

**An investigation into aspects of the economic consequences of marital
separation among New Zealand parents**

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Abstract

Marital separation, especially when dependent children are involved, is a significant and disruptive life event that often involves considerable changes in living standards and in how families organise their economic life. International research shows that many people experience a large decline in economic standards of living following separation and that these effects often last many years. Separation is also associated with a significant increase in the risk of poverty. One of the most common findings from the empirical literature is a substantial gender gap in the impact of separation. Most studies find that women, on average, are worse off, especially if they have children. Results for men are more varied with some studies finding a rise in average living standards, and others a decline. At the same time, behind these averages, lies considerable heterogeneity: many men experience a decline in living standards and some women gain from separation.

Very little research attention has been directed towards understanding the economic consequences of marital separation in New Zealand. Unlike most European and English-speaking OECD countries there are no New Zealand estimates of the impacts of divorce and separation on incomes or living standards, the gender gap in outcomes, or the extent to which welfare provisions, child maintenance policies and other state measures ameliorate its negative effects.

This thesis seeks to extend current knowledge and understanding of economic outcomes of separation for New Zealand families with children. It aims to provide answers to three questions:

- i. What are the short- to medium-term economic impacts of marital separation for the New Zealand men and women with dependent children included in this dataset?
- ii. How do economic outcomes compare for ex-partners?
- iii. What are the likely impacts of the new liability assessment formula in the Child Support Amendment Act 2013 on child support payments and receipts?

The thesis includes three related studies. The first uses propensity score matching and difference-in-differences estimation to estimate the short- and medium-term impacts of separation on men's and women's total family income and equivalised income. The data for this study comes from a large-scale longitudinal administrative dataset of tax and welfare records. The second takes advantage of the dyadic information in that dataset to examine outcomes for ex-partners relative to each other. The third study focuses on child support policy and, in particular, the likely distributional effects of the recently introduced changes to the liability formula in the Child Support Act.

Disclaimer

The results in this thesis are not official statistics; they have been created for research purposes from the Integrated Data Infrastructure (IDI), managed by Statistics New Zealand, and from data provided by Inland Revenue New Zealand. The opinions, findings, recommendations, and conclusions expressed in this thesis are those of the author, not of Statistics New Zealand, Inland Revenue, or any other agency.

Access to the anonymised data used in this study was provided by Statistics New Zealand in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation, and the results in this thesis have been confidentialised to protect these groups from identification.

Careful consideration has been given to the privacy, security, and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from www.stats.govt.nz.

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Attestation

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

A handwritten signature in black ink, consisting of a long horizontal line followed by a stylized, cursive signature.

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1 Introduction

1.1 Introduction

Marital separation, especially when dependent children are involved, is a significant and disruptive life event that often involves considerable changes in living standards and in how families organise their economic life. There is now an extensive body of international research showing that many people experience a large decline in their economic standards of living following separation, and that the effects often last many years. Separation is also associated with a substantial increase in the risk of poverty. (See Chapter 3 for a review of this literature).

One of the most common findings in the empirical literature is a substantial gender gap in the impact of separation. Women, on average, are typically worse off, especially if they have children, whereas the average impact for men is more varied across different studies, with some researchers finding an increase in average living standards and others a small decrease. At the same time, behind these averages lies considerable heterogeneity: many men experience a decline in living standards and some women gain from separation.

Historically, and beginning in the United States in the mid-1970s, research and policy interest in the consequences of separation and divorce was driven by concern at the rapid rise from the mid-1970s in the number of sole parent families and the high prevalence of poverty among them (Duncan & Hoffman, 1985). These trends were associated with public debate about divorce and divorce law (e.g., Weitzman, 1985), the 'feminisation of poverty' (Pearce, 1978), and social security policies to assist sole parents.

Although there are no robust estimates of how many New Zealand parents with children experience marital break-ups, it is clear from the data available that it affects a considerable proportion of all

families. One indication can be gained from the General Social Survey which estimates that 225,000 parents (15 percent) have at least one child under the age of 18 not living with them.¹ Another indicator is the number of people involved in the formal child support system. In 2014, approximately 220,000, or more than one in five children, were on child support rolls, as were approximately 360,000 liable or custodial parents. These child support figures include children born to single mothers but they do not include children whose parents opt for private child support arrangements outside the formal system.² Nor does this point-in-time figure take into account the flow of people who are part of the child support system at some point in their lives. Divorce statistics, although limited in usefulness by the prevalence of de facto partnerships, are another rough pointer: approximately one-fifth of first marriages end in separation within 10 years, and one-third within 20 years (Dharmalingam, Pool, Sceats, & Mackay, 2004). Almost half of legal divorces involve couples with dependent children. Most recently, analysis of data from the longitudinal Dunedin Multidisciplinary Health and Development Study, although unrepresentative of the broader New Zealand population, showed that fewer than half (43 percent) of the children of original sample members who were born into a two-parent household lived continuously with both parents up to age 16 (Sligo et al., 2017).

New Zealand has a high rate of sole parenthood— 23.7 percent compared to an OECD average of 14.9 percent (OECD, 2011, p. 28).³ It is estimated that between a half (Bradshaw & Finch, 2002, p. 26) and almost two-thirds (Hutt, 2012) of sole parent families entered that status as a result of separation. Cross sectional data show that sole parent families have average incomes and living standards well below their couple-family counterparts, and are at a much higher risk of living in poverty (Perry, 2016). A study of events triggering children's movement into poverty found that transition into a lone-parent household (i.e., a marital separation) increased the probability of entering poverty by 43.7 percent compared with those where separation had not occurred (Ballantyne, Chapple, Maré, & Timmins,

¹ This estimate is based on a question which asks 'Do you (or your partner) have children who don't live with you?' and is likely to under-count shared care situations (*pers. comm.*: 3 March 2015 Scott Ussher, Statistics New Zealand to Simon Collins, New Zealand Herald).

² The number of people with private child support arrangements is not known.

³ 2006/2007 data. The New Zealand rate was third highest in the OECD at the time.

2004). The prevalence of sole parent families, their high poverty rate (and contribution to child poverty rates), plus their high reliance on welfare has made the issue of 'sole parents' a long-standing and often controversial public policy concern. Sustained childhood poverty may have detrimental impacts that last into adulthood in terms of health, education and earnings and other outcomes.

Despite these broad facts, very little research attention has been directed in New Zealand towards understanding the economic consequences of parental separation. Unlike most European and English-speaking OECD countries, there are no New Zealand estimates of the impacts of divorce and separation on incomes or living standards, the gender gap in outcomes, or the extent to which welfare provisions, child maintenance law or other state measures ameliorate negative effects.

The lack of quantitative research into the economic consequences of parental separation in New Zealand has been due in part to the unavailability of suitable data. However, in 2006 Inland Revenue (IR) and the Ministry of Social Development (MSD) began to develop the longitudinal *Family Tax and Benefit Research Linked Dataset* (known as the Working for Families, or WFF, dataset), opening up new research opportunities. While not representative of the whole population, this dataset, now 10-years long, covers approximately two-thirds of all parents with dependent children, and the great majority of those in the lower half of the income distribution (see Chapter 4 for details).

1.2 Thesis aims and research objectives

The goal of this thesis is to fill some of the gaps mentioned above by extending current knowledge and understanding of outcomes for separating families with children. The research contributes in at least four respects. These are the first empirical estimates of the economic consequences of separation using New Zealand data. The dataset is one of the most extensive in the world for analysing parental separations. The analysis extends the few existing studies of economic outcomes for ex-partner dyads. The study also provides a new analysis of the New Zealand child support scheme, a critical element of policy affecting separated parents.

Both its prevalence and its impact make parental separation a significant policy issue. Child support policy is concerned directly with the consequences of separation and the sharing of costs of raising children when parents do not live together. The welfare system and family tax credits as well as housing assistance, health and other subsidies, early childhood care and education, and employment assistance measures all play a role in cushioning the negative economic and social effects of separation on parents and their children. An important goal of the research is to shed light on the impacts of current policy and possible future enhancements.

The empirical component of this thesis comprises three related studies. The first two are focused on better understanding the post-separation outcomes for New Zealand parents. The third examines a critical policy change affecting them – the introduction via the Child Support Amendment Act 2013 of a new formula for calculating child support liabilities.

1.2.1 Aims

This study aims to provide answers to three questions:

- i. What are the short- to medium-term economic impacts of marital separation for the New Zealand men and women with dependent children included in this dataset?
- ii. How do economic outcomes compare for ex-partners?
- iii. What are the likely impacts of the new liability assessment formula in the Child Support Amendment Act 2013 on child support payments and receipts?

1.2.2 Objectives

The following research objectives were set in order to address these research aims:

- To examine changes in key income measures for these groups in the years following separation. Longitudinal administrative data compiled by Inland Revenue and the Ministry of Social Development were used to identify cohorts of parents who separated.
- To estimate the impact of separation on incomes by using propensity score matching and difference-in-differences techniques to identify suitable comparison groups of men and women who remained partnered.
- To compare outcomes for matched dyads of ex-partners, and to examine how the contributions of earnings, State and private transfers (child support) to overall income change differ following separation.
- To analyse the likely impacts of the Child Support Amendment Act 2013 on separated parents' incomes using data provided by Inland Revenue, coupled with the modelling of the pre- and post-2015 child support liability formulae.

1.3 Thesis outline

The remaining chapters of the thesis are organised as follows:

Chapter 2: Background provides contextual information. Part 1 of the chapter summarises key demographic and economic trends relevant to the study of separated parents in New Zealand. The second part provides an overview of the evolution of relevant policy and describes the policy settings applying over the study's analysis period.

Chapter 3: Literature review presents a summary and critique of the empirical literature on the economic consequences of divorce and separation. The evolution of the literature is set

against its historical policy and methodological contexts before the focus shifts to a more detailed examination of recent studies. The emphasis is on quantitative studies.

Chapter 4: Data describes the datasets used in the analyses presented in Chapters 5 and 6. These chapters use longitudinal unit record data compiled from administrative records maintained by Inland Revenue and the Ministry of Social Development. The dataset is now held, in anonymised form, by Statistics New Zealand. This chapter describes that dataset, the data extracted for use in this study, and discusses certain strengths and limitations of the data. At the time this study began, the dataset was held by Inland Revenue, and this was the first research project outside government that was granted access to it. Differences between the population contained in this dataset, and estimates from the Population Census are also explored.

Chapter 5: The economic consequences of separation for New Zealand parents receiving social assistance. This chapter describes the methods used in, and results of, the first study which examines the economic consequences of separation for parents or carers with dependent children over the first three post-separation years. Consistent with much of the literature, a central issue in this analysis is the difference in outcomes between men and women. A key advantage of administrative data used is the large population size – 7,311 men and 8,628 women – who experienced marital separation at some point during the year to 31 March 2009. Both raw results and adjusted results using propensity score matching and difference-in-differences estimation to reduce bias due to confounding variables are reported. The main outcome variables used are total family income net of income taxes, and equivalised income (i.e., total family income adjusted for household size). The analysis considers both the average effects and their distribution.

Chapter 6: Comparing outcomes for ex-partners. Chapter 6 presents the results of the second study which takes advantage of the size and design of the dataset to extend the first analysis

by focusing on matched dyads of partners after they separate. To date, very few dyadic studies have been published. Where Chapter 5 used partnered people as the comparators, this chapter compares ex-partners against each other. The study explores outcomes for one partner relative to that of their ex-partner, and the extent to which changes in incomes (and living standards) for one are, or are not, mirrored by changes in the opposite direction for the other. It also examines the gap in outcomes between ex-partners. Changes in each dyad member's market income, State transfers and formal private transfers (i.e., child support) are explored. As in Chapter 5, the analysis covers the first three years following the year of separation.

Chapter 7: Child support and the likely impacts of the Child Support Amendment Act 2013. The third study examines in detail the contribution of one specific policy that can potentially ameliorate the impact of parental separation – child support. It evaluates the likely impacts of recent changes to child support policies. In 2013, the New Zealand Parliament passed a major amendment to the Child Support Act, the most substantial reform of the child support scheme since its introduction in 1992. Central to the reforms was an entirely new formula for calculating child support liability which took effect in the 2015/16 tax year. The study reported in Chapter 7 uses data provided by Inland Revenue to assess prospectively the likely impacts of the change to the new formula. It also draws comparisons with the earlier Australian changes which strongly influenced the New Zealand reforms. A version of this chapter was published in 2016 in the *Australian Journal of Family Law* (Fletcher, 2016).

Chapter 8: Discussion and conclusions summarises the overall findings from this thesis and discusses possible policy implications. It also discusses the strengths and the limitations of the studies included, and possible directions for future research.

2 Background: the demographic, labour market and policy context

2.1 Introduction

This chapter provides contextual background information relevant to the subsequent chapters. Section 2.2 summarises demographic, social and labour market trends. It highlights the significant changes in family structures, and growth in the number of sole parent families from the 1960s through to the 1990s. Section 2.3 focuses on policy settings, describing the historical evolution of policy, and the detail of policies applying over the period covered by the analyses in Chapters 5 and 6. While some areas of policy and law (e.g., divorce and marriage law) adapted well to the wider social changes, in others (notably social assistance and welfare, and their interaction with child support policy), policy responses have, arguably, had less success in fitting the new family forms into a framework designed explicitly for a male-breadwinner/female-carer family structure.

2.2 Demographic, social and labour market trends

In common with many other countries, New Zealand in the 1960s and 1970s saw considerable change in family structures reflecting changing social norms and expectations. Three major, closely related, trends occurred. The first was a decline in marriage rates and a rise in divorce. The second was the emergence of *de facto* marriage or cohabitation as a commonly accepted family form, including as a suitable environment for raising children. The third was a rapid increase in the number of sole parent – mostly sole mother – families. The rate of change slowed after the 1980s as the new patterns became established. Family (and household) structures continue to alter and diversify, but more slowly and less dramatically.

A difficulty faced by researchers focusing on partnership dissolution among parents is that there are no reliable time-series data on partnership formation and dissolution that includes *de facto* partnerships. There have been some studies (notably Carmichael, 1982; Dharmalingam et al., 2004; Pool, Dharmalingam, & Sceats, 2007) but these are somewhat dated⁴ and, in any case, face the same problems with data. It is necessary, therefore, to use a variety of surveys and sources to piece together an overall picture.

2.2.1 Marriage and divorce

Figure 2.1 shows marriage and divorce rates for the period from 1961 to 2015. The general marriage rate, defined as the number of marriages registered each year per 1,000 unmarried people over the age of 16⁵, has been declining since its peak in 1971, except for a small increase in 1982 when the final shift to no-fault divorce allowed some couples to formalise their already existing *de facto* partnerships. The rate of decrease has slowed since the mid-1990s, and by 2015 the general marriage rate stood at 11.1 per 1000.

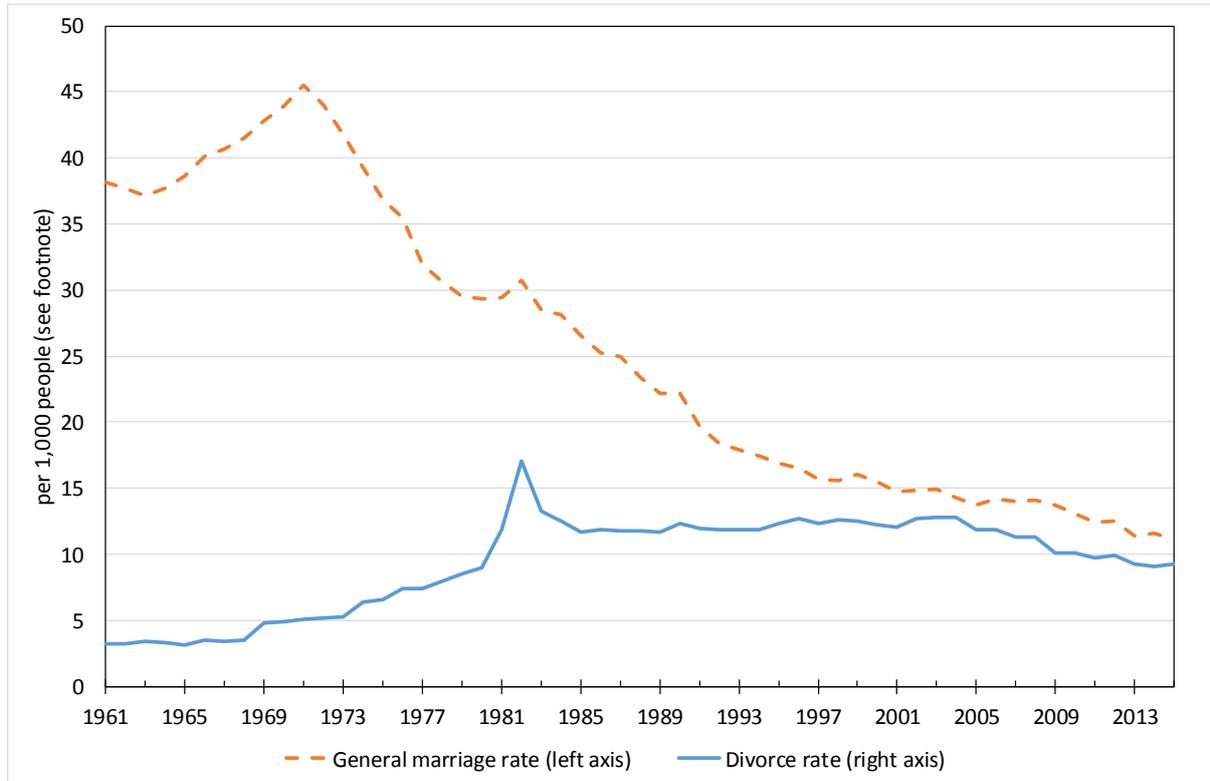
The annual divorce rate, defined as the number of dissolutions granted per 1000 existing marriages, climbed steeply from under four per 1,000 marriages in the late-1960s to around 12 per 1,000 from the mid-1980s (see Figure 2.1). There was a brief sharp spike in divorces following the passage of the Family Proceedings Act 1980, which completed the transition to no-fault divorce. The divorce rate remained roughly constant at around 12 per 1,000 each year from the late 1980s to 2005 before decreasing in the decade since then. In 2015 the rate was 9.3 per 1,000 existing marriages. It is not clear why the rate of divorces has declined in recent years. One factor however is likely to be the declining popularity of legal marriage over the last 40 years. Selection effects may mean that those choosing to formalise their marriage legally are also those who are less likely to divorce. There is, for

⁴ Although published in 2007, Pool *et al*, and the accompanying tables in Dharmalingam *et al* (2007), rely mostly on data from 2001 and earlier.

⁵ Since 26 April 2005 when the Civil Unions Act 2004 came into effect, the data also includes civil unions.

example, long-standing evidence that religiosity is associated with both a higher likelihood of marriage (rather than cohabitation) and a lower likelihood of divorce (Phillips, 1981; Carmichael, 1982).

