

Nonetheless, this explanation relates to the relative attractiveness of partnering, rather than the process of separation per se. If it were true, we might expect to find a symmetrical relationship in patterns of partnering and re-partnering. However, in other research currently underway, we find no difference in the rates of re-partnering between low and high-income lone parents (Bradbury and Norris, forthcoming). So this simple incentive story at least does not, in itself, seem to be a good explanation for the higher separation rates among lower income families.

The other type of explanation advanced for the social class gradient of separation is that it stems from the influence of unobserved 'third variables' or unmeasured characteristics of the different couples and their environments. In broad terms, people who have characteristics that enable them to have high incomes also have characteristics that lead to them having more stable relationships. While plausible, this is not an easy hypothesis to test, as many of the likely characteristics such as personality traits are hard to identify and measure.

It is thus very difficult to be confident of the mechanisms that lead to our observed association between income levels and separation rates. Nonetheless, the results are of relevance to several areas of government policy. Irrespective of the reasons for the association, the fact remains that low income families are more likely to separate than high income families. This has important implications for the funding and targeting (eg the geographic distribution of funding) of those family support services designed to support relationships in intact families as well as for those services designed to support families after separation.

6. Tables and Figures

Table 1 **Separation Rates for Partnered Mothers Receiving
Different Levels of FTBA Between 2001 and 2002**

All Partnered Mothers		
Income Support Status in June 2001	Estimated Number	Percent Single, Separated or Divorced in June 2002
More than Base Rate FTBA		
Partnered Parenting Payment	166,100	8.9
Other Income Support	37,500	7.2
FTBA only	293,700	4.0
Base Rate FTBA Only	539,800	3.1

Legally Married Mothers Only		
Income Support Status in June 2001	Estimated Number	Percent Single, Separated or Divorced in June 2002
More than Base Rate FTBA		
Partnered Parenting Payment	120,700	5.6
Other Income Support	31,300	5.8
FTBA only	251,100	2.9
Base Rate FTBA Only	480,700	2.4

Source: FaCS LDS 1%.

Notes: The population is women with a qualifying child aged under 16 in June 2001, receiving FTBA as at both 29/06/2001 and 14/06/2002 and whose recorded marital status in June 2001 is 'married' or 'de facto' for the top panel and 'married' for the bottom panel. In terms of the LDS terminology, women are defined as receiving FTBA if they are receiving the payment codes FAH, FBH, FAL or FBL on these dates. If they are receiving either FAH or FBH they are coded as 'More than base rate'. If they are receiving either FAL or FBL they are coded as 'Base rate only'. No women are coded under both headings.

An estimated 800 women (ie a sample size of 8 in the 1% LDS) changed partner from one year to the next. This is 1.7% of the women who separated.

Table 2 Percentage Point Impact of Income Support Status and Demographic Variables on Separation: FTBA Recipient Women

	Married and Defacto	Legally Married	Defacto Married
Income Support Status			
Partnered Payment	3.06	2.44	6.55
Other Income Support	4.24	3.72	5.79
FTBA High Rate (Low income)	0.62	0.44	1.25
FTBA Low Rate (High income)	0.00	0.00	0.00
Age (minus 35)	-0.23	-0.22	-0.26
Age minus 35 squared	0.004	<u>0.005</u>	0.019
Defacto	5.29	0.00	0.00
Child Under 6 Present	-1.37	-1.66	0.01
Number of Children Under 13	0.46	0.41	0.80
Number Aged 13 Plus	-0.16	-0.26	0.78
Sample Size	10,371	8,838	1,533
Mean Separation Rate (%)	4.52	3.17	12.33