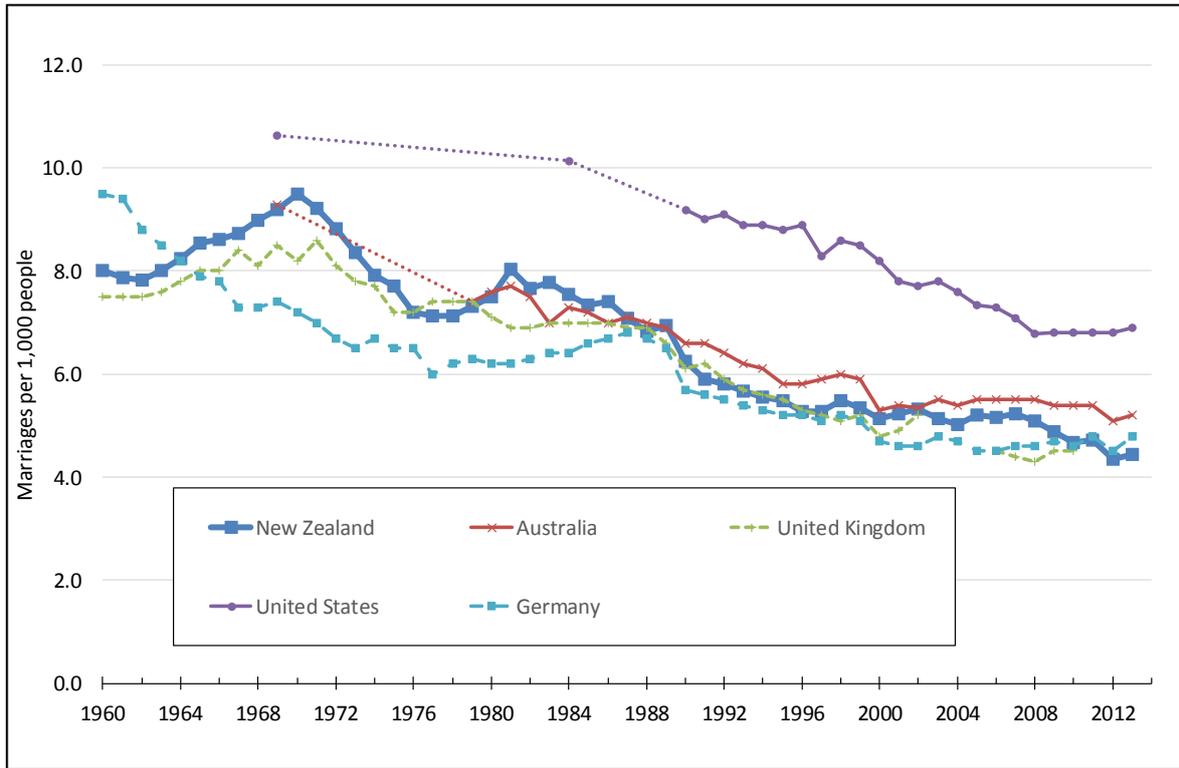
Figure 2.1: General marriage rate and divorce rate, 1961 - 2015



Source: Statistics New Zealand, *Infoshare*. Notes: i) The general marriage rate is marriages and civil unions per 1,000 mean estimated population aged 16 years and over who are not-married or in a civil union (transfers to and from marriage or civil union are excluded). ii) The divorce rate is orders for dissolution of marriage or civil union granted in New Zealand per 1,000 estimated existing marriages and civil unions.

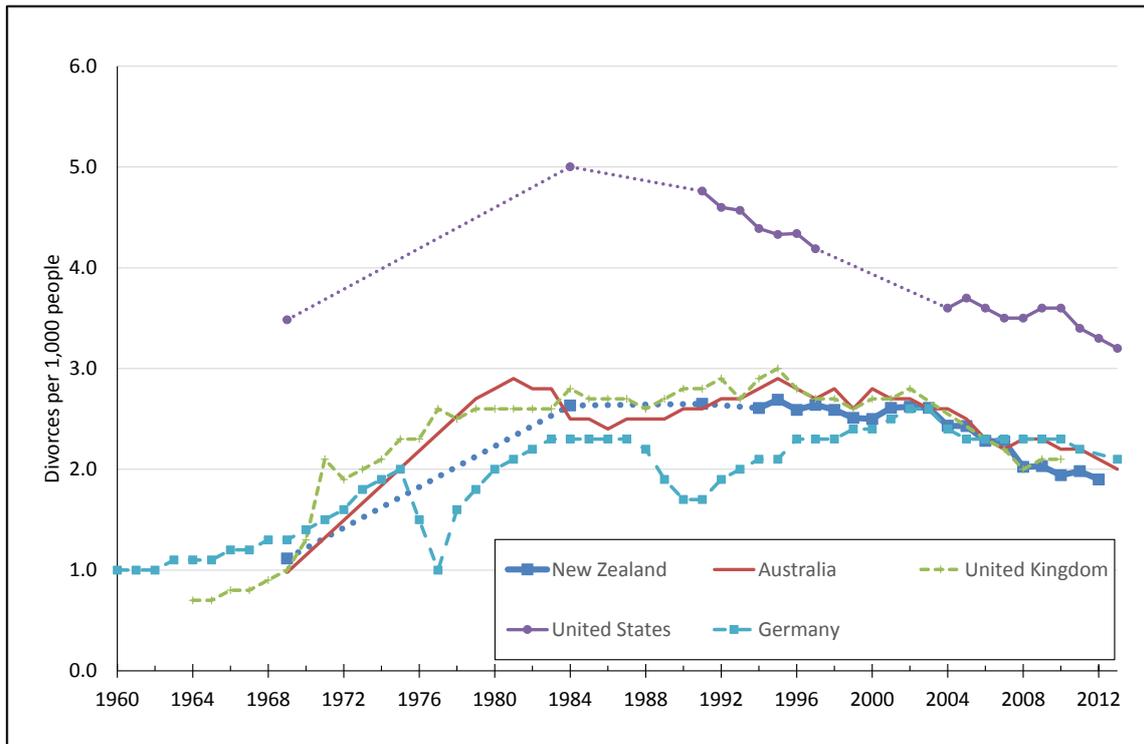
The New Zealand trends in marriage and divorce rates are similar to those of Australia and the UK, and are broadly similar to many other European OECD countries (see Figures 2.2 and 2.3). The United States, where the majority of the empirical studies of separation discussed in Chapter 3 come from, has also seen a similar trend of falling marriage rates and rising divorce rates, although the US is an outlier in OECD terms in that the *levels* of both marriage and divorce rates are higher.

Figure 2.2: Crude marriage rates (marriages per 1,000 people in the population), New Zealand and selected OECD countries, 1960 – 2013



Source: OECD Family Database

Figure 2.3: Crude divorce rates (divorces per 1,000 people in the population), New Zealand and selected OECD countries, 1960 – 2013



Source: OECD Family Database

The decline in marriage rates was associated with a growth in cohabitation more than with a large increase in the number of single people. The 1986 Census recorded that 8.0 percent of the partnered population over the age of 15 were living in a de facto relationship. By 2013 this figure had risen to 21 percent (see Table 2.1). Most of this increase occurred between 1986 and 2001. There was no further increase between the 2006 and 2013 Censuses.⁶

Table 2.1: Cohabitation rates, 1986 – 2013, as percentage of total partnered population aged 15 or older

	1986	1991	1996	2001	2006	2013
Percentage of partnered people who are in cohabiting relationship	8	10	15	18	21	21

Sources: Statistics New Zealand (1998) for 1986, 1991 and 1996; Statistics New Zealand *Infoshare* for 2001, 2006 and 2013.

At the same time, the total proportion of the adult population that is partnered has remained constant at 61 percent since 2001 (Table 2.2). Looking at relationship status by age group, three points stand out. First, at the prime child-bearing ages of 25 to 39, *de facto* relationships are common (34 percent of all partnered people in these age groups in 2013). Secondly, *de facto* relationships are common among people in their 20s but their prevalence declines in older age groups. The number of legally married people rises at the same time, suggesting either a process of conversion of cohabitation to marriage, or a tendency for subsequent relationships to be legal marriages rather than another cohabiting relationship. Thirdly, there has been relatively little change since 2001: over the 12 years covered by these Censuses, the patterns observed appear to be age effects rather than a cohort effect. Compared to other OECD countries, New Zealand is notable for its high rate of cohabitation. Partnership rates overall are higher in New Zealand than in all but three other OECD countries, but this is due primarily to the high rate of cohabitation. The proportion of people aged over 20 who are married is below the OECD average (see Figure 2.4). Pool *et al* (2007, pp. 226-230) discuss this 1970s

⁶ Note that Censuses are usually held every five years in New Zealand but the Census scheduled for March 2011 was delayed for two years following severe earthquakes in Christchurch in September 2010 and February 2011.

‘revolution’ in the growth of cohabitation (in other countries as well as in New Zealand). They note suggestions that the term cohabitation may combine many forms of relationship including a ‘prelude to marriage’, a ‘test before [possible] marriage’, short-term ‘ephemeral’ relationships, ‘stable relationships, without commitment’ and a ‘consensual union’. This diversity is the primary reason the analyses in Chapters 5 and 6 are restricted to partnerships of at least 12 months duration.

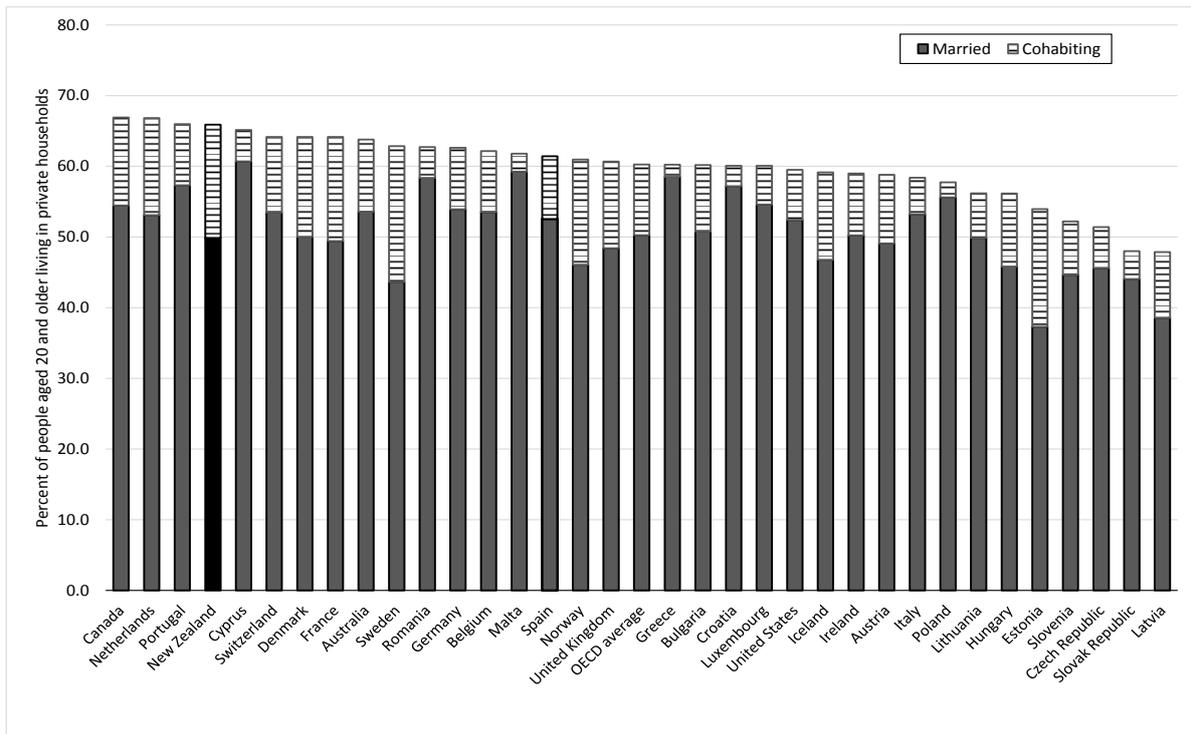
Table 2.2: Partnership status in current relationship, by age group, percentage of usually resident population aged 15 and over, 2001, 2006 and 2013

	All over 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-64 years
2001									
Married	48%	0%	7%	28%	48%	58%	63%	66%	71%
De facto	11%	5%	20%	25%	19%	14%	11%	10%	6%
Total partnered	61%	5%	28%	55%	69%	74%	76%	77%	78%
Total non- partnered	39%	95%	72%	45%	31%	26%	24%	23%	22%
2006									
Married	47%	0%	6%	26%	46%	55%	60%	63%	69%
De facto	13%	5%	24%	28%	22%	17%	14%	12%	8%
Total partnered	61%	6%	31%	56%	70%	75%	76%	76%	77%
Total non- partnered	39%	94%	69%	44%	30%	25%	24%	24%	23%
2013									
Married	46%	0%	5%	26%	46%	54%	57%	58%	62%
De facto	13%	4%	21%	28%	22%	18%	16%	14%	10%
Total partnered	61%	4%	28%	55%	71%	75%	75%	74%	74%
Total non- partnered	39%	96%	72%	45%	29%	25%	25%	26%	26%

Source: Statistics New Zealand, www.nz.stat.govt.nz.

Notes: ‘Married’ includes registered civil unions. Percentages partnered may not sum to the total partnered as ‘partnered, not further defined’ has been excluded.

Figure 2.4: Partnership status of 20+ year olds, by current relationship, 2011



Source: OECD Family Database. Note: 'married' includes civil or registered partnerships.

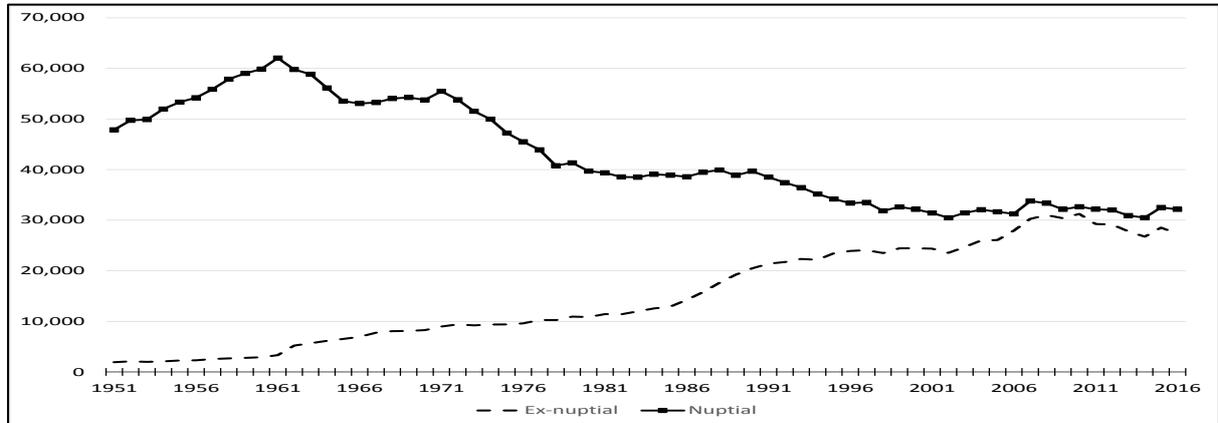
2.2.2 Births outside marriage

Perhaps the most dramatic demographic change in numerical terms has been the increase in ex-nuptial births. Until the mid-1960s, fewer than 10 percent of births were to unmarried mothers. It was not uncommon in the 1950s and 1960s for births to occur less than nine months after marriage (Carmichael, 1982; Goodger, 1998; Pool et al., 2007) but the social expectation, at least among Pākehā society, was that child-bearing should take place within legal marriage. From the 1960s onwards, ex-nuptial births have risen steadily as a proportion of total births and now account for almost half of all births (figure 2.5). Although rates vary considerably, growth in the proportion of ex-nuptial births is common across nearly all OECD countries (OECD Family Database, SF2.4).

Within the overall figure, however, lie significant differences. In particular, Māori ex-nuptiality rates (defined by reference to the ethnicity of the baby) have always been higher than that of the total population. In the late-1960s, almost one-third of Maori babies were born outside of legal marriage.

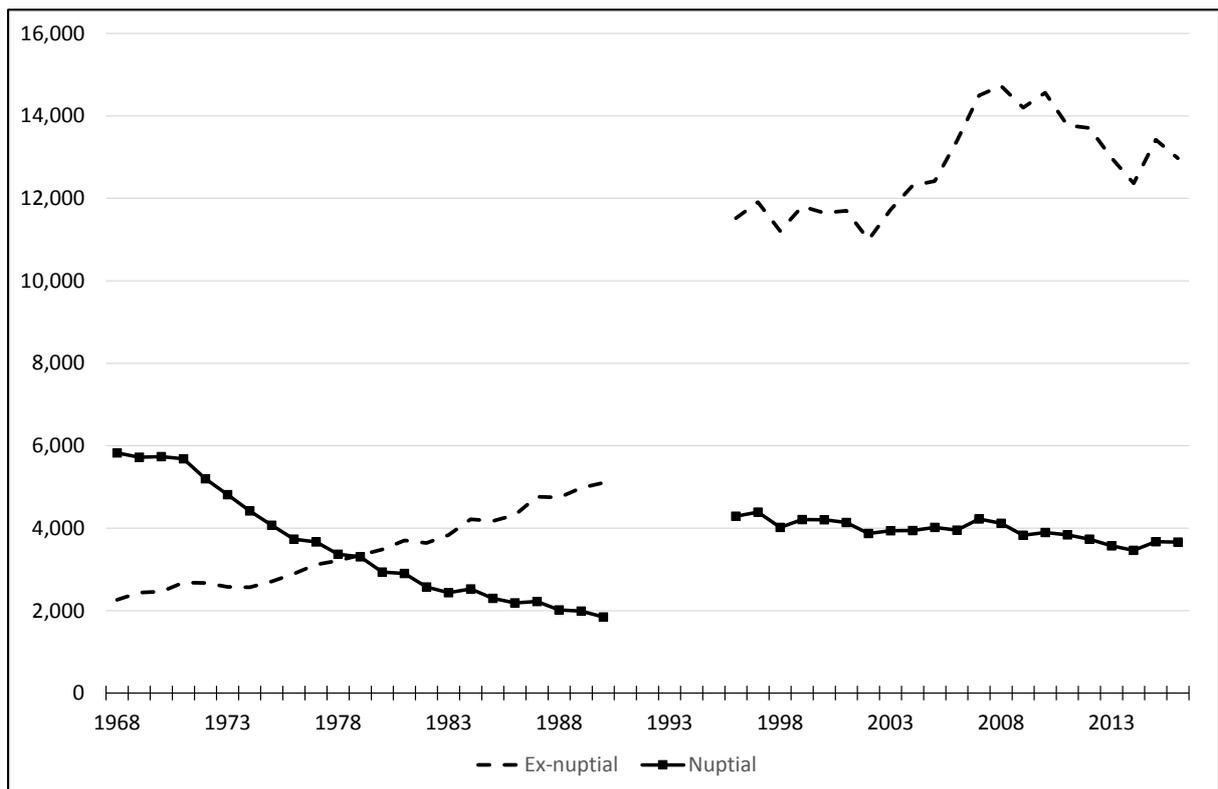
This proportion grew rapidly through the 1970s and 1980s and since 2005 between 75 and 79 percent of all Māori births are ex-nuptial (figure 2.6).⁷

Figure 2.5: Live births, by nuptiality, 1962 - 2015



Source: Statistics New Zealand, *Infoshare*

Figure 2.6: Live births, Maori children, by nuptiality, 1962 – 2015



Source: Statistics New Zealand, *Infoshare*. Separate data for Maori children by nuptiality not available before 1968. Data unavailable 1991 – 1995.

⁷ The ethnicities of babies is as recorded (usually by the parent(s)) on the birth certificate. More than one ethnicity can be recorded.

2.2.3 The rise in the number of sole parent families

A consequence of the changes described above has been a substantial increase in the proportion of families with children that are sole-parent families. In 1976, sole-parent families accounted for one in ten of all families with dependent children; by 2001, this figure had risen to almost 29 percent, falling to 27 percent by 2013 (see Table 2.3). There has been little change in the gender split of sole parent heads of families, with women comprising approximately 85 percent of sole parent heads.

Table 2.3: Family Structure, families with dependent children, 1976 – 2013

	1976	1981	1986	1991	1996	2001	2006	2013
Two-parent family	89.6	85.9	81.5	75.5	73.2	70.8	71.9	72.6
One-parent family	10.4	14.1	18.5	24.5	26.8	29.2	28.1	27.4
Mother only	8.8	11.9	16.0	20.5	22.7	24.4	23.5	23.1
Father only	1.6	2.1	2.5	4.0	4.1	4.8	4.7	4.3
Total families	100	100	100	100	100	100	100	100.0
Total families (number)	445,068	443,166	446,121	449,736	472,671	479,337	515,841	526,269

Source: The Social Report (2010b) and Statistics New Zealand

The data and trends reported above do not tell us how common separation is among parents of dependent-aged children. Statistics on its prevalence or incidence are not available. One source of information that comes close is the General Social Survey which estimates that 221,000 parents (15 percent of all parents) have children who do not live with them. However, that estimate is based on the question: ‘Do you (or your partner) have children [under 18 years old] who do not live with you?’ It is likely that some parents who share care will answer no, thus implying a downward bias in the estimate.⁸ Conversely, there will be other cases where the parents never lived together.

Finally, a recent source of information on living arrangements is Sligo *et al*'s (2017) analysis of children born to Dunedin Multidisciplinary Health and Development Study participants. The sample is non-random (being the children born between 1991 and 1995 of the original survey cohort born in 1972-73), and is small (209 participants). However, it highlights the prevalence of separated parenting. Only

⁸ Scott Ussher, Statistics New Zealand, *pers. comm.* 3/3/2015, to Simon Collins, New Zealand Herald.

20 percent of the participants lived with both parents continuously up to their 16th birthday. The relatively young age of at least one of the parents (between 18 and 23 years) probably biases the result upward, and is likely to contribute to the low proportion, 63 percent, of children born into a household including both parents. However, discounting that group, the figures still imply that fewer than half (43 percent) of all children who were born into a two-parent household lived continuously with both parents up to age 16. Using a different cohort born one generation earlier in 1977, Fergusson (1987) extrapolates data on children aged up to nine, and born to participants in the Christchurch Child Development Study, to estimate that ‘37 percent to 40 percent of children who started out life in two parent families...will experience a family breakdown by the age of 16’ (Fergusson, 1987, p. 18).⁹

2.2.4 Employment, unemployment, incomes and poverty

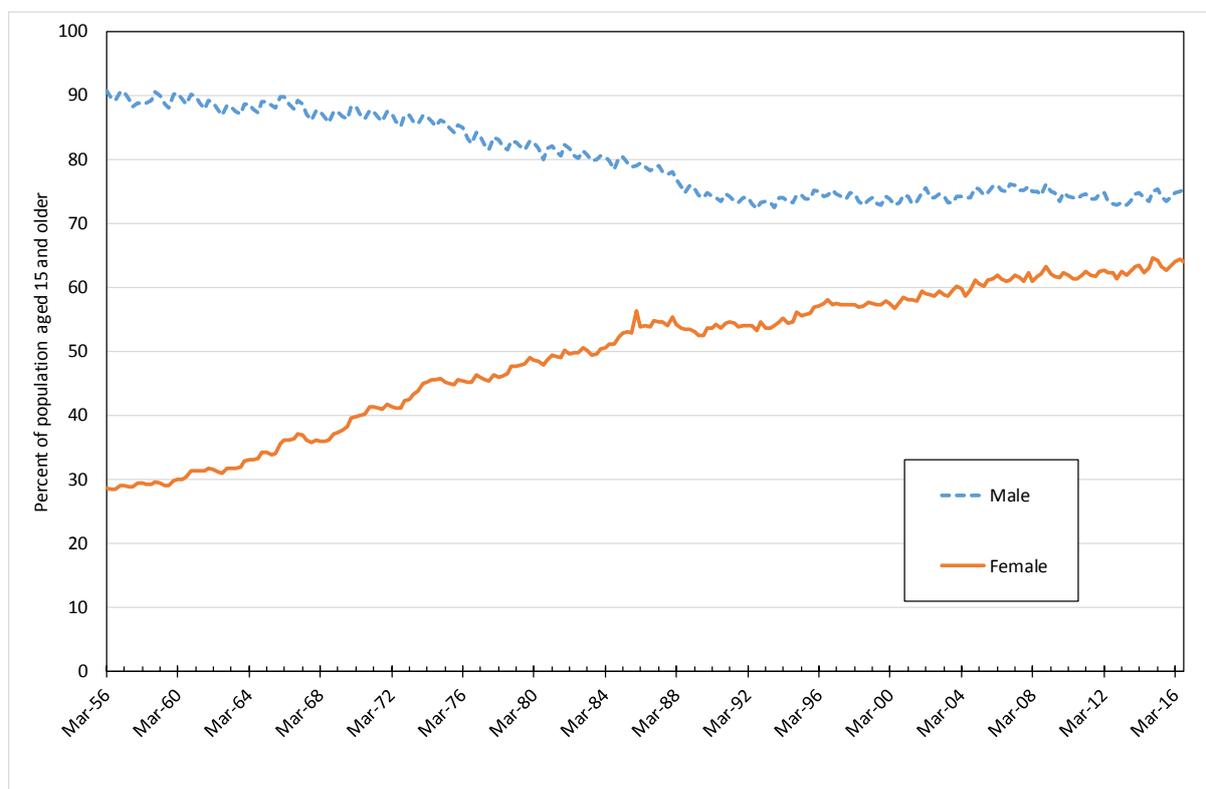
As in many OECD countries, a rapid rise in women’s labour supply occurred over the same period as the changing family demographics. The trend, which began at the time of the Second World War, was at its strongest during the 1960s and 1970 and has continued, albeit more slowly, in recent years (see Figure 2.7). Men’s labour force participation fell during the 1970s and 1980s, but remained more or less constant throughout the period covered by this study.

Unemployment rates were at historically low levels at the beginning of the analysis period (see Figure 2.8). In 2007 both male and female unemployment rates were lower than at any point since the Household Labour Force Survey began in 1986. The Global Financial Crisis in 2008/09 caused a significant increase in unemployment, which was sustained throughout the analysis period. In the March quarter 2012, the male unemployment rate was 6.3 percent, and the female rate was 7.0

⁹ These figures are notably different from estimates reported in de Vaus and Gray who found that 73 percent of Australian children born between 1976 and 1983 into an intact (i.e., two-parent) family were still living in that family at age 18 (De Vaus & Gray, 2003, p. 13).

percent. Employment rates also fell at the time of the GFC but remained more or less constant between 2009 and 2012 at approximately 70 percent for men and 58 percent for women.¹⁰

Figure 2.7: Labour force participation rates, by sex, 1956 - 2016



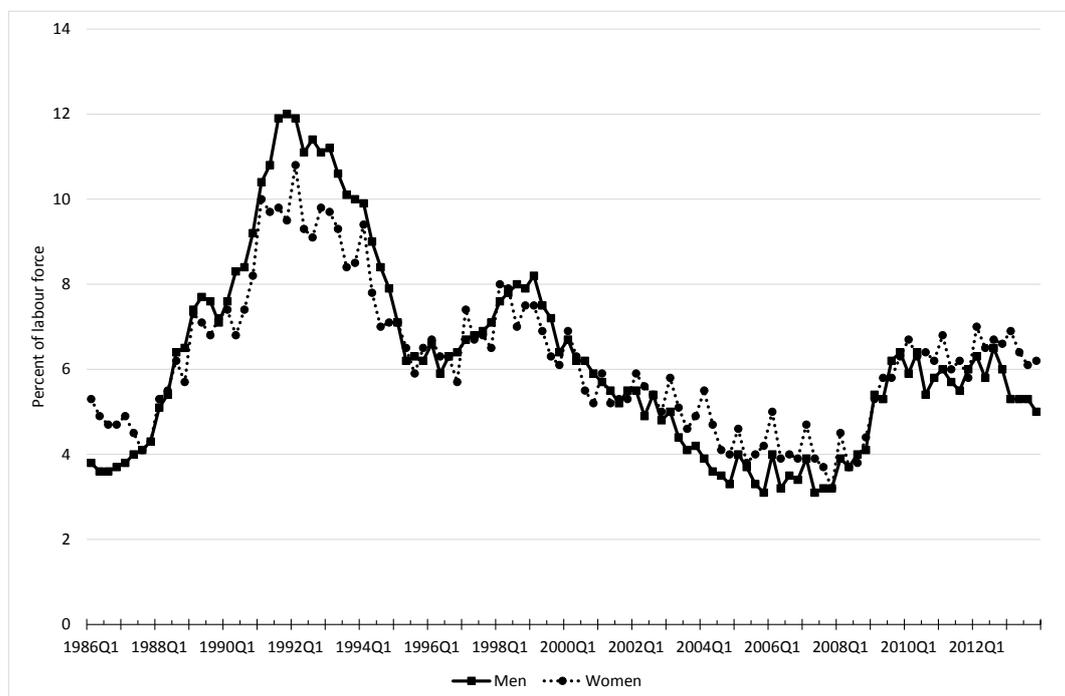
Source: Statistics New Zealand Infoshare and Long-term Data Series (pre-1985.4 from Chapple, S. (1994). *HLS-Consistent Labour Market Data*, NZIER Working Paper WP 94/16.)

Sole mothers are less likely to be employed than partnered mothers, although the difference diminishes as the age of the youngest child in the family rises (figure 2.9). The difference is less pronounced in respect of full-time employment (defined here as 35+ hours per week), and by the time the youngest child is 14 years or older, the proportion of sole mothers working full-time is equal to the proportion of couple parents where both work full-time. Amongst couple parents, the commonest pattern is for one partner to work full-time and one part-time with a transition toward two full-time workers once the youngest child is a teenager. Sole mothers are most likely not to have any paid work

¹⁰ As a percentage of the population over the age of 15 years.

when the youngest child is young, a significant minority work part-time once the child is aged 3 or older, with the proportion employed full-time rising as the youngest child gets older.

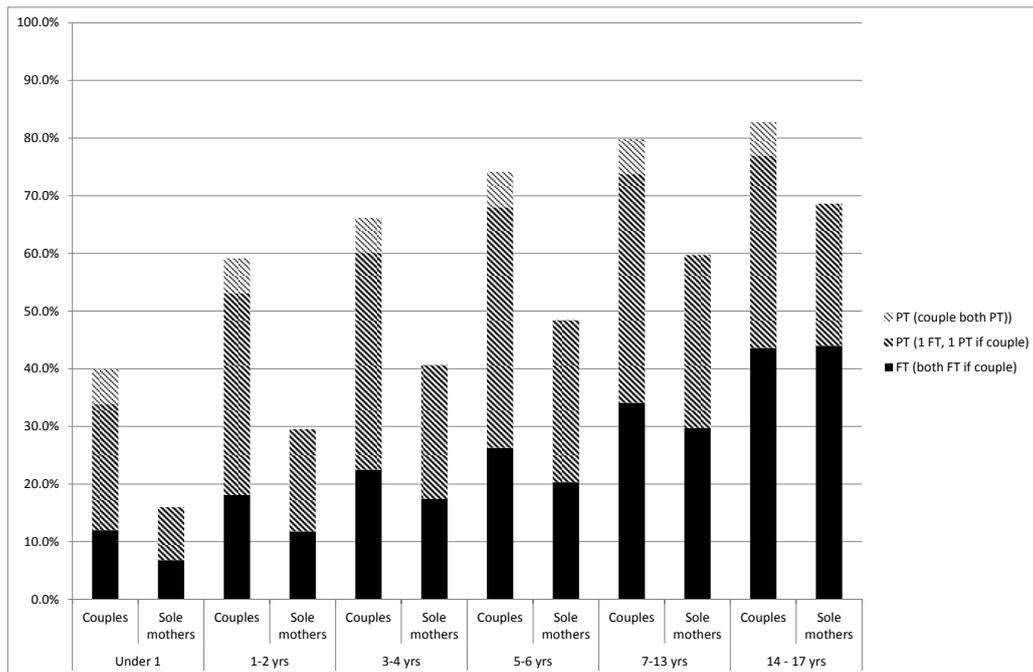
Figure 2.8: Unemployment rates, by sex, 1986 - 2013



Source: Statistics New Zealand *Infoshare*

Census data show an increase in sole mothers' employment, both part-time and full-time from 47 percent in the 2001 Census to 52 percent in 2006. The increase occurred irrespective of the age of the youngest child. There was no further increase by the time of the 2013 Census, although there was a large shift from the 'not in the labour force' category to 'unemployed'. The increase in the proportion unemployed did not occur among partnered mothers and may reflect the change in welfare rules which required sole parents with children over three to be actively seeking part-time or full-time work (see Section 2.3.2 below). Sole fathers are much more likely than sole mothers to work full-time (56 percent at the time of the 2013 Census), and less likely to work part-time. Overall, however, their employment rates are only slightly higher than sole-mothers once the youngest child is school-aged. There has been little change in sole fathers' employment rates over the last three Censuses.

Figure 2.9: Employment, by family structure and age of youngest child, 2012

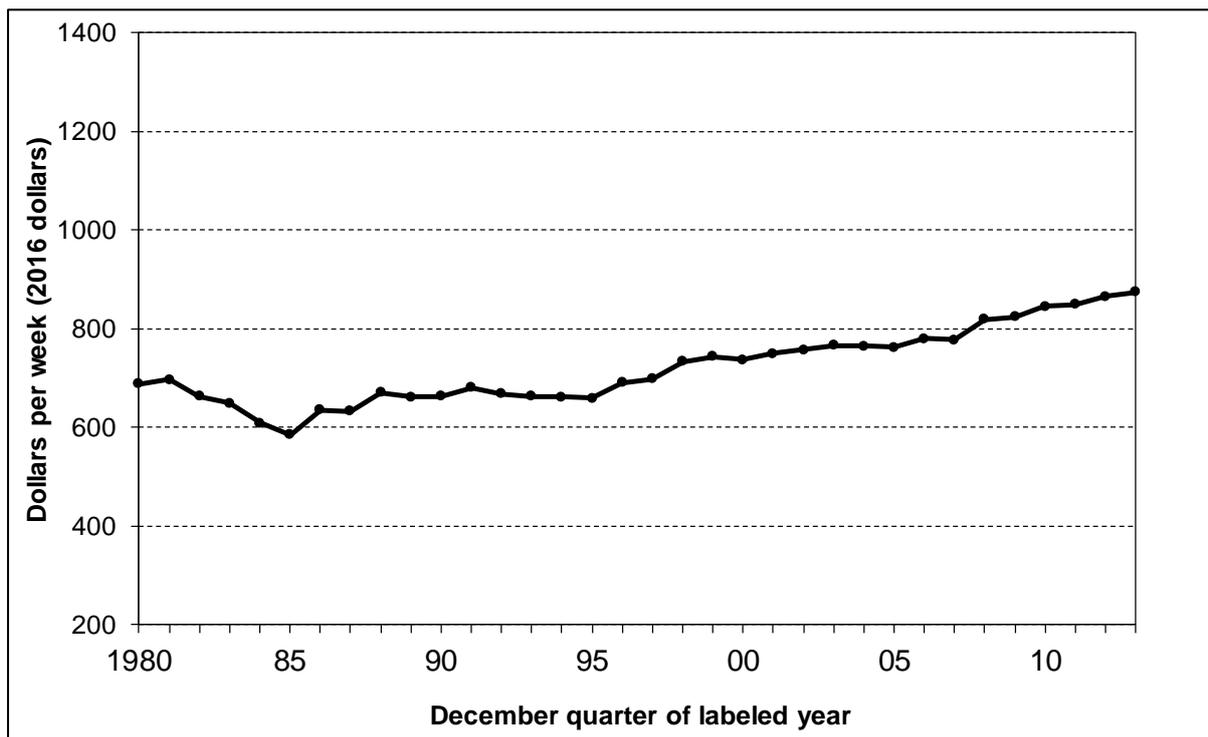


Source: Statistics New Zealand, *Household Labour Force Survey*. FT = employed 35+ hours per week; PT = 1 – 34 hours per week

2.2.5 Wages and incomes

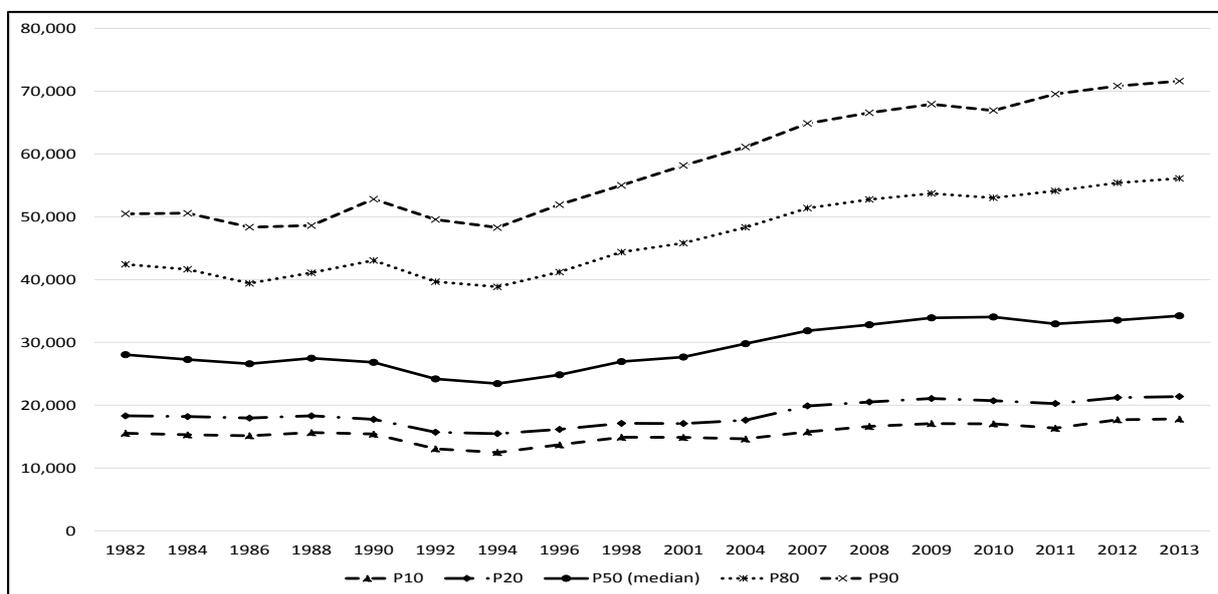
Real average weekly earnings grew steadily throughout the analysis period after a period of minimal growth between the early 1980s and mid-1990s (Figure 2.10). Real equivalised household incomes, which are averaged across households not individuals, show a slightly different pattern (Figure 2.11). At the median, there was a rising trend from 1994 through to 2009 with minimal growth thereafter.