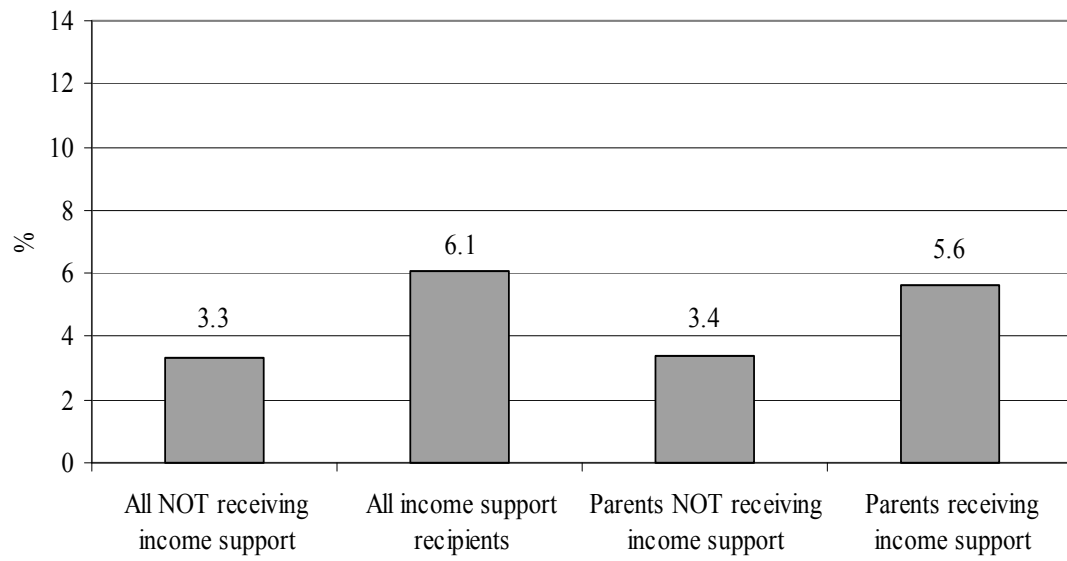
Source: FaCS 1% LDS.

Notes: The table shows the impact of a one-unit increase in the variable on the percentage separation rate between June 2001 and June 2002, calculated at the mean separation rate. Eg compared to mothers receiving the low rate of FTBA, those receiving partner payment had a 3.06 percentage point higher separation rate. This is calculated as the average of one-unit changes below and above the mean. That is, the average of $\Delta p_i^- = -(1 + e^{-(\bar{\beta}x - \beta_i)})^{-1} - \bar{p}$ and $\Delta p_i^+ = (1 + e^{-(\bar{\beta}x + \beta_i)})^{-1} - \bar{p}$ where \bar{p} = mean probability (shown in the bottom row), and $\bar{\beta}x = -\log(\bar{p}^{-1} - 1)$. Note that this is an approximation of the impact for the average person. The actual estimated impact varies depending upon the values of all other variables.

Numbers in **bold** are significantly different from zero at the 5% level. Numbers underlined are significant at the 10% level.

The first column is estimated from data for all partnered women receiving FTBA at both dates. The second column is for legally married women only, and the third for de facto-married women only.

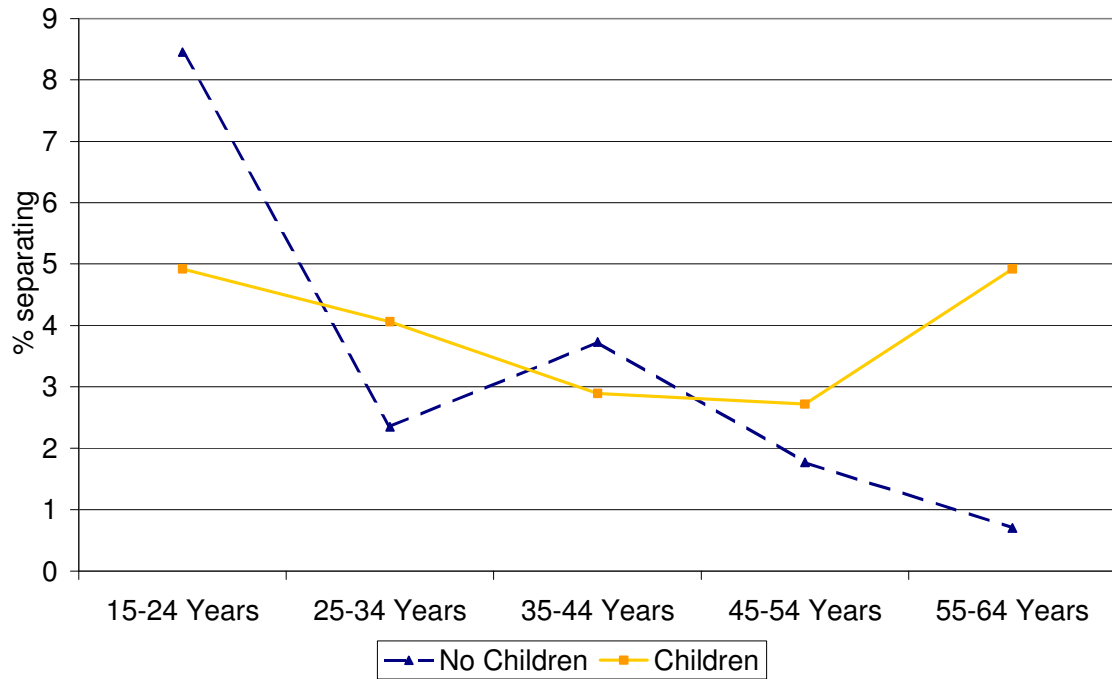
Figure 1 Separation Rates by Income Support and Presence of Children