Figure 2.10: Real average weekly earnings (net of tax)



Source Perry (2016)

Figure 2.11: Real equivalised household incomes, selected decile boundaries, 1982 – 2013 (2015 dollars)



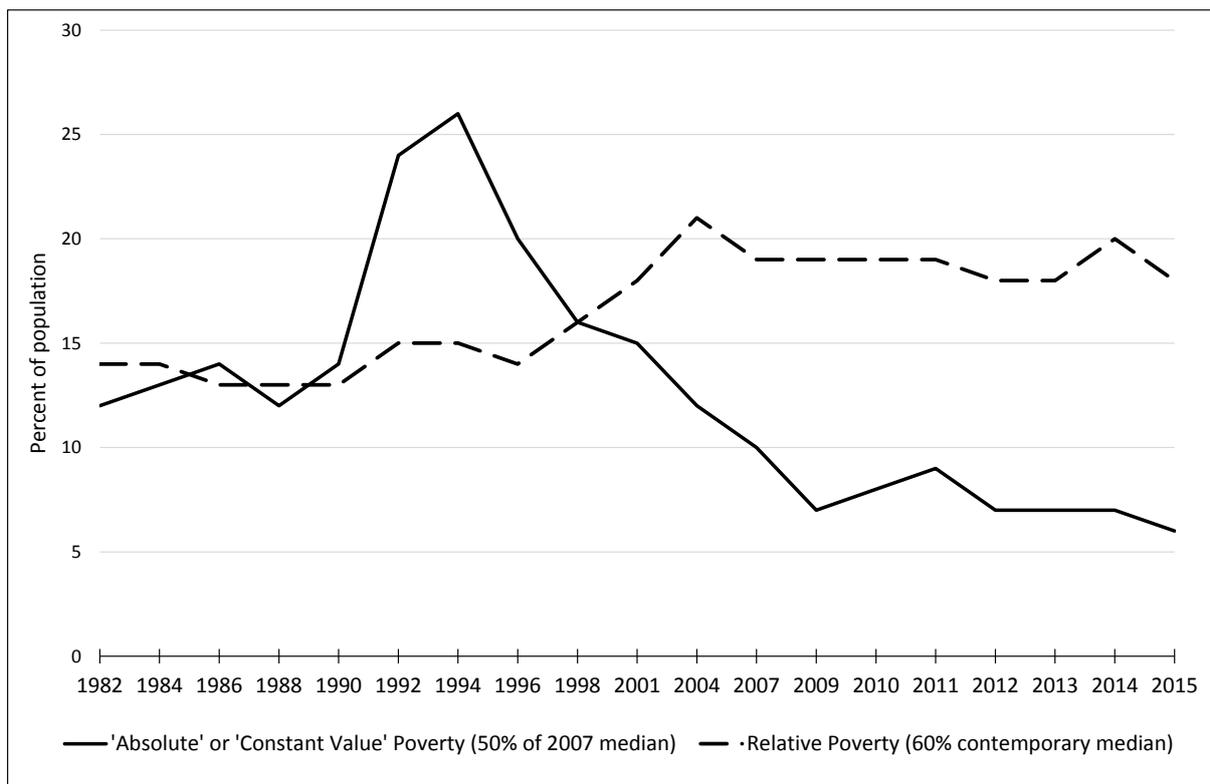
Source: Perry (2016, p. 66)

2.2.6 Poverty

Poverty rates in New Zealand are near the OECD median (Perry, 2016, p. 170). Using an absolute or 'constant value' measure (50 percent of the 2007 median adjusted by movements in the Consumer

Price Index) the poverty rate for the whole population rose sharply in the early-1990s before falling through to 2009 (see Figure 2.12). Using a relative poverty measure (60 percent of the contemporary median), the rate rose in the second half of the 1990s and has remained more or less constant since at around 18 percent. The constant value measure, which is used in the analyses in Chapters 5 and 6, also showed no trend over the analysis period, rising from 7 percent in 2009 to 9 percent in 2011 and back to 7 percent from 2012.

Figure 2.12: Poverty rates, whole population, 1982 - 2015



Source: Perry, 2016

There are large differences in poverty rates by household type. Throughout the period between 50 and 60 percent of sole parent households were below the 60 percent of contemporary median poverty measure after taking housing costs into account. These figure compare with 14 to 16 percent of two parent households with dependent children (Table 2.4). Children living in households where an income-tested benefit was the main source of income in the year prior to the survey have especially high poverty rates: between 79 percent and 86 percent over the 2007 – 2012 period.

Table 2.4: Poverty rates by household type, constant value measure (60 percent of 2007 median), after housing costs

	2007	2009	2010	2011	2012
Households with two parents and children	14	16	16	15	15
Households with sole parent and children	57	52	61	61	60
Total population	18	17	18	19	17
All children in all households	22	24	26	25	24
Children in households with main income:					
from market sources	12	14	13	12	13
from income-tested benefit	79	85	86	80	85

Source: Perry, 2016

2.3 The policy context

Policy settings have a considerable influence on the effect separation has on family incomes and living standards (see for example Strand, 2012 which discusses this topic directly). Redistribution through the tax-benefit system, including tax credits for families with children, can cushion a fall in income following separation. One of the core objectives of the social security safety net is to protect individuals from poverty in the face of adverse events including divorce and separation. Child support transfers between parents may also contribute to ameliorating the negative effect of separation on children and the parent with primary care. The evidence regarding the extent of these impacts is discussed in the next chapter (section 3.3.3).

New Zealand's welfare policy settings are unusual in international terms. Historically, New Zealand along with Australia, fitted what Castles described as a 'wage-earners' welfare state' (Castles, 1985, 1994), in which 'wages policy, in large part, substituted for social policy' (Castles, 1994, p. 124). Associated with this was, on the one hand, a strong commitment to full (male) employment and 'fair wages' and, on the other, a structure of relatively ungenerous, single tier, tax-funded welfare benefits, with no social or occupational insurance except for accidental injury.¹¹ Since the economic and labour market reforms of the late 1980s and early 1990s, economic and wages policy has not been used in

¹¹ New Zealand has a social insurance scheme, administered through the Accident Compensation Corporation (ACC), for medical costs and income-protection in the event of injury.

the same way, leading some authors to suggest there has been a ‘hollowing out’ of social protection in both New Zealand and Australia (Wilson, Spies-Butcher, Stebbing, & St John, 2013).

This section has two purposes. First, it describes the evolution of policy over the recent past. Secondly, it provides detail of the policy settings applying during the period 2006 to 2012 that the analyses in the following chapters relate to. The focus is on financial assistance policies that affect the incomes of families with children. Specifically, the chapter covers:

- The core social welfare benefit system
- Assistance for families with children via tax credits
- Housing assistance
- Supplementary assistance, including subsidies for childcare and out-of-school care, and ‘third-tier’ hardship assistance
- Child support

2.3.1 The overall level of assistance

In terms of the overall quantum of financial support for couple and sole-parent families with children, New Zealand’s social assistance package is relatively modest.¹² Analysis of 2012 OECD data shows that financial assistance represented 58 percent of the average wage for a couple family with children and with no earnings and 54 percent in the case of a sole parent family (Fletcher, 2015). In both cases, New Zealand ranked near the middle of the 33 OECD countries included in the analysis based on a comparison of minimum support, but 25th and 28th respectively if unemployment insurance entitlements available in many other countries are included.¹³ The same analysis showed that on an

¹² The social assistance package in this analysis includes welfare benefits, assistance to families with children, and housing assistance.

¹³ This is based on an assumption of full entitlement and insurance payments at the beginning of a spell out of work (Fletcher, 2015).

equivalised income basis, the assistance package for families with no earnings represented 39 percent of median incomes in the case of a couple with two children, and 42 percent for a sole parent with two children.

2.3.2 Welfare benefits

New Zealand has a flat-rate, tax-funded, system of welfare benefits. There is no social insurance except for injury which is covered by Accident Compensation, and includes compensation for lost earnings paid at 80 percent of earnings up to a cap. Five main benefit categories are relevant for the period covered by this analysis:

- *Unemployment Benefit (UB)*. A work-tested benefit payable to individuals available for and actively seeking full-time work, and who are either not in work, or working fewer than 30 hours per week.
- *Sickness Benefit (SB)*. Available to those currently not able to work, or to work only part-time due to temporary ill-health. Work-testing requirements depend on medical assessment; in most cases there is no work-test although some sickness beneficiaries are required to seek part-time employment.
- *Invalids Benefit (IB)*. Available to individuals with permanent or long-term disability or illness which prevents them working more than 15 hours per week. 'Long-term' is defined as at least two years. The Invalids Benefit is also sometimes payable to those with a terminal illness, usually where life expectancy is less than six months.
- *Domestic Purposes Benefit (DPB)*. Three categories of DPB applied over the period of this analysis. DPB-Sole Parent (DPB-SP) is available to those not in a relationship 'in the nature of marriage' (see below) and with primary responsibility for care of a child or children under the age of 18. DPB-Caring for the Sick or Infirm (DPB-CSI) is payable to single people with full-time care of a sick or infirm relative (most commonly an elderly parent) who would otherwise

require rest-home or hospital care. Entitlement to DPB-Woman Alone (DPB-WA) was on various grounds but was primarily aimed at women who had care of a dependent child for 15 or more years, and were 50 or older when they ceased to have care of the child, and who were not partnered. The 'women alone' category was abolished in July 2013.

- *Widows Benefit (WB)*. The WB is payable to widows with dependent children and, under certain circumstances, to widows who no longer have dependent children but who are over the age of 50. This latter ground for entitlement was also abolished in 2013.

These benefit names and categories were changed from 15 July 2013 (i.e., after the period covered by the analysis in this thesis) as part of a welfare reform programme. Announcements of these and other changes relating to the welfare reform programme were made in stages between 2010 and 2012 after the 2008/09 year used as the base 'year of separation' in the empirical analyses reported in Chapters 4 and 5. They would not, therefore, have affected separation decisions, although they could possibly have affected post-separation decision-making and behaviour.

The historical development of welfare benefits in New Zealand and trends in benefit receipt

New Zealand's current welfare benefit structure was established by the Social Security Act 1938, which consolidated and extended the provision of means-tested non-contributory benefits for people unable to work due to disability, widowhood, illness or unemployment.¹⁴ At the time, the Act was regarded as a highly progressive development, providing a secure safety net after the experiences of widespread unemployment associated with the Great Depression. Beveridge, for example, included a comparison of his proposals for the UK with the New Zealand provisions in his 1942 report, *Social Insurance and Allied Services*.¹⁵

The most significant extension to the 1938 benefit system was the establishment in 1973 of the DPB and the statutory entitlement to welfare for sole parents. Prior to that date, sole parents in need of

¹⁴ McClure (1998) gives a detailed account of the development of social security benefits in New Zealand, both before and after the 1938 Act.

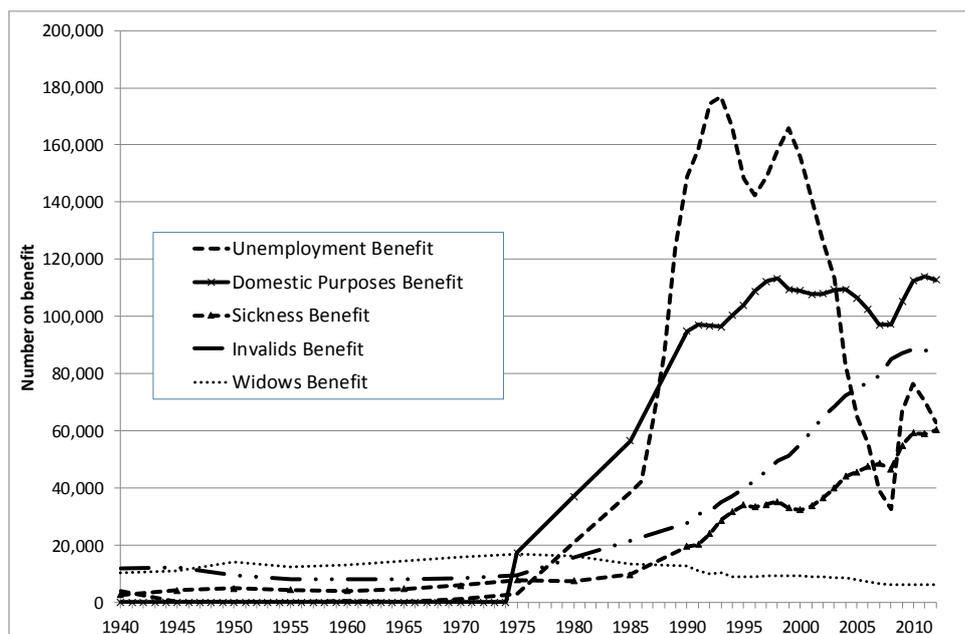
¹⁵ See <http://contentdm.warwick.ac.uk/cdm/ref/collection/health/id/1680>.

financial support could be granted an emergency benefit at the discretion of the Director-General of Social Welfare. ('Deserted wives' were in some cases entitled to receive the Widows Benefit (Goodger, 1998).) Growth in the number of sole-parent households, along with rising concern about poverty, especially poverty among children in sole parent households, led the 1972 Royal Commission on Social Security to recommend a statutory benefit for sole parents (McClure, 1998, p. 169).

Welfare receipt numbers were low during the thirty years from the end of the Second World War to the mid-1970s (see Figure 2.12). The two most numerous benefit categories during this period were Widows and Invalids. The number of DPB recipients grew rapidly after 1974, eventually peaking in 1998 before decreasing in the early 2000s as labour market conditions improved, and rising again from 2008 after the Global Financial Crisis (GFC). Unemployment Benefit numbers also began to rise from the mid-1970s as employment growth slowed at the time of the two oil-price shocks, and the impact on New Zealand's trade of Britain's entry in 1973 into the European Economic Community (or 'European Common Market'). Unemployment benefit numbers rose dramatically from 1985 increasing four-fold in the period to 1992, associated with global economic trends and the then government's programme of economic restructuring. Unemployment benefit numbers fell rapidly from the early 2000s before also rising with the GFC. The trends in the number of people receiving Sickness and Invalids Benefit receipt show little or no association with the economic cycle. In common with many OECD countries (OECD, 2010), the numbers of SB and IB recipients has grown steadily for most of the period since the mid-1980s.

These trends resulted in a rise in the number of beneficiaries as a proportion of the population aged 15–64 beginning in the mid-1970s, and accelerating rapidly between 1985 and 1993 to reach 15 percent (see Figure 2.14). The period included in the analysis here is marked by a temporary increase due to the GFC, but since 2010 total benefit numbers have been declining.

Figure 2.13: Number of main benefit recipients, 1940 - 2012



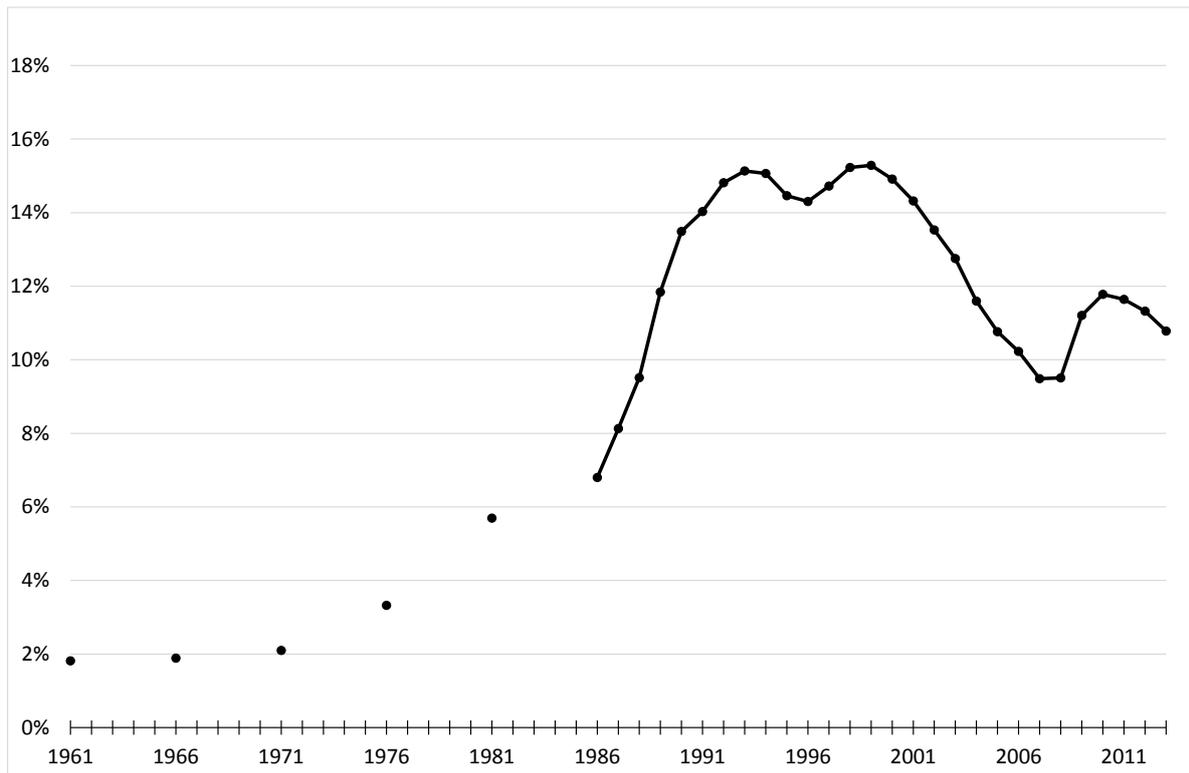
Source: Ministry of Social Development (2013) and Ministry of Social Development, *Benefit Statistics* www.msd.govt.nz

Benefit eligibility and rates during the period of this study

Apart from one change in April 2005 associated with the introduction of the Working for Families tax credit reforms, the structure of benefit rates did not alter over the period covered by this analysis. The 2005 change was the removal of the so-called ‘child component’ in benefit rates so that couples on benefit no longer received a higher rate if they had a dependent child, and sole parents no longer received extra if they had two or more children (McKenzie 2017, p388).¹⁶ The stated objectives for this change were to ‘move towards a single programme of assistance for children’ through the Family Tax Credit, to ensure continuity when people moved between work and benefit, and to simplify the benefit system (Office for the Minister of Finance and Revenue & Office for the Minister of Social Development and Employment, 2004). But it also had the effect of significantly reducing the gain from the reform package for these groups of beneficiaries, and in so doing, helped the Government’s other Working for Families reform objective of ‘making work pay’ by minimising the increase in replacement ratios which could otherwise have occurred.