Source: HILDA, Version 2.0, waves 1 and 2.

Note: Percentages are calculated using longitudinal person weights.

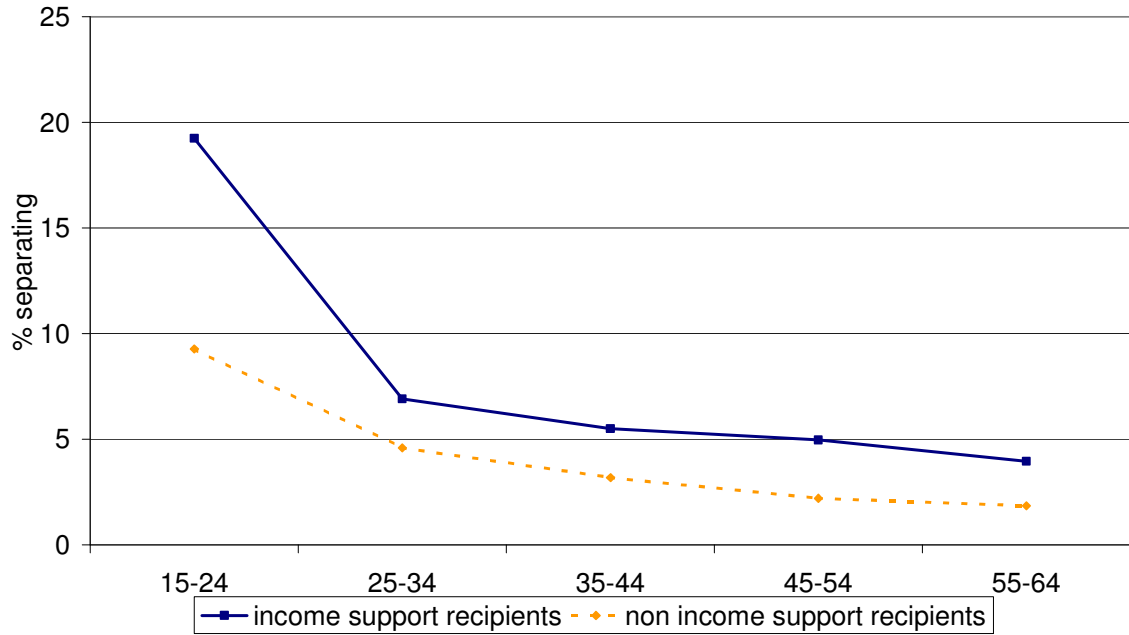
Figure 2 Separation Rates by Age and Presence of Children (couples)



Source: HILDA, Version 2.0, waves 1 and 2.

Note: Age is the average age of husband and wife.