¹⁶ In the 2004 year a couple on benefit received an additional \$16.14pw (5.9 percent) if they had a dependent child or children, and a sole parent an additional \$21.40pw (9.1 percent) if s/he had two or more dependent children.

Figure 2.14: Percentage of working age population receiving welfare benefits, 1961 - 2013



Source: Chapple, S. (unpublished).

Benefit rates have since the 1990s been adjusted for (the previous year's) CPI inflation on 1 April of each year. This was made a statutory requirement by the Social Security (New Work Tests, Incentives and Obligations) Amendment Act 2010.¹⁷ The main rates for the period 2005 - 2013 are set out in Table 2.5.

A 'dual abatement' regime applied to benefits throughout the analysis period (and subsequently). For UB and SB recipients, the benefit is reduced by 70 cents for each dollar earned in excess of \$80pw. Until September 2010, Domestic Purposes, Widows and Invalids benefits were abated at 30 cents per dollar on earnings between \$80 and \$180pw and at 70 cents per dollar thereafter. After that date, these amounts were increased to \$100 and \$200pw respectively. The rationale for the distinction between benefit types was to encourage a shift to full-time employment for unemployment

¹⁷ Gross rates of benefit were adjusted on two other occasions during this period when income tax scales changed so as to leave net benefit rates unchanged (i.e., to prevent the net rate from increasing).

beneficiaries while providing an incentive to take up part-time employment for the other groups (McKenzie, 2017, pp288 & 498).¹⁸

Table 2.5: social welfare benefit rates, 2005 – 2013, net weekly rate after tax¹⁹ as at 1 April each year

	2005	2006	2007	2008	2009	2010	2011	2012	2013
UB and SB									
Single, 18-19, at home ²⁰	112.38	115.94	118.98	122.77	126.92	129.41	134.26	136.64	137.47
Single 20-24, and 18-19, away from home ²¹	140.48	144.92	148.73	153.46	158.65	161.76	167.83	170.80	171.84
Single 25+	168.59	173.92	178.49	184.17	190.39	194.12	201.40	204.96	206.21
Couple	280.96	289.84	297.46	306.92	317.30	323.52	335.66	341.60	343.68
DPB-Sole Parent and Widows Benefit									
Sole parent	241.47	249.10	255.65	263.78	272.70	278.04	288.47	293.58	295.37
Woman alone or single adult	175.61	181.16	185.92	191.83	198.31	202.20	209.78	213.49	214.79
Invalids and DPB-Caring for Sick and Infirm									
Single 16-17	170.52	175.91	180.54	186.28	192.58	196.35	203.71	207.32	208.58
Single 18+	210.72	217.38	223.10	230.19	237.97	242.63	251.73	256.19	257.75
Couple	351.52	362.32	371.84	383.66	396.62	404.40	419.56	426.98	429.58
Sole parent	276.82	285.57	293.08	302.40	312.62	318.75	330.70	336.55	338.60
Average ordinary time weekly earnings (first quarter, seasonally adjusted)									
	647.00	676.00	713.00	746.00	788.00	794.00	826.00	856.00	880.00

Source: <https://www.workandincome.govt.nz/map/>

Although the general trend has been towards an increase in ‘work activation’ and a stronger focus on job search and active case management, this was not uniform throughout the period covered by this research owing to differences in approach between the Labour-led government in power between December 1999 and 2008 and the National-led government which followed.

Throughout the period, unemployment beneficiaries were subject to a full-time work test, meaning they were required to be available for, and to actively seek work of, at least 30 hours per week. The work test requirements for partners of unemployment beneficiaries depended on the age of the

¹⁸ The earnings amounts the abatement regime applies to are before tax; the reduction in benefit relates to the net-of-tax benefit.

¹⁹ Taxed at primary/only income tax rate.

²⁰ From 20 August 2012, this rate also applied to 16- and 17-year-old sole parents living at home and receiving the newly-established Young Parent Payment. Other Young Parent Payment recipients received either the DPB sole parent rate or the UB married rate, depending on their partnership status.

²¹ This rate also applied to the Independent Youth Benefit until 20 August 2012 and then to single Youth Payment recipients.

couple's youngest child in the same way as for sole parent beneficiaries. Until September 2010, Domestic Purposes Beneficiaries were not required to be available for work as such but were required to complete a 'Personal Development and Employment Plan' setting out training, work search and other steps towards employment. From 2010, this was replaced with a part-time work test for DPB recipients whose youngest child was aged six to 13 years, and a full-time work test once the youngest reached 14 years (McKenzie 2017, p356 and p475). No work-test applies to Invalids Beneficiaries; and work-testing of Sickness Beneficiaries depends on the specifics of their medical assessments. Details of the sanctions that applied in the event of work-test failures varied over the period, but included reductions in benefits or a stand-down period of nil benefit receipt.

2.3.3 Assistance for families with children: the 'Working for Families' tax credits

New Zealand has four targeted non-refundable tax credits available under certain circumstances to families caring for dependent children. Collectively these are now known as the 'Working for Families' tax credits. The Family Tax Credit (FTC) is the largest, in terms of both coverage and value, and is available to all couples and sole parents, subject only to residency and income tests. The In-Work Tax Credit (IWTC) is an additional payment available to non-beneficiary families who meet a work-hours test of 30-plus hours per week for couples or 20-plus hours for sole parents. The Parental Tax Credit (PTC) is available for up to 16 weeks at the time of the birth of a baby (or an adoption) if a family is not on benefit and not receiving Paid Parental Leave. The last tax credit is the relatively small programme, the Minimum Family Tax Credit (MFTC) designed to pay a top-up, abated dollar-for-dollar, to ensure non-beneficiary employed families on very low-incomes who meet the hours-test are better off than they would be if on benefit. Payment rates and other details of the tax credits are set out in Table 2.6.

The WFF tax credits have their origins in targeted social assistance measures introduced in the 1980s by the Labour Government. They sat alongside the universal Family Benefit payable for every child.

The Family Benefit, of \$6 per week, was phased out in 1991. The earliest work-targeted payment for children, Family Care, was introduced in December 1984. It provided a \$10 per week per-child supplement for low-income non-beneficiary families working at least 30 hours per week. The amount corresponded to the existing 'child supplement' paid to beneficiaries as part of their benefit (McKenzie 2017, p156). Although intended as an interim measure until more comprehensive assistance schemes could be put in place by the new government, Family Care established the practice of providing an additional payment to parents who were not on benefit. The introduction of a child-related benefit available only to those in work was controversial at the time (McClure 1998, p216) and has continued to be so in its current IWTC form (see for example St John & Heynes, 1994; St John & Craig, 2004; St John & Dale, 2010). The issue was eventually the subject of an ultimately unsuccessful legal challenge on the grounds of unlawful discrimination under the Human Rights Act 1993.²²

The forerunner of the FTC, Family Support, was introduced on 1 October 1986. It replaced Family Care and the pre-existing Family Tax Rebate, Principal Income Earner Rebate, Family Care and Child Supplements for beneficiaries (McKenzie 2017, p176). Although payable to beneficiary and non-beneficiary families, reductions in the base rate of benefits limited the gains to beneficiaries (McClure 1998, p217). Family Support introduced several features of the current FTC. It was means-tested against family income; paid at a higher rate for the first child than for subsequent children, and was delivered by Inland Revenue rather than the Social Welfare Department. It introduced the concept favoured by the Finance Minister, Roger Douglas, of providing social assistance through the tax system rather than through welfare (McClure 1998, p218). A further and unintended feature of Family Support, which has continued to be problematic (and which is evident in the data in this study) is the prevalence of over- and under-payments and associated debts. Initially, Family Support was payable to employed people as an end-of-year refund (it was not, therefore, available for weekly living costs) and to beneficiaries as part of their weekly benefit. Those moving in and out of benefit and work often

²² See Court of Appeal ruling, CHILD POVERTY ACTION GROUP INC (CPAG) V THE ATTORNEY-GENERAL CA457/2012 [2013] NZCA 402 [30 August 2013], at <https://www.hrc.co.nz/ohrp/our-work/discrimination-litigation/>.

found they faced an end of year debt. Although FTC is now paid on a weekly or annual basis, problems with over-payments due to variations in income during the year continue to be common.

The Guaranteed Minimum Family Income was also introduced in 1986. This was a top-up payment, identical in all but name to the current Minimum Family Tax Credit, available to non-beneficiary families. To be eligible, a couple was required to work at least 30 hours per week between them, and a sole parent to work at least 20 hours per week.

In 1996, the National Government re-introduced an additional payment on top of Family Support for non-beneficiary families payable on a per-child basis. This payment was initially called the Independent Family Tax Credit (IFTC) but in 1999 tax credit names were changed. The IFTC became the Child Tax Credit, and the Guaranteed Minimum Family Income became the Family Tax Credit (not to be confused with the present day FTC, which is the renamed Family Support). At the same time, the Parental Tax Credit, payable to non-beneficiaries for 8 weeks following the birth of a baby, was introduced. Collectively Family Support and the three tax credits were branded as 'Family Plus' (McKenzie 2017, p322).

Working for Families tax credits eligibility rules and payment rates during the period of this study

The structure of family tax credits remained unchanged from 1999 until the Labour Government's introduction of the 'Working for Families' reforms announced in the Budget on 27 May 2004. These reforms, which also involved changes to the Accommodation Supplement, Childcare Subsidy, Out of School Care subsidy, and hardship assistance, were phased in between October 2004 and April 2007.

From 1 April 2005, the maximum rates of Family Tax Credit (still called Family Support) were increased by \$25pw for the first child, and \$15pw for each subsequent child (McKenzie 2017, p388) and by a further \$10 per week from 1 April 2007. Family Tax Credit rates were adjusted for inflation from 1 October 2008 and further increased by 2.02 percent from 1 October 2010 in order to compensate for the increase in the rate of Goods and Services Tax (GST) from 12.5 percent to 15 percent (McKenzie 2017, p505).

The In-Work Payment came into force on 1 April 2006, replacing the Child Tax Credit.²³ The main difference between the two was that instead of \$15 per week per child, the new payment paid \$60 per week per eligible family with one, two, or three children, plus \$15pw extra for each subsequent child (i.e., more than three). The same hours-worked rule, 20 per week for a sole parent, and 30 per week for couples, continued to apply. As with the CTC, the IWP was abated against joint family income and after entitlement to Family Support was fully exhausted.

In February 2007, this new structure of tax credits was consolidated and renamed under the collective title of 'Working for Families Tax Credits'. The new names, which remain today, and are used throughout this study, are:

- Family Tax Credit (FTC) – previously named Family Support
- In Work Tax Credit (IWTC) – previously named the In-Work Payment (and, in an earlier form, the Child Tax Credit)
- Minimum Family Tax Credit – previously named the Family Tax Credit (and before that the Guaranteed Minimum Family Income)
- Parental Tax Credit.

Rates and thresholds for these programmes are set out in Tables 2.6 and 2.7.

Although overall responsibility for the tax credits lies with Inland Revenue, payment of the FTC is split between Inland Revenue and Work and Income New Zealand. Work and Income pays FTC on a weekly basis to those beneficiaries who have no other earnings that may affect their level of entitlement.²⁴

In all other cases, Inland Revenue pays out all WFF tax credits. Those receiving payments through IR may choose either periodic payments (weekly or fortnightly) or an annual lump sum paid at the end

²³ Existing Child Tax Credit recipients had their CTC entitlements 'grand-parented' for as long as their eligibility continued and they were not eligible for the IWP/IWTC. In the dataset used for this study, a small number of people continue to receive the CTC.

²⁴ This is the only tax credit beneficiaries are entitled to. The system is further complicated by a policy of 'ring-fencing' by which people receiving an unabated rate of benefit are entitled to the maximum amount of Family Tax Credit for the period they are on benefit, irrespective of their annual income.

of the tax year. For those receiving periodic payments, an end-of-year square-up is carried out in most cases to determine if the correct annualised amount was paid. This can result in an additional later payment (i.e., if there was an under-payment) or the establishment of debt in the event of an overpayment. Small debts are not usually pursued. Problems of over- and under-payments are dealt with in Chapter 4 of this study.

Table 2.6: Maximum Working for Families Tax Credit rates and abatement thresholds²⁵

	As from				
	1/4/06	1/4/07	1/10/08	1/10/10	1/4/12
Family Tax Credit maximum rates					
Eldest, 16 – 18 years	\$4,420	\$4,940	\$5,198	\$5,303	\$5,303
Eldest, under 16 years	\$3,744	\$4,264	\$4,487	\$4,578	\$4,822
Others, 16 – 18 years	\$3,900	\$4,420	\$4,651	\$4,745	\$4,745
Others, 13 – 15 years	\$2,860	\$3,380	\$3,557	\$3,629	\$3,822
Others, under 13 years	\$2,444	\$2,964	\$3,119	\$3,182	\$3,351
In-Work Tax Credit, maximum rates					
Per family, one, two or three children	\$3,120	\$3,120	\$3,120	\$3,120	\$3,120
Additional payment per child, four or more	\$780	\$780	\$780	\$780	\$780
Parental Tax credit maximum (paid over 8 weeks)	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
Working for Families abatement					
Threshold	\$35,000	\$35,000	\$36,827	\$36,827	\$36,350
Abatement per dollar over the threshold	20c	20c	20c	20c	21.25c

Table 2.7: Minimum Family Tax Credit (previously Guaranteed Minimum Family Income)

As at year beginning 1 April	2006	2007	2008	2009	2010	2011	2012
Guaranteed minimum after-tax family income	\$17,680	\$18,044	\$18,460	\$20,540	\$20,800	\$22,204	\$22,568

Note: these figures are exclusive of other tax credits.

²⁵ This summary of rates is drawn from a document provided by Sandra Watson, Inland Revenue.

2.3.4 Housing Assistance

New Zealand provides two main forms of targeted housing assistance: state-owned housing provided at a subsidised rental related to income (called Income-Related Rent subsidy or IRR subsidy) and the Accommodation Supplement (AS), available under certain conditions as a subsidy for private rental, board, or mortgage costs. Both are funded by central government. Local authorities are a relatively smaller player in New Zealand social housing, providing around 11,000 housing units in total (A. Johnson, 2013, p. 6). For many households, the IRR subsidy or the AS make a significant contribution to household incomes or living standards, and are, therefore, important considerations in relation to the economic impacts of separation. For example, in the 2011/12 year the highest maximum rate of AS for a couple with one or more children was \$225 per week compared to a base benefit of \$336 per week.

The provision of state housing dates back to the 1890s, but the biggest growth in numbers of state houses was during the 1940s and 1950s. Historically, rent was set at no more than 'fair rent' and adjusted downwards depending on family income and size. McKenzie (2017, p89) reports that in 1970 the State Advances Corporation (the administering agency) regarded one-fifth of income as a 'rough and ready guide' to an appropriate level of state house rental, and that in 1980, rents in state housing were around half those in the private sector. The current system of income-related rents was introduced in 1984. Under this scheme, tenants paid 25 percent of (joint) income up to a maximum of the market value of the accommodation (McKenzie, 2017, p160). The IRR system was phased out in the early 1990s by the National Government when it introduced the AS, but was reintroduced by Labour in December 2000.

The AS had its origins in the Accommodation Benefit introduced in the early 1980s. This was a supplement for beneficiaries to assist with housing costs.²⁶ The AS in its present form was introduced in July 1993 as part of the then government's policy of commercialising state housing and providing

²⁶ The Accommodation Benefit itself replaced an earlier system of an 'additional benefit' for accommodation costs.

all assistance through a cash payment. The new AS was available to beneficiaries and non-beneficiaries and provided a partial subsidy dependent on income, assets, family size and location. In February 2010, 316,000 people received AS.²⁷ Eighty-two percent of these were beneficiaries (or recipients of New Zealand Superannuation) and 41 percent had dependent children living with them (Ministry of Social Development, 2010a, p. 8). At the same date, Housing New Zealand Corporation owned or leased a further 70,000 units which housed an estimated 200,000 people, 90 percent of whom were supported by an IRR subsidy (Housing New Zealand Corporation, 2011, p. 5).

Housing assistance rules and payment rates during the period of this study

AS is available to beneficiaries and non-beneficiaries for rent, ownership costs (mortgage, local body rates, etc.) or board and lodging costs²⁸. The formula for calculating AS is:

$$\text{Min}[(0.7 \times (\text{Housing costs} - \text{'entry threshold'})), \text{Applicable Maximum Rate}] - \text{abatement}$$

That is, AS is paid at 70 percent of accommodation costs after deduction of a co-payment called the 'entry threshold', and up to the relevant maximum. The calculated AS entitlement may then be abated against income and cash assets. The entry thresholds are adjusted each year in line with the inflation adjustment of main benefit rates. As at 1 April 2008, the entry thresholds for couples with children, sole parent families and singles were \$97, \$86 and \$46 per week respectively.

Maximum AS rates vary by region and family type (see Table 2.8). These remained unchanged throughout the period covered by this analysis.

The co-existence of two forms of housing assistance creates a problem for this study. AS is recorded in the data, and included in the analysis as an income transfer. The IRR subsidy for State housing tenants, however, is an implicit payment: a reduction in rental outgoings, and is not visible in the data. The Working for Families dataset used in the study does not record whether a person is living in a State house. It is not possible, therefore, to impute any IRR subsidy.

²⁷ Not including partners and dependent children.

²⁸ AS can be claimed against two-thirds of board and lodging costs.

Table 2.8: Accommodation Supplement maximum rates

	Accommodation Supplement region			
	Area 1	Area 2	Area 3	Area 4
Accommodation Supplement maximum rates (annualised)				
Single person	\$7,540	\$5,200	\$3,380	\$2,340
Couple, no children; sole parent with one child	\$8,320	\$6,500	\$3,900	\$2,860
Couple with children; sole parent with 2+ children	\$11,700	\$8,580	\$6,240	\$3,900

Note: Area 1 covers high-cost parts of Auckland City; Area 2 includes other parts of Auckland, Wellington City and some smaller relatively high cost cities (eg, Nelson, Queenstown); and Area 3 includes other cities and towns. Area 4 is all remaining areas, comprising mostly rural areas and small towns. The 2013 Census recorded a nationwide median rent of \$14,560 and \$18,200 in the Auckland territorial authority area.

2.3.5 Child Support

New Zealand's child support scheme came into force on 1 July 1992 following the passage of the Child Support Act 1991 the previous December. The scheme provides for a formula-based assessment of liability, and collection and distribution of payments by the administering agency, Inland Revenue. There are provisions for departures from the standard formula which may raise or lower the liability. The original Act used a 'percentage of income' formula after deduction of an allowance for the liable parent's living costs (see Brackney, 1988). The Child Support Amendment Act 2013 replaced this with an 'income shares'-based formula. These formulae are described below. Application for a formal child support assessment is voluntary for non-beneficiary parents, but compulsory, except under special circumstances, for parents who are applying for a sole-parent benefit. New Zealand has no 'pass through' for this latter group of parents. That is, the State retains in full all child support payments collected from the liable parent up to the value of the main benefit paid, (usually the DPB) on the grounds that the child support payments defray welfare costs.