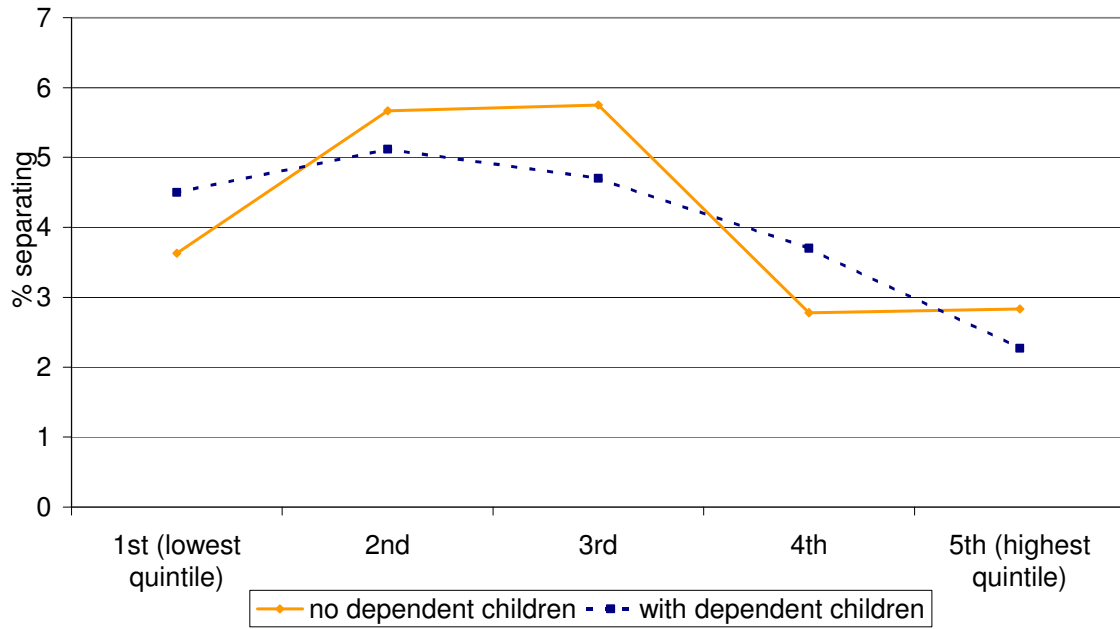
**Figure 3 Separation Rates by Age and Receipt of Income Support
(individuals)**



Source: HILDA, Version2.0, waves 1 and 2.

Notes: Percentages are calculated using longitudinal person weights.

Figure 4 Separation Rates by Personal Income Quintile and Presence of Dependent Children (individuals)



Source: HILDA, Version 2.0, waves 1 and 2.

Notes: Percentages are calculated using longitudinal person weights.

Table 3 Percentage Point Impact of Income and Demographic Variables on Separation (HILDA, All couples)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
income support				2.817	2.734	2.242	<u>1.795</u>
quintile1	-0.393	0.017	0.018				-0.333
quintile3	-2.963	-2.770	<u>-2.593</u>				<u>-2.397</u>
quintile4	<u>-1.941</u>	-1.618	-1.603				-1.335
quintile5	-2.574	<u>-2.361</u>	<u>-2.207</u>				-2.010
defacto		3.553	2.464		3.395	2.389	2.323
ever defacto		1.420	1.192		1.284	1.194	1.180
duration		-0.007	-0.182		-0.012	-0.198	-0.188
duration(squared)		-0.003	0.000		-0.003	0.000	0.000
age at marriage		-0.185	<u>-0.471</u>		-0.203	<u>-0.521</u>	<u>-0.460</u>
age at marriage(squared)		0.004	<u>0.007</u>		0.003	<u>0.007</u>	0.007
post-secondary (husb)		0.817	0.598		0.921	0.568	0.683
other (husb)		0.132	-0.193		0.128	-0.296	-0.274
post-secondary(wife)		1.439	2.227		1.400	2.143	2.261
other(wife)		1.899	<u>3.130</u>		1.958	<u>3.018</u>	<u>3.023</u>
self employed		-0.763	-0.421		-0.616	-0.404	-0.419
number of children		0.064	-0.189		-0.121	-0.285	-0.308
age of youngest child 0-4		-3.009	-2.198		-2.964	-2.020	-2.381
age of youngest child 5-12		-1.284	-1.514		-1.127	-1.260	-1.497
age of oldest child		-0.038	-0.024		-0.034	-0.015	-0.024
step-parent		0.615	0.771		0.618	0.666	0.762
life satisfaction(average)			0.015			0.000	0.021
life satisfaction(difference)			0.508			0.505	0.522
relationship satisfaction(average)			-2.266			-2.281	-2.345
relationship satisfaction(difference)			-0.084			-0.059	-0.081
mental health(average)			-0.662			-0.630	-0.587
mental health(difference)			-0.974			-0.980	<u>-0.898</u>
emotional well-being(average)			0.147			0.168	0.161
emotional well-being(difference)			0.325			0.344	0.324
social functioning(average)			<u>-0.925</u>			<u>-0.868</u>	<u>-0.844</u>
social functioning(difference)			0.218			0.190	0.169
vitality(average)			1.227			1.258	1.249
vitality(difference)			-0.173			-0.194	-0.217
rushed(average)			-0.202			-0.187	-0.269
rushed(difference)			-0.319			-0.329	-0.332
saving(average)			-0.483			-0.506	-0.395
saving(difference)			-0.051			-0.052	-0.004

Source: HILDA, Version 2.0, waves 1 and 2.

Notes: The population is 2,640 male/female couples where both partners completed the relevant information on the person questionnaire. A total of 74 couples had separated by wave two of the HILDA survey, representing 2.8% of the sample. As in the LDS modelling, for each model we present the percentage point marginal effect, formatted as bold if significantly different from zero at the **5% level**, and underlined if significantly different at the 10% level. To calculate the marginal effect we use the standard deviation effect for the ‘scale’ variables (as it happens, those in the last panel of the table) and for the other variables use the marginal effect of a change by one unit. For all, the average of the positive and negative marginal effects are presented. See Table 2 for calculation method.

Appendix Table 1 Means and Standard Deviations of Variables Used in Section 4

Variable	mean	std dev
income support	0.191	0.393
quintile1	0.200	0.400
quintile3	0.200	0.400
quintile4	0.200	0.400
quintile5	0.200	0.400
de facto	0.157	0.364
ever de facto	0.559	0.497
duration	16.185	11.191
duration(squared)	387.145	440.140
age at marriage	25.883	6.712
age at marriage(squared)	714.951	426.131
post-secondary (husb)	0.696	0.460
Other (husb)	0.226	0.418
post-secondary(wife)	0.565	0.496
other(wife)	0.102	0.303
self employed	0.250	0.433
number of children	1.162	1.255
age of youngest child 0-4	0.676	0.468
age of youngest child 5-12	0.228	0.419
age of oldest child	15.220	12.255
step-parent	0.058	0.233
life satisfaction(average)	8.082	1.168
life satisfaction(difference)	-0.173	1.737
relationship satisfaction(average)	8.663	1.520
relationship satisfaction(difference)	0.213	1.740
mental health(average)	75.355	12.816
mental health(difference)	1.976	20.311
emotional well-being(average)	85.919	22.511
emotional well-being(difference)	2.734	38.481
social functioning(average)	85.223	16.713
social functioning(difference)	1.695	26.317
vitality(average)	61.463	14.871
vitality(difference)	3.641	24.007
rushed(average)	2.573	0.708
rushed(difference)	0.172	1.124
saving(average)	3.227	1.064
saving(difference)	-0.013	1.092

7. References

ABS (2004), Year Book Australia, 2004: Chapter 7, Income and Welfare [Available from the 'Australia Now' section of www.abs.gov.au. Document dated 22 April 2004].