The development of the New Zealand child support scheme began in 1988 following similar moves in Australia. Its introduction was motivated by the rapid growth in the divorce rate, and in ex-nuptial births, and the consequential rise in the number of sole parent families, many of whom had low incomes, or were reliant on welfare benefits (Goodger, 1998). The Act replaced, or altered, two previous systems. It provided an administrative alternative to Court orders for child support, and court enforcement of registered voluntary child support agreements. It also replaced the 1981 Liable Parent

Contribution Scheme (LPCS) that gave the Department of Social Welfare authority to make claims against the other parent in respect of sole parents receiving the Domestic Purposes Benefit. That scheme had had little success in terms of either money collected or the number of parents contributing.²⁹

Eleven objectives were set out in the Act but the core goals were to establish an adequate level of financial support for children, to ensure that parents took financial responsibility for their children when relationships ended, and to ensure that non-resident parents contributed to the fiscal cost of the DPB (Child Support Working Party, 1994). From the outset, therefore, the scheme had twin purposes: the provision of a more efficient, lower cost and more easily enforced alternative to individualised Court processes for child maintenance payments, and the recovery of some of the costs of welfare expenditure for custodial parents on benefit.

The scheme was reviewed in 1994 shortly after its commencement by a Working Party chaired by Judge Trapski. That review recommended the introduction of a new formula that took into account both parent's incomes, and which did not include an allowance for step-children as of right (Child Support Working Party, 1994, p. 25). These recommendations were not acted on at the time. The Child Support Working Party also considered the issue of pass-on to custodial parents on benefit, the absence of which had been a controversial issue from the scheme's inception. The original policy development work, done under the then Labour government, included partial pass-on. However, when the Bill was eventually brought before Parliament under the new National Party Government in 1990/91, no pass-on was included. An amendment under the name of Labour MP, Hon. Michael Cullen to include pass-on was unsuccessful. The Working Party noted that they 'strongly favour a system whereby the amount of child support paid up to a set figure (a free zone) is passed on to the

²⁹ Prior to the introduction of the LPCS in 1981, sole parent applicants for the Domestic Purposes Benefit (and the discretionary Emergency Maintenance allowance that preceded it) were required to make an application to the Court before they could be eligible for the benefit (Goodger, 1998).

beneficiary without abating the benefit, and thereafter there is abatement of the custodial parent's benefit' (Child Support Working Party, 1994, p. 33). They went on to argue:

Changing to a system where a beneficiary custodial parent receives all or part of any child support would be a major shift in the philosophical basis of the child support scheme in this country, but would be in line with, and a natural extension of, our recommendation that the scheme should, like all other family law statutes, emphasise the welfare of the child. Indeed the main argument for a system of pass-on is that it would enhance the welfare of children. It would fundamentally recognise and emphasise that the welfare of the child requires that parents co-operatively undertake the financial responsibility of their children according to their capacity to provide, whether they are living with them or not.

(Child Support Working Party, 1994, p. 34)

However, the Working Party concluded that it must 'regrettably' recognise the fiscal cost involved, and recommended only that, 'there should be future monitoring and review of the issue with a view to eventually establishing a system of pass-on in this country' (Child Support Working Party, 1994, p. 35). As discussed in Chapter 7, inclusion of pass-on was ruled out by the then Minister at the outset of the recent 2010-11 review of the child support. His discussion document borrows (unattributed) the Working Party's words quoted above, stating, 'Changing to a system where a beneficiary receives some or all of the child support payment would be a major shift in the philosophical basis of New Zealand's child support scheme' (Dunne, 2010, p. 70) – but leaves out the Working Party's central point that to do so would bring the scheme into line with other legislation by giving priority to a child's well-being.

The child support formula and rules applying during the period of this study

The liability formula used in the child support scheme remained the same throughout the period of the analysis covered in Chapters 5 and 6. The new formula, which is the subject of Chapter 7, did not come into effect until the 2015/16 year. The basic formula applying up until 1 April 2015 was:

$$\text{Liable parent's child support obligation} = (a - b) \times c$$

Where: a = the liable parent's taxable income

b = the liable parent's living allowance

c = the child support percentage

The child support percentage varied according to the number of qualifying children, and whether or not care of the children was shared. Shared care was defined as 'substantially equal', meaning care of at least 40 percent of nights (146 or more nights per year). Child support percentages are set out in Table 2.9.

Table 2.9: Child support percentages

Number of qualifying children	No shared care	Shared care
One	18	12
Two	24	18
Three	27	21
Four	30	24
Five	30	25.5
Six	30	27
Seven	30	28.5
Eight or more	30	30

Source: <http://www.ird.govt.nz/childsupport/assessment/backyear/how-formula-worked-previously.html>

Table 2.10: Child support liable parent living allowances

Paying parent's status	2006	2007	2008	2008	2009	2010	2011	2012
Single person with no dependents	\$13,149	\$13,587	\$13,964	\$14,038	\$14,158	\$14,281	\$14,679	\$14,960
Partnered, no dependent children	\$17,772	\$18,357	\$18,858	\$19,088	\$19,379	\$19,490	\$19,969	\$20,343
Partnered, one child living with the paying parent	\$24,919	\$25,715	\$26,425	\$26,901	\$27,417	\$27,628	\$28,240	\$28,734
Partnered, two children living with the paying parent	\$27,441	\$28,303	\$29,096	\$29,663	\$30,234	\$30,558	\$31,222	\$31,743
Partnered, three children living with the paying parent	\$29,963	\$30,891	\$31,767	\$32,425	\$33,051	\$33,487	\$34,205	\$34,753
Partnered, with four + children living with the paying parent	\$32,485	\$33,479	\$34,438	\$35,187	\$35,868	\$36,417	\$37,187	\$37,762

Source: Inland Revenue

2.3.6 Childcare Subsidy, Out-of-school-care Subsidy and supplementary assistance

The Childcare Subsidy (CCS) dates back to 1983 but was extended in 1993 to provide an income-tested subsidy for up to 30 hours per week for people in employment or education, and nine hours for others (McKenzie, 2017, p. 262). The maximum number of hours for CCS, Out-of-school care, and recreation subsidy (OSCAR) was subsequently raised to 50 per week. In October 2004, rates and thresholds were further increased, and a system of indexation introduced. (Indexation ended in 2010 and thresholds were reduced to their 2008 levels.) Abatement of the CCS and OSCAR Subsidy are via three 'cliff-face'

steps that vary according to income and the number of dependent children in the family (see Table 2.11).

Table 2.11: Childcare Subsidy rates and thresholds (as at 1 April 2008)

	High	Medium	Low
Maximum rate per child (ie, full 50 hours per week) (annualised)	\$9,126	\$6,344	\$3,510
Income threshold (gross annual family income):			
If one child in family	\$62,400	\$67,600	\$72,800
If two children in family	\$71,760	\$77,480	\$83,200
If three or more children in family	\$80,080	\$86,840	\$93,600

The OSCAR Subsidy rates are for a maximum of 20 hours per week during school terms, and 50 hours during school holidays. They are paid at a higher hourly rate but are more tightly targeted against income.

From July 2007, Government introduced the 'Twenty hours free' Early Childhood Education programme. This provides for up to 20 hours per week free ECE at a maximum of 6 hours per day for three and four year old children attending participating ECE providers. Families may use the CCS to subsidise additional hours of childcare if they meet the income test and other criteria.

The Ministry of Social Development also administers several 'third-tier' discretionary assistance programmes designed to provide temporary or one-off additional assistance in situations of severe hardship. Over the period 2006 to 2012, the most significant of these is *Temporary Additional Support* (TAS). TAS is described by the Ministry as 'a non-taxable supplement that can be paid for a maximum of 13 weeks...as a last resort to help clients with their regular essential living costs that cannot be met from their chargeable income and other resources.'³⁰ The rate is based on calculating a 'deficiency' between income and 'allowable costs', and has its maximum set at 30 percent of the relevant main benefit. Non-beneficiaries may also receive TAS. Relatively small non-recoverable Special Needs Grants or recoverable payments or benefit advances are also available under certain circumstances to help meet one-off costs.

³⁰ <https://www.workandincome.govt.nz/map/income-support/extra-help/temporary-additional-support/payment.html>

2.3.7 Relationship status

Many financial components of the New Zealand social assistance system are targeted on the basis of joint family (couple) income, rather than personal income. As a consequence, the definition of 'married' or 'partnered' is important in determining eligibility for assistance and the amounts of assistance to which a person or family may be entitled. These rules have obvious significance for any analysis of the financial consequences of separation.

The definition of partnered as being in a relationship 'in the nature of marriage' has always been difficult to interpret and a source of controversy and tension (McClure, 1998, p. 181). The most significant change historically came as a result of the '*Ruka*' case. Isabella Ruka successfully appealed to the Court of Appeal against a conviction for benefit fraud on the grounds that her very violent *de facto* relationship, which did not involve financial support from her partner, could not be regarded as a relationship 'in the nature of marriage' (St John, MacLennan, Anderson, & Fountain, 2014, pp. 26-27). Following this, and a report to Government by barrister Frances Joychild, the definition of 'partnered' was clarified to some extent by following the Court's judgment that it required both emotional commitment and financial interdependence. That said, tests used to determine whether these two elements exist in any given case remain controversial and in practice are open to considerable discretion on the part of the administering agency. Enforcement of cases deemed to be relationship fraud typically require overpayments to be paid back, often in instalments over many years, and imprisonment is not uncommon (St John et al., 2014).

Further complications with the definition of relationship are inconsistent incentives affecting both social assistance recipients and administering agencies. In particular, if a person's relationship is judged to be a *de facto* partnership, their partner's income may disqualify them from entitlement to benefit and/or reduce their entitlement to FTC. At the same time, however, it may, by virtue of the joint assessment of hours worked, entitle the person to receipt of the IWTC (O'Brien & St John, 2014).

2.4 Conclusions

This chapter provides background information on the demographic, labour market and policy context relevant to the analyses that follow. Demographic and family structure trends observed in New Zealand are similar to those in many other OECD countries. There were dramatic changes in family structure during the 1970s and 1980s. Marriage became less common and less durable. *De facto* partnerships became a common and accepted (if varied) family form, including as an environment for bringing up children. There was a rapid growth in the number of sole parent families, many of whom had low incomes. It is now common for children to experience more than one living arrangement during the course of their childhood. Since the early 1990s, the rate of change in family structures has slowed as the new patterns reached what appears to be a natural plateau. Perhaps the one area where New Zealand does stand out from most OECD countries is its high rate of sole parenthood – at 28 percent of households with children, New Zealand is 4th highest of 32 OECD countries.³¹

Policy settings are rather different from those of most other countries. New Zealand has a tightly targeted welfare system with no social insurance overlay. Family assistance is delivered through tax credits that, although significant in quantum and available to approximately two-thirds of families with dependent children, are nonetheless less generous than New Zealand's closest comparator, Australia.

New Zealand's child support regime is also based on the model introduced slightly earlier in Australia, but is exceptional in that it has full State retention of child support payments made in respect of children where the parent with primary care is on a sole parent rate of benefit.

³¹ OECD Family Database SF_1_1

3 The empirical literature on the economic consequences of partnership dissolution

3.1 Introduction

There is now an extensive international empirical literature on the economic consequences of divorce and partnership dissolution.³² The earliest studies were cross-sectional, but beginning in the late 1970s the advent of nationally representative panel surveys has allowed longitudinal analysis.

Key questions addressed in the literature are:

- What are the impacts for women and men separately? The negative impact of separation on women, and the disparity in outcomes between men and women has been, and still is, a driving force behind much of the focus on the topic.
- Are the effects transitory or long-lasting? A short-term shock from which individuals recover relatively quickly has substantially different implications from an event that has a long-lasting negative impact.
- Is separating from cohabitation fundamentally different from separating from marriage?
- What individual and family characteristics are associated with better or worse consequences?
- What is the role of repartnering in the above questions?
- How does the composition of income change following separation? To what extent do earnings, child support, or other transfers between ex-partners, and transfers from the State ameliorate negative impacts?

³² There is also a large literature on non-economic impacts including psycho-social, health, child development effects. See, for example, Amato (2000), and Amato and Bruce (1991) for a meta-analysis of the impacts of separation on child well-being. These are outside the scope of this study and are not covered.

More recently two other questions have also been explored:

- Do the effects of separation differ between countries? And if so, what roles do social institutions and welfare state policy settings play in determining these differences?
- Have the effects changed over time? Specifically, do growth in women's (and mothers') employment and earnings, and changes in post-separation child care arrangements reduce the negative consequences for women and children?

A separate area of research concerns the *causes* or antecedents of marital separation. Research in the area includes both psycho-social and interpersonal factors, and economic correlates (see, for example, White, 1990; Hewitt, Baxter, & Western, 2005). This research focuses on separation as an outcome in its own right, and is discussed here only to the extent that the question of variation in the risk of separation is an important factor in addressing selection bias in estimates of the impacts of separation.

Before reviewing the empirical literature on the above questions, the following section discusses key data and methodological issues.

3.2 Data sources, concepts and methods

3.2.1 Data sources

From the late-1970s, and beginning in the United States, the development of longitudinal panel surveys made it possible to go beyond cross-sectional analyses of the correlation between marital status and economic well-being to examine the causal impacts of divorce on incomes and living standards. Early US studies used the Panel Study of Income Dynamics (PSID) (Hoffman 1977; Corcoran, 1979; Weiss, 1984; Duncan and Hoffman, 1985 and Stirling, 1989) and the National Longitudinal Surveys of Labour Market Experience (NLS) (Mott and Moore, 1978 and Nestel *et al*, 1983). Later American studies also used data from the National Longitudinal Surveys of Youth and of Young Men/Young Women (NLSY) (Smock, 1993), and the Survey of Income and Program Participation (SIPP)

(Bianchi *et al*, 1999 and Tach and Eads, 2015). Similar panel studies developed in other countries have been used to examine the impacts of separation include the British Household Panel Survey (BHPS) (Jarvis and Jenkins, 1999; Jenkins, 2009 and Fisher and Low, 2012), the (West) German Socioeconomic Panel (GSOEP or SOEP) (Burkhauser *et al*, 1991 and Bröckel and Andreß, 2015), the Dutch Socioeconomic Panel (Poortman, 2000), the Canadian Survey of Labour Dynamics (SLID) (Gadalla, 2009) and the Household Income and Labour Dynamics in Australia survey (HILDA) (de Vaus, Gray, Qu, & Stanton, 2010, 2014). More recently, multi-country datasets have also become available. Aassve *et al* (2007) use the cross-country European Community Household Panel (ECHP), Meulders and O'Dorchai (2010) use the European Statistics on Living Conditions (ESLC) dataset, and de Vaus *et al* (2015) use data from six OECD countries.

One disadvantage of using panel survey data to analyse relatively low-probability events like separation is that sample sizes are often small. Researchers have reduced this problem by pooling data across a number of years, often standardising the time periods, so that the duration since separation is comparable for the whole sample. Even pooling data across years, sample sizes (of women and men separately) tend to be small, typically ranging from around 100 to 400, and in some cases as few as 50.

A small number of researchers have exploited longitudinal administrative databases, broadly similar to that used in this study. The earliest examples are Finnie's (1993) and Galarneau and Sturrock's (1997) use of the Statistics Canada Longitudinal Administrative Database (LAD). LAD is a 10% stratified sample of the Canadian adult population based on tax records. At the time of Finnie's study it did not include information on welfare (social assistance) income, and although child support payments were included as income in the recipients hands, the information to deduct them from the payers' incomes was not available. These gaps had been filled by the time of Galarneau and Sturrock's study (although their analysis excluded female payers and male recipients of child support). Hussain and Kangas (2009) drew on a Statistics Denmark one percent sample of the population (aged 30–48) and Manting and Bouman (2006) on the tax records of a 0.6 percent sample of the Dutch population. While these

datasets are constrained by the information available from the relevant administrative records, they have the advantage of a considerably larger population of separating individuals – over 5,000 people in Finnie’s study, and more than 12,000 in Manting and Bouman’s paper. Methodological issues regarding the use of administrative datasets are discussed in the Data chapter below.

Aside from panel surveys and administrative datasets, there have been three studies based on one-off surveys of samples drawn from divorce registers, notably Weitzman’s (1985) and Peterson’s (1996) analyses of interviews conducted in 1977 by the Murray Research Centre of divorcees in Los Angeles County, and Gregory and Foster’s analysis of a sample of 1984-85 UK divorcees (Gregory and Foster (1990), cited in Jarvis and Jenkins (1999)). These surveys were cross-sectional, but used recall questions to obtain information on pre-separation circumstances.

3.2.2 Defining the marital transition, time periods and outcome measures

One of the difficulties in comparing findings across studies is that different studies define the marital transition under analysis in different ways. Some focus only on those separating from a legal marriage, others include separating cohabitants, or examine differences in outcomes between cohabitants and those who were legally married. Similarly, although the post-separation state is usually defined as no longer living together, it is sometime restricted to the legally divorced (e.g. Weitzman, 1985; Peterson, 1996) and occasionally to those whose separation subsequently results in a legal divorce. With the growth in cohabitation, most newer studies use a ‘were living together/now living apart’ definition of separation, often operationalising the former by requiring a minimum period of cohabitation such as 12 months or two sequential interview waves.

The time between the periods used to measure pre-separation and post-separation income, and the separation event itself also varies. Hoffman (1977) and Corcoran (1979) did not standardise the length of time individuals over which had to have been separated. People were included as separated if they were observed as partnered at the beginning of the analysis period and separated at the end, with the

split having occurred at any point between those two dates. Most subsequent studies, if pooling interview waves, synchronised the period since separation. However, there is still variation in whether data for the year in which the separation occurred (time 't') is used, or if the comparison, as in this study, is between the year prior to separation ('t-1') and some year or years after ('t+x') (Holden and Smock, 1991, p66). This matter sometimes depends in part on whether the income data for the year of separation comprises both pre- and post-separation incomes. The amount of time since the separation occurred is important for determining whether the impact of separation is long-lasting. The choice of time period for measuring *pre*-separation income could also be important if there is a correlation between changes in income prior to separation, and the likelihood of separation (which could, for example, be due to an association between an increase in women's employment rates or earnings, and the probability of subsequent separation). This issue is discussed in the present study in Chapter 5. Few studies look back further than the t-1 period to measure pre-separation earnings. An exception is Stirling (1989) which averages income over the period three years prior to separation.

A third difference between studies is the use of different outcome measures and different statistics to summarise them. The three most common outcome measures are: total family or household income, per capita income, and some intermediate measure that adjusts for economies of scale associated with family size and structure. Equivalisation of income is discussed in detail below. In all three of these measures, income is typically adjusted for price changes, and in most cases is measured as net disposable income, i.e., after income taxes and transfers, although some studies specifically examine the impact of transfers and/or analyse changes in components of income. In addition, different summary statistics are reported. Some studies report means; others medians. Some use the percentage change in the mean or median; others the mean (or median) percentage change. Some studies also consider the distribution of changes across the separating population – a topic further discussed below.