- Bracher, M., G. Santow, S. P. Morgan and J. Trussel (1993), 'Marital Dissolution in Australia: Models and explanations', *Population Studies*, 47, No. 3 (Nov): 403-425.
- Brandon, P. D. (2004) 'Identifying the Diversity in Australian Children's Living Arrangements: A Research Note', *Journal of Sociology*, vol. 40, June, 179-192.
- Bradbury, Bruce and Kate Norris (forthcoming), 'Family Dynamics in Australia', SPRC Report.
- Clarke, L. and A. Berrington (1999), Socio demographic predictors of divorce, Paper 1 in High Divorce Rates: The state of the evidence on reasons and remedies Volume 1, Simons J. (ed), Lord Chancellor's Research Department Secretariat.
- Conger, R.D., Elder, G.H, Lorenz, F.O., Conger, K.J., Simons, R.L., Whitbeck, L.B., Huck, S. and Melby, J.N. (1990) 'Linking economic hardship to marital quality and instability', *Journal of Marriage and the Family*, 52(3), August, p.643-656.
- Fox, G.L. and Chancy, D. (1998) 'Sources of economic distress: Individual and family outcomes', *Journal of Family Issues*, 19, p725-749.
- Kiernan, K. and G. Mueller (1999), Who Divorces?, in changing Britain: Families and households in the 1990s, S. McRae (ed), Oxford University Press, New York.
- Lampard, R. (1994), An examination of the relationship between marital dissolution and unemployment, in D. Gallie, C. Marsh and C. Vogler (eds.), *Social Change and the Experience of Unemployment*, p 264-298, Oxford University Press, Oxford.
- McAllister, F. (1999) Effects of changing marital circumstances on the incidence of marital breakdown, Paper 2 in High Divorce Rates: The state of the evidence on reasons and remedies Volume 1, J. Simons (ed), Lord Chancellor's Research Department Secretariat.
- South, S. J. (1995), 'Do you need to shop around? Age at marriage, spousal alternatives and marital dissolution', *Journal of Family Issues*, 16, 432-449.
- Taylor, Janet and Alex Fraser (2003), *Eleven Plus: Life Chances and Family Income* Brotherhood of St Laurence, Melbourne.
- Watson, N. (ed) (2005), HILDA User manual – Release 3.0, last modified 13/1/2005, Melbourne Institute of Applied Economic and Social Research, University of Melbourne.
- White, L.W. and Rogers, S.J. (2000) 'Economic circumstances and family outcomes: A review of the 1990s', *Journal of Marriage and the Family*, 62(4), November, p.1035-1051.

Endnotes

- ¹ The authors would like to thank participants at the 2005 Australian Institute of Family Studies conference, Cathy Thebridge and other officers of the Department of Family and Community Services, the editors and the anonymous referees for their comments on earlier versions of this paper. This paper uses confidentialised unit record file from the Commonwealth Department of Family and Community Services (FaCS) Longitudinal Data Set and from the Household, Income and Labour Dynamics in Australia (HILDA) survey. The latter survey was initiated and is funded by FaCS and is managed by the Melbourne Institute of Applied Economic and Social Research (MIAESR). This research project was also funded by FaCS. The findings and views reported in this paper, however, are those of the author and should not be attributed to either FaCS or the MIAESR.
- ² FTBA is not paid to very high-income parents (about 15-20% of parents). In addition, FTBA can be paid as a lump sum at the end of the year or via a reduction in PAYE deductions. These payments are not included in the LDS. The data in ABS (2004, Table 7.14) suggests that about 8 per cent of payments are made in lump-sum form or via the tax system.
- ³ About 6 per cent of children in Australia are living with both parents who are de facto married (Brandon, 2004).
- ⁴ Adjusted taxable income is the combined taxable income of the primary child-carer and their spouse (married or de facto), plus certain non-taxable income amounts less deductible child maintenance expenditure. The family income test does not apply to income support recipients. The family income test does not apply to income support recipients. FTBA for income support customers and those receiving more than the base rate may also be reduced by the Maintenance Income Test (only likely to affect a small percentage of our sample).
- ⁵ More information is available from <http://www.melbourneinstitute.com/hilda>.
- ⁶ Demographic characteristics are defined as at wave 1. A small number of households had their first child between waves 1 and 2. These are categorised here on the basis of their wave 1 status (ie as non-parents). Similarly couples where their child(ren) turned 18 or left the household are categorised as parents.
- ⁷ The income support variable is derived from the HILDA variable ABNCOTH1, which asks (non-aged) individuals 'Excluding any Family Allowance or Family Tax Benefit payment, do you currently receive any income from the government in the form of a benefit, pension or allowance?' 'Don't know' was coded to 'No' for the purposes of this analysis.
- ⁸ The fact that Table 1 is for women and Figure 1 is for both men and women should make negligible difference as couples comprise one person of each gender (except where data for one person is missing in the HILDA survey), and receipt of income support payment by one member is usually associated with income support receipt by the other.