3.2.3 Using income as a proxy for economic standard of living: equivalisation scales

The issue of the choice of equivalisation scale is of obvious significance when using income as a proxy measure for economic standard of living, given that separation involves changes in family/household composition.³³ There is no theoretically or empirically ‘right’ equivalisation scale, so the sensitivity of findings to the choice of equivalisation method is potentially critical (Jarvis & Jenkins, 1999). US studies mostly use an ‘income-to-needs’ measure such as that developed by the US Department of Agriculture (Hoffman 1977) or the US Census Bureau’s poverty threshold. Other countries use the ‘OECD’, ‘OECD-modified’, ‘square root’ or a country-specific scale. Jarvis and Jenkins (1999) conducted an analysis of the sensitivity of their results to the choice of equivalence scale testing five values of θ in the following formula based on Buhmann *et al* (1988)³⁴ :

$$\text{Household equivalence scale rate} = (\text{number of household members})^\theta, \quad 0 \leq \theta \leq 1.$$

(Jarvis & Jenkins, 1999, p. 240)

In this formulation, $\theta = 0$ (i.e., infinite economies of scale) is equivalent to no adjustment to total family income irrespective of the number of family members, and $\theta = 1$ (no economies of scale) equates to the per capita measure. The ‘square root’ scale, now commonly used by the OECD, is the midway point of $\theta = 0.5$, and other scales such as the ‘OECD modified’, the McClements scale (UK) and the Revised Jensen scale (NZ), which attach different weight to children than to adults, vary along the spectrum, depending on family composition.³⁵

Jarvis and Jenkins find that their results are sensitive to the choice of θ . Unsurprisingly, if economies of scale associated with living together are assumed to be large (a low value of θ), separating is more likely to be associated with a decline in equivalised income for both partners (and any children). More significantly, their analysis also brings out the interaction between the choice of value for θ and the

³³ There are other issues with using income as a proxy for standard of living, including that consumption and income may diverge, especially at very low income levels (Brewer, Etheridge, & O’Dea, 2017).

³⁴ The five θ values tested are 0, 0.25, 0.5, 0.75 and 1.0.

³⁵ The McClements scale, for example, represents θ values of between 0.6 and 0.7 (Jarvis and Jenkins, 1999, p240).

differential gender effects in the case of families with children. Where children are present, and where they are more likely to reside with the woman following separation than with the man³⁶, separation involves a larger average decrease in household size for men than for women. The effect is that estimates of the impact of separation on men are more sensitive to the economies of scale assumption than those relating to women. In their data, the median percentage change in equivalised income following separation ranged from around -43 percent if $\theta = 0$ to -20 percent if $\theta = 1$ for women, whereas the range for men was from -32 percent to +24 percent.³⁷

Two other papers have focused on the equivalisation assumption, extending it to examine the impact of assumptions about how the costs of care of children are shared following separation. Bratberg and Tjøtta (2008) divide total income by an equivalisation factor, E , defined as:

$$E = (A + \tau\omega C)^\theta$$

(Bratberg & Tjøtta, 2008, p. 442)

Where A and C are, respectively, the number of adults and children in the household, θ is an economies of scale parameter as in Jarvis and Jenkins above, ω is a weight that allows expenditure on children to be less than on adults, and τ is a weight accounting for the costs of care such that the custodial parent's care-costs (" τ^{cust} ") and the non-custodial parent's (" $\tau^{noncust}$ ") sum to one. They find that, in the Norwegian context where child support payments are relatively large and are government-guaranteed, post-separation income results are sensitive to assumptions as to the value of τ . In other words, departing from the common assumption of $\tau^{cust} = 1$ and $\tau^{noncust} = 0$ can have a significant impact on results.

In their four-country analysis, Schmaus and Bould (2011) also examine the implications of varying the value of τ . Using $\omega = 0.6$ in respect of children under 14 years and $\theta = 0.6$, they show the implications for Germany, the United Kingdom, Denmark and France of varying $\tau^{noncust}$ from 0 to 0.5. As expected,

³⁶ In their data 94 percent of children of non-repartnered separating parents lived with the woman.

³⁷ These figures are from the working paper version of the study at https://www.unicef.irc.org/publicatons/pdf/eps60_low.pdf.

the gap between men and women in the mean change in post-separation equivalised incomes narrows as τ rises above zero. However, only in Denmark does the gap turn in favour of women as τ increases.

These analyses are relevant to this study, especially in Chapter 7 on child support, because one of the central objectives of the recent reforms to New Zealand's child support formula was to incorporate greater recognition of the costs of shared care for the paying ('non-custodial') parent. That is, a non-zero value for $\tau^{noncust}$ has been built into the recent New Zealand formula in cases where the paying parent has care of the child for more than two nights per week. Previously this applied only where care was shared 'substantially equally'.

A related issue that has so far been little researched in the empirical literature on the financial consequences of separation is cost associated with internal migration.³⁸ If one or other parent changes location following the separation, there are likely to be additional costs associated with maintaining contact with the children, and having them travel regularly so as to spend time with both parents. Depending on how these costs are distributed between the ex-partners, this may be a source of bias in estimates which take no account of such costs.

3.2.4 The income-pooling assumption

A second methodological issue regarding the treatment of income concerns the assumption, implicit in the calculation of an individual's pre-separation equivalised income, that partnered couples pool all income and allocate it according to the best interests of all household or family members (or, more precisely, according to the equivalence scale). At least one paper, Meulders and O'Dorchai (2010), challenges this assumption, which is standard in virtually all studies, and examines the economic consequences of separation under an alternative assumption.

³⁸ Although the issue of travel costs is discussed in respect of child support obligations, and applications for variations from the formula-based liability assessment.

Conceptually, the assumption of income pooling is based on a common preference model, either the Becker's (1981) 'altruist' model, where one member of the family is assumed to have control of spending allocations and to make decisions altruistically (while other members of the family are assumed to be rational but self-interested) or on the earlier Samuelson's (1956) 'consensus' model where both partners are assumed to negotiate a common family household utility function that they then seek to maximise jointly (Lundberg & Pollack, 1996). There is considerable evidence that income is *not* fully pooled by partners within marriage (see Lundberg and Pollack 1996 for a summary). Lundberg, Pollack and Wales (1997) also present results from a natural experiment showing that when UK policy was changed to transfer child allowance from fathers to mothers, expenditure on children's and women's clothing rose relative to that on men's clothing (and other things). Alternatives to the common-preference model allow for bargaining within marriage. Divorce-threat models (under unilateral divorce) imply that it is expectations of post-separation income that matter for determining separation. 'Separate spheres' models are consistent with the UK child benefit example in that they imply that income-shares within marriage will affect expenditure and relative standards of living within the family (Lundberg & Pollack, 1996, p. 149).

There has been one New Zealand study of money management within families, the 1992-93 Intra-family Income Study led by Robin Fleming and summarised in Fleming, *et al* (1997). That study highlighted the variety of money allocation systems used by New Zealand families, ranging from full income-pooling, to whole-wage management by one partner, to independent control of own-incomes. Fleming *et al* note that relative prevalence of the different money management systems is broadly in line with UK and Australian studies reported in Pahl (1980) and Edwards (1981) respectively. They do, however, note differences between Pākehā/European and Māori and Pacific Island families in New Zealand. One of Fleming *et al*'s findings that is relevant in the context of this research is that, among the small group of their interviewees who had separated and repartnered, it was common for different money management systems to be used in the second relationship than in the first.

Different intra-family money management systems do not, of course, necessarily correlate closely with differences in intra-family standards of living. The critical point, from the perspective of empirical studies of the economic consequences of separation, is that if access to resources is unequal within the partnership, estimates of the change in each partner's living standards following separation will be wrong. In particular, if men on average consume a greater share of joint income than women when partnered, estimates of the losses to women and the gains to men will both be overstated. Meulders and O'Dorchai (2010) examine this question by focusing on the change in *individual* incomes following separation, defining individual incomes as after-tax own-incomes inclusive of State and private transfers. Using data from the European Statistics on Income and Living Conditions (SILC) for 22 European Union countries, they find a nine percent increase in men's mean incomes and a 32 percent increase for women's, the latter due primarily to an increase in State transfers. Despite their larger increase, women's average income remains 'considerably lower' than men's (Meulders & O'Dorchai, 2010). These findings are unsurprising, given that women have lower average earnings than men, are more likely to have care of children following the separation (and, therefore, to receive the additional State assistance available to lone parents) and Meulders and O'Dorchai's assumption that income is not shared at all within marriage.

Although Meulders and O'Dorchai's analysis involves an implausibly strong assumption, it raises the legitimate question that gendered inequality in living standards *within* partnerships biases estimates of gender differences in the impacts of separation. In effect, separation may be making visible a pre-existing inequality which is then being wrongly ascribed to the separation itself. This possibility can be tested by using self-reported subjective assessments of changes in wellbeing and living standards, or non-monetary measures of deprivation. Opportunities to compare income-based measures against other living standards indices are few but have been reported by Jarvis and Jenkins (1999) for Britain, Aassve *et al* (2007) for 12 European Community countries and de Vaus *et al* (2014) for Australia.

Jarvis and Jenkins report that responses to a question asking whether the respondent believes they are 'financially better off/worse off/about the same' compared to a year ago are 'clearly consistent'

with the income change calculations (Jarvis & Jenkins, 1999, p. 246). Aassve *et al*, on the other hand, find that while women still fare worse than men, the difference is less marked using non-monetary measures. De Vaus *et al* (2009)³⁹ use the Australian HILDA data for a more detailed study of the relationship between equivalised income changes and both self-assessed prosperity, and reported experiences of hardship. They find, at the aggregate level, that a decrease in equivalised household income following separation is associated with both an increase in reported hardships and a decline in self-assessed prosperity, but that below this broad, aggregate picture lies considerable individual-level variation. For example, a sizeable minority of respondents experiencing large falls in income do not report more hardships or lower prosperity and, conversely, one-in-five men and one-in-four women whose incomes rose substantially following separation report an increase in the number of hardships. Also, their multivariate analysis of the determinants of change in prosperity and hardships experienced showed that reporting a relatively high level of control over household financial decisions pre-divorce was associated with women being *less* likely to report lower prosperity in the 12 months following separation (but was not statistically significant at 24 months). This last finding, the authors suggest, may be due to higher money management skills or more realistic expectations of post-separation circumstances.

3.2.5 The endogeneity of partnership dissolution: controlling for selection effects

A fundamental problem in attempting to estimate the impact of separation on post-separation incomes is that the researcher does not know what the separating individual's income would have been had that person not separated (i.e., the counterfactual). This does not matter if the concern is only to provide information on the economic circumstances of those who have separated, but is crucial if the objective is, as in Chapter 5, to estimate the consequences of separation itself.

³⁹ A version of this paper was subsequently published as de Vaus, Gray, Qu and Stanton (2010).

Some papers simply report the change in average incomes before and after separation. The implicit assumption in these estimates is that there is no time trend in (real) incomes and that all the observed change is a consequence of the separation event. As de Vaus *et al* (2014, p. 30) note, in an environment where incomes generally are rising, a comparison of the pre- and post-separation incomes of those who separate understates the cost of separation.

An approach used in a number of papers is to report the changes in incomes of a comparison group of people who remain partnered as the counterfactual. This allows for a time trend in income but assumes that the comparison group is the same on average as the group of separators in respect of all factors that may influence post-separation outcomes. That is, it assumes the risk of separation is the same for all partnered individuals, and the difference between outcomes for separators and non-separators is due entirely to the separation, without any contamination from selection effects. Until recently, relatively few studies sought to control for selection bias, despite its being acknowledged in some papers (e.g. Finnie, 1993).

One approach to dealing with selection bias is to use regression analysis. This is the approach adopted by de Vaus *et al* (2014) who estimate post-separation incomes in a clustered regression model that includes age, education, and country of birth as independent variables.

An alternative approach, similar to that adopted in this study, is to use a matching technique to eliminate selection bias due to observable differences in the characteristics of those who separate and those who do not. Aassve *et al* (2007), for example, use propensity score matching and combine it with a difference-in-difference estimator to control for time-invariant unobservable differences.⁴⁰ Bonnet *et al* (2016) also adopts a difference-in-differences/propensity score matching approach. These methods are discussed in more detail in Chapter 5.

⁴⁰ Of course, bias due to *unobserved time-varying* differences remains.

3.3 Estimates of the effect of separation on men's and women's economic standards of living

3.3.1 Short-term effect sizes

Table 3.1 summarises 29 studies of marital separation based on longitudinal data and published between 1977 and 2016, and the headline estimates of the economic consequences of marital separation they report. Until the 1990s, all the studies were from the US reflecting both the earlier rise in that country's concern about the growth in female-headed households, and their over-representation in poverty statistics (Hoffman, 1977), as well as the earlier development of longitudinal data sources. Since that time, the breadth of studies has expanded to include Canada, many European and Scandinavian countries, and Australia.

As is evident from the discussion above, differences in both methods and measures mean that precise comparisons of the magnitudes of effects are impossible. There are, however, a number of well-established basic consistencies across studies, as well as some areas where findings remain uncertain.

A first finding, common to more or less all studies, is that average total net household or family income falls after separation for both men and women. In many cases, these average decreases are large, ranging from around 20 percent to 50 percent for women, and up to 40 percent for men. This result is unsurprising, reflecting simply that in most cases, both parties go from having two earners to one. Even in traditional male-bread-winner/female carer family arrangements, the man's post-separation household income is likely to be reduced due to loss of child-related benefits paid to the mother, and possibly also, spousal or child maintenance transfers to his ex-partner and children. The proportion of people repartnering is, in the short-term at least, too small to significantly increase the overall average post-separation household income for either men or women. Behavioural responses, especially increased labour market participation among women, are also insufficient to prevent the decline in the average.

Of more importance is what happens to economic standards of living as measured by equivalised family income. In respect of women, the great majority of studies find a decline in mean or median equivalised incomes in the short-term (see Table 3.1). Estimates vary widely across studies depending on various factors such as whether children are in the household, whether the separation was from a legal marriage or a cohabiting relationship, and (in the US) on ethnicity. Most studies find a decline in equivalised income for women in the order of 10 percent to 40 percent comparing the year prior to the first year after separation. In respect of men, many studies find either a small average loss or small average gain, with some studies finding average gains of up to around 30 percent or more.

Table 3.1: Summary of selected studies of the economic consequences of marital dissolution

Author(s), date, country, data source.	Design/Description	Measures, results by population group (sample size in brackets)		Controls for covariates	Comments
Hoffman (1977) US. PSID 1968-74	Change in outcome 1968-1974, given separation at any time in that period. Those who remarry/re-partner excluded.	Change 1968-74	% change inc/needs ratio Unadj mean Adjusted mean	Adjusted results control for education, age, race, region & city size (regression).	Also reports change in mean for each group (as distinct from mean change) in Family Income & Inc/Needs.
		All, stay married (2,026)	36.0 36.4		
		Women, separated (182)	13.3 7.5		
		Men, separated (110)	60.0 52.2		
Mott and Moore (1978) USA. NLS ² 1968-73	Married women experiencing a first divorce/separation during the study period. Compares last pre-separation interview ('T') with first and second ('T+2') post-separation i/v. 'Whites' and 'Blacks' analysed separately	'T' vs 'T+2'	% change in mean Family income per capita income	No controls.	Reports (real) dollar amounts - here converted to percent change. (t+2 change reported here as t+1 no always full-year.)
		Women, 'White'	-21 -1		
		Women, 'Black'	-39 -40		
Corcoran (1979) USA, PSID 1968-75	Compares outcomes for separated and widowed women (& continuously married), 'Middle years' (aged 35-54 in 1968). Change in outcome 1968-1974, given separation at any time in that period.	Change 1968-74	% change in mean of: Family income Income/needs ratio	No controls.	Also disaggregates by white/non-white.
		Women, separated (56)	-43.6 -18.0		
		Women, widowed (59)	-39.8 -11.8		
		Women, stay married (913)	17.1 45.2		
Nestel et al (1983) USA. NLS ² 1967 - 77	Women only, 'Mid-life' (aged 30 - 44 in 1967). Compares divorce, widowhood and separation. Estimates reported here exclude those who remarry.	Year prior vs 2nd year after	% change in mean of Family income:	No controls.	Reports (real) dollar amounts - here converted to percent change.
		Whites:	divorced (100): -49.8% widowed (75): -41.8% separated (37): -51.6%		
		Blacks:	divorced (26): -40.0% widowed (45): -38.8% separated (57): -35.6%		

Author(s), date, country, data source.	Design/Description	Measures, results by population group (sample size in brackets)			Controls for covariates	Comments
Weiss (1984) USA. PSID 1968 - 1974	Synthetic cohorts (to standardise post-separation periods) of mothers who separated between 1969-74. Comparison group of continuously married for 7 years.	Pre-break income group	HH income ratio t+1/t-1 (grp mean) Comparison group results in square brackets		No controls.	Note: income groups are based on national income distribution.
		Lower 1/3rd (77)	0.77 [1.32]			
		Middle 1/3rd (49)	0.56 [1.08]			
		Higher 1/3rd (47)	0.45 [1.00]			
Duncan and Hoffman (1985) USA. PSID 1969 - 81	People aged 25-54 who separated between 1969 & '75. Comparison of years t+1 to t+5 against t-1. White/Black x men/women analysed separately. Focus is on remarriage.		ratio of mean inc/needs		No controls. Comparison against intact couples.	Also reports change in total family income. Second part of paper uses probit/OLS to model gains from remarriage taking account of selection in remarriage.
			t+1	t+3	t+5	
		W, White (209)	0.93	1.07	1.12	
		W, Black (140)	0.80	0.97	1.02	
		M, White (166)	1.10	1.25	1.32	
		M, Black (84)	1.40	1.08	1.19	
		Intact couples (1,493)	1.19	1.17	1.30	
Stirling (1989) USA. PSID 1968-81	Women only, married for three years minimum pre-separation & in survey for next five. Only includes separations later converted to divorce.	Women (99)	% change in mean income/needs t-1 to t+2 = -32% (with only small fluctuations in next 3 years)		No controls.	Restriction to legal divorces is based on assumption that other separations may be temporary & response may be different.
Burkhauser et al (1991) USA. PSID 1981-85 & Germany (FGR) GSEP 1983-86	Comparison of US and Germany, married or cohabiting. Focus on role of Govt in ameliorating effects of separation.	t+1 vs t-1	median % change, equivalised income		No controls.	Also reports percentage with higher post-separation living standards and percentage with 50% or more decline. Also analyses changes in income components.
			USA	Germany		
		Women	(301)	(56)		
		pre-Govt tax & transfers	-37	-44		
		post-Govt tax & transfers	-24	-44		
		Men	(239)	(45)		
		pre-Govt tax & transfers	-9	5		
		post-Govt tax & transfers	-6	-7		

Author(s), date, country, data source.	Design/Description	Measures, results by population group (sample size in brackets)			Controls for covariates	Comments	
Smock (1993) National Longitudinal Surveys of Youth (1979-88) & of Young Men (1966-78)/Young Women (1968-78)	Youth, 14-24 at start of each survey. Two cohorts: 'early' = 1968-77; 'late' = 1979-87. Married at any point in period, separated before final year.	t+1 vs t-1 [NB: 2 cohorts: 'early'/'late']	Median % change		No controls. (but multivariate regression to analyse determinants of post-separation income.)		
			Family income	per capita income			
		W, Whites (284/258)	-46/-43	-22/-21			
		M, Whites (207/172)	-8/+7	+93/+62			
		W, Blacks (195/110)	-51/-45	-44/-35			
		M, Blacks (89/45)	-13/-29	+80/+47			
Finnie (1993) Canada. Longitudinal Administrative Database (LAD): 10% stratified sample of 1982 adult population based on federal tax files. 1982 - 1986.	Legal/de facto married in 1982 and single/new partner in a subsequent year. Analysis of changes in income & income/needs, and poverty transitions for 3 years post-separation.	mean of ratio to t-1	t+1	t+2	t+3	No controls. LAD dataset does not contain information on social assistance income (except for Quebec). Child/spousal support payments are included in recipients' income but not deducted from payers'.	
		Women (N =)	2,375	1,725	1,025		
		Total family income: Income/needs:	0.70	0.74	0.76		
		Men (N =)	2,800	2,575	925		
		Total family income: Income/needs:	0.89	0.93	0.97		
			1.32	1.34	1.30		
Smock (1994) USA. NLSY 1979-88	Focuses on sources of gender differences by ethnicity in short-term effects. Cohabiting and legally married youth (aged 14 - 21 in 1979)	t+1 vs t-1	Personal (own) inc		per capita	No controls (in results reported here).	Regression analysis of factors affecting results by gender
		Women (452)		+71	-15.5		
		Men (254)		+0.5	+53		
Peterson (1996) USA. Interviews conducted by Murray Research Center, Radcliffe College, 1977-78.	Analysis of interviews of people with divorces recorded in Los Angeles County, May-June 1977. Replication of earlier study by Weitzman.	t+1 vs t-1	Mean % change in income/needs ratio		No controls.	Replication and correction of results reported in Weitzman (1985).	
		Women (114)	-27				
		Men (114)	+10				

Author(s), date, country, data source.	Design/Description	Measures, results by population group (sample size in brackets)				Controls for covariates	Comments
Galarneau and Sturrock (1997) Canada. LAD (see Finnie, 1993, above), 1987 - 1993.	Legally married individuals with child(ren) who separated between 1987 & '93. Followed for 5 years.	Median % change (on t-1)	t+1	t+3	t+5	No controls.	Updates Finnie (1993) with inclusion of social assistance income and deduction of child support. Male recipients and female payers of CS are excluded
		Women (N =)	374,000	244,000	123,000		
		% change, equiv fam income	-23	-13	-5		
		Men (N =)	306,000	198,000	99,000		
		% change, equiv fam income	+10	+12	+15		
Bianchi, Subaiya and Kahn (1999) USA. SIPP, 1984-90 panels (excl 1989). CHECK: McKEEVER & W says they report -29%. WHERE?	Balanced panel of ex-couple dyads (pooled data). Restricted to those with child(ren) under 15 pre-separation & where children live with mother post-separation.	t+1 vs t-1	medians:			No controls (for results reported here).	Uses regression analyses to examine determinants of a) changes in economic wellbeing and b) the 'gender gap' between ex-partners.
		Fam inc.	per cap.	inc/needs			
		Diff (M's - W's inc)	\$534	\$758	1.36		
		Ratio (W/M)	0.74	0.38	0.56		
		% M's inc > W's inc	65	90	81		
Jarvis and Jenkins (1999) UK. BHPS, 1991 - 94.	Legally married or cohabiting individuals (and their children) observed moving from living together to apart between waves t and t+1. Tax payments estimated using microsimulations.	t+1 vs t.	Median % ch in equiv net inc			No controls.	Also reports subjective assessments of changes in econ circumstances (which support main findings). Tests equalisation sensitivities.
		Women (148)		-18			
		Men (105)		+2			
		Children (151)		-14			
McManus and DiPrete (2001) USA. PSID, 1980 - 93	Men only, with focus on significance of men's pre-separation share of combined income in influencing post-separation circumstances. Data pooled across years.	t+1 vs t-1	Mean % ch in inc equiv'd using ELES weights		poverty	Two stage model using twice-lagged income as instrumental variable.	Plus (change in) total & per capita incomes. 'ELES weights' = 'Expanded Linear Extension System' weights. 'Poverty threshold' = 'food-based US Census poverty threshold'.
		Men, White, married		-11	-14		
		Men, White, cohabittees		-12	-20		
		Men, Black, married		-3	-3		
		Men, Black, cohabittees		-30	-27		

Author(s), date, country, data source.	Design/Description	Measures, results by population group (sample size in brackets)			Controls for covariates	Comments	
Poortman (2000) Netherlands. Dutch Socioeconomic Panel, 1984 - 1995.	Legally married and cohabitees who become single (those who remarry within the period are excluded. Dutch-specific 'Schiepers <i>et al</i> ' equivalence scale.	year after vs yr prior	mean % change		No controls (but uses regression to analyse reasons for gender diff.)	Also analyses impact of income redistribution (sizeable).	
		Women (198) Men (161)	Disposable inc -46.5 -46.1	Equiv Inc +4.1 -30.7			
McKeever and Wolfinger (2001) USA. Nat. Survey of Families and Households, 1987-88 & 1992-94.	Women only, married at Wave 1 (1987-88), separated/divorced at Wave 2 (1992-94). Separations < 1 yr excluded.	Wave 2 vs Wave 1	median % change		No controls (but uses regression to test impact of other factors.)	Main conclusion is that, on per capita basis, negative effect is smaller than earlier times (eg, cf Sorenson, 1992 & Smock, 1993).	
		Women, remain single Women, repartnered	Family income -45 -14	per capita income -14 -3			
Avellar and Smock (2005) US. NLSY 1982 - 94	Comparison of cohabitees and married. Youth (aged 29-36 by 1994) Pools data from 1982 - 94	1 year outcome	Median % change in		No controls	Also reports inter-ethnic/inter-racial differences.	
			Earnings	HH Income			Income/needs
		Women, cohab (385)	5.5	-33.1			-24.0
		Men, cohab (404)	6.5	-10.0			-1.8
		Women, married (942)	6.4	-58.3			-48.0
		Men, married (641)	2.8	-22.3	10.8		
Manting and Bouman (2006) Netherlands. Income Panel Study (IPO): based on tax records of 0.6% sample of Dutch populaton, 1989 - 2000.	Short-term analysis: any separation 1990-99; medium-term: separations 1990-94. compares married (N = 4,800) and cohabitees (N = 7,800).	t+1 vs t-1	Mean % ch in inc equiv'd inc		No controls.		
		Women, married	-23				
		Women, cohabiting	-14				
		Men, married	+7				
		Men, cohabiting	-4				

Author(s), date, country, data source.	Design/Description	Measures, results by population group (sample size in brackets)		Controls for covariates	Comments	
Gadalla (2009) Canada. Survey of Labor and Income Dynamics (SLID), 1998 - 2005.	Pooled 1999 and 2002 panels. Married/cohabiting, separated between 2000 & 2004, & report as divorced/separated in all subsequent interviews.	change from t-1	% ch in median equiv inc		No controls.	Uses Statistics Canada's equivalence scale. Little change over 3 years (Women: -23.3%; Men: -3.8%)
		Women (N = 341 at t+1)	t+1 -24.2 (256)	t+3 -23.3 (75)		
		Men (N = 341 at t+1)	-7.9 (229)	-3.8 (75)		
Hussain and Kangas (2009) Denmark. Statistics Denmark, 1% sample of population aged 30 - 48 in 1990, 1990-99.		t+1 vs t	% ch in mean: equiv inc per capita		No controls.	Examines determinants of observed change (OLS regression).
		Women	-39	-15		
		Men	-22	+24		
Mortelmans et al (2009) Belgium. Belgian Household Panel (PSBH) 1992 - 2002.	Pooled 1992 - 2002 panels. Legally married only.	change from t-1	% ch in median equiv inc (t+1)			Reports OLS regression of determinants, including gender
		Men (N=88)	4.9			
		Women (N=108)	-18.8			
Jenkins (2009) (see also ISER paper 2008) UK. BHPS, 1991 - 2004	Husbands/wives (legal or de facto) with/without dependent children. Compares 1991-97 (wave 1 - 7) with 1998-2003 (waves 8-13).	t+1 vs t	median % ch in equiv net inc		No controls.	Describes outcomes for sub-groups & time periods (& compared to intact couples). Does not control for selection effects.
		W, no children (199)	1991-97 -21	1998-03 -27		
		W, children (314)	-30	-12		
		M, no children (182)	-2	+7		
		M, children (201)	+36	+31		
Ongaro, Mazzucco and Meggioraro (2009) Italy. ECHP 1994 - 2001.	Pooled 1994 - 2001 panels. No longer in same household and report as separated	t+1 vs t	% ch in mean total income		DiD/PSM estimation	
		Women (172)	-41.3			
		Men (142)	-15.5			

Author(s), date, country, data source.	Design/Description	Measures, results by population group (sample size in brackets)			Controls for covariates	Comments
Fisher and Low (2012) UK (Eng & Wales). BHPS 1991 - 2005) (see also Fisher and Low, 2009)	Focus is on difference between cohabitation and marriage. Transition is from partnered to not. Men aged 16-65; Women aged 16-60.	t vs t-1 Women, marr. (389) Women, cohab (410)	mean % ch in log equiv'd inc -55 -23		Figures reported here control for pre-separation characteristics	Numbers refer to separations, not individuals. Other results also reported, and implications for divorce settlements.
Strand (2012) Norway. (LEVPAN 1997-2002) Britain. BHPS (1997-2004)	Focus is a comparative analysis of Norway and Britain and the role of the welfare state in reducing gender inequality in outcomes	Men, Norway (89) Women, Norway (89) Men, Britain (203) Women, Britain (255)	% ch in median equiv inc -24 -19 34 -21			
de Vaus, Gray, Qu and Stanton (2014) Australia. HILDA, 2001 - 10 (see also de Vaus <i>et al</i> , 2009)	Aged 20 - 54 in 2001 (excludes relationships <2 yrs if no children) Partnered at wave 1, separated at some time between W1 & W6. (Controls partnered (same person) W1 - W8)	t+5 vs t-1 W, divorced (265) W, non-divorced (1,774) M, divorced (244) M, non-divorced (1,486)	% ch in mean equiv income children pre-sep'n no child +19 +4 +28 +5 +42 +10 +26 +4		Controls for year, year x divorce indicator, education, age/age ² , country of birth (Aust/English-speaking/non-English-speaking), children	Also reports wealth changes.
Bonnet, Garbinti and Solaz (2015) France. Administrative (tax) data	Separated during 2009 from marriage or Pacs (civil union) and not repartnered in 2010. Aged 20 – 55.	t+1 vs t-1 Women (N = 64,600) Men (N = 56,500)	% ch in mean equiv income -19 - 2.5		DiD/PSM estimation	

Studies that seek to control for selection effects find there is still a substantial short-term impact on women's equivalised incomes after controlling for observable characteristics. Fisher and Low (2012) for example, using British Household Panel Survey data from 1991 to 2005, find that, after controlling for a range pre-separation characteristics, married women experience an initial 55 percent fall, and previously cohabiting women, a 23 percent fall in equivalised income. De Vaus *et al's* (2014) analysis of HILDA data for Australia use regression techniques to hold constant a range of potential confounding variables. They find a change in the (predicted) 'income gap' between divorced and non-divorced women of \$9,100, or 25 percent in the first year.

The evidence regarding the impact of separation on men's equivalised incomes is less clear-cut. A number of studies find that the gains from the decrease in household size following separation are, on average, more than enough to offset the loss of the ex-partner's contribution to income, even after taking into account reductions in child-related State transfers and child or spousal maintenance payments. In simple terms, the reduction in income is not as big as the economic benefit of having fewer mouths to feed. Generally however, the effect sizes are smaller than for women, and in some cases the change in the mean (or median) is slightly negative. Burkhauser *et al* (1991) for example report a -6 percent and -7 percent median percentage change in men's equivalised incomes for the US and (West) Germany respectively. Manting and Bouman (2006) find a small decline (-4 percent) in equivalised income for men leaving cohabiting relationships, but a small rise for men who were married (+7 percent). Andreß *et al* (2006), using a cross-national dataset drawn from individual country household panels, find 'moderate losses' for men (on average) in Germany and Sweden, a near zero impact for British men and a small gain for Belgian men after controlling for various individual and household covariates.

A key study on the economic consequences of separation for men is McManus and diPrete (2001). They pool PSID data from 1982 to 1992 and adopt a two-stage instrumental variables methodology using twice-lagged income to control for potential correlation between pre-separation income and other factors affecting change in income following separation (McManus and diPrete, 2001, p250).

They estimate an average percentage impact of separation on men's equivalised incomes of between -3 percent and -30 percent, depending on whether the sample is of African Americans or Whites, and whether the separation is from marriage or cohabitation.⁴¹ Their analysis shows the heterogeneity of outcomes for men, especially the significance of the contribution by each partner to combined pre-separation family income. Dividing the men in the sample into four groups according to pre-separation income shares, they find that only the group whose income accounted for 80 percent or more of family income is better off on average following the separation. They also show that private transfers in the form of spousal or child maintenance have an important, although moderate-sized, impact as a 'levelling mechanism' reducing men's post-separation standard of living. (They are also able to test the significance of voluntary support payments, finding that these have only a minor effect compared to compulsory ones.)

One study of the short-term effect particularly relevant to the present research is Bianchi *et al* (1999). Unlike other analyses, they use a matched sample of ex-partner dyads. This allows them to examine the gap in incomes between ex-partners. They find a large gender gap in the year following separation, with the average living standard (measured by income-to-needs ratios) of mothers and their children being only 56 percent of their ex-partners'.⁴² The father's income-to-needs ratio exceeds that of his ex-partner's in 81 percent of cases. Chapter 7 reports an analysis of relative outcomes for ex-partner dyads in New Zealand.

3.3.2 Are the effects transitory or long-lasting?

One of the most critical questions is whether or not the negative effects of separation are long-lasting. If recovery is relatively rapid and more or less complete, the implications are far less severe. If they

⁴¹ The large -30 percent effect is for non-married African American men and is non-significant. McManus and DiPrete do not report the size of the sample of African American ex-cohabitantes.

⁴² They exclude cases where the children live with the father from their analysis.

are long-lasting, especially where children are involved, both personal and policy issues become highly significant.

A number of studies examine the longer-term effects of separation and the evolution of incomes. For women who do not repartner, the pattern usually observed is of only a slow improvement following the initial substantial decline (e.g. Duncan & Hoffman, 1985; Stirling, 1989; Finnie, 1993; Galarneau & Sturrock, 1997; Jenkins, 2009). The likelihood of being in poverty also remains higher for these women (Jenkins, 2009). Some studies find a partial 'bounce-back' in the second or third year after separation, with minimal gain thereafter (Weiss, 1984). Manting and Bouman (2006) follow their sample for 10 years and find that even after that time, Dutch women who are still single have, on average, equivalised living standards that are well below their pre-separation levels. The earlier Nestel *et al* (1983) study similarly showed that both White and African-American women who separated or divorced in mid-1960s US still had lower average family incomes a decade later. Fisher and Low (2012) find for the UK that, as well as a smaller initial decline, women who were previously in cohabiting relationships recover their pre-separation economic position more quickly (after approximately 3 years) than do those who were previously married (about 8 years). Among men, the mostly commonly observed medium-term pattern after the initial first-year impact, is for growth in incomes that is similar to, or somewhat less than that of couples who remained partnered.

Is separating from a cohabiting relationship different from separating from a marriage?

This study does not distinguish between people who are legally married and those who are cohabiting. Rather, it takes the approach followed in many of the more recent studies of defining a partnership by reference to a minimum period of living together. A number of studies have, however, examined the differences for the two groups in the economic impacts of separation. Avellar and Smock (2005), using NLSY data for the period 1982–1994, find that the median percentage change in the income-to-needs ratio of previously cohabiting women is -24 percent compared to -1.8 percent for men. These figures compare to -48 percent for married women who separate, and +10.8 percent for married men.

There is also a substantial rise in the proportion of previously cohabiting women, particularly African-American and Hispanic women, who enter poverty as a result of separating. Importantly, although the absolute decline in standard of living is smaller among cohabiting women than married women, their lower pre-separation income means separation is what the authors describe as an 'equalizer' leaving the two groups in similar average economic positions. Manting and Bouman (2006), using 1990s Netherlands Income Panel Study data, also find a smaller decline in equivalised incomes for previously cohabiting women than for those who separate from marriage (-14 percent compared to -23 percent). In the short-term, previously cohabiting men experienced an average decline of -4 percent, whereas men leaving a marriage had an average increase of 7 percent.

3.3.3 What factors influence post-separation outcomes?

Incomes and living standards after separation will be affected directly or indirectly by interactions between individual characteristics (especially those which affect post-separation earning capacity), pre-separation household characteristics, and post-separation arrangements and responses. Combined, and in the context of the labour markets and social security structures that the family live within, these factors determine the size of the losses separation entails, the ways in which income is redistributed between ex-partners, and the offsetting compensation potentially available to separated individuals through behavioural responses to the new situation or State assistance.

Holden and Smock (1991) and Smock (1993, 1994) examine the sources of gender disparity in post-separation outcomes, highlighting the 'multiple interrelated factors, often only superficially coupled with the marital dissolution event'. They emphasise the interaction between household, market and government in terms of the division of paid and unpaid labour by couples, women's lower wages, and the lack of adequate State and private transfers post-separation (Holden and Smock, 1991, p51). Smock's (1994) analysis (using NLSY data of relatively young adults who separated during the period 1979–1986) leads her to conclude that 'women's economic disadvantage after marital disruption

stems, either directly or indirectly, from their responsibilities towards their children' (Smock, 1994, p258). She finds that, among this young group, women and men without children have broadly similar outcomes, but that women with children are disadvantaged, first, in terms of post-separation personal income by having had less pre-separation work experience, and therefore lower post-separation earnings potential, and, secondly, in terms of per capita incomes, by being much more likely to have their children living with them than are men. She finds that those men who *do* have at least one child living with them after the separation experience little economic disadvantage – a finding she suggests may be a selection effect in the decision over child care arrangements (i.e., men with better economic circumstances are more likely to have custody).

Poortman (2000), using Dutch Socio-Economic Panel data for the period 1984–1995, also examines the relative roles of women's pre-separation labour market participation and the presence of children in determining their post-separation equivalised incomes. In a regression model that allows for interaction effects, she estimates that the presence of children (i.e., having custody of children post-separation) can explain approximately 13 percent of the gap between male and female outcomes, while the hours worked per week prior to separation can explain approximately 41 percent. Combined, about half (54 percent) of the gender gap can be attributed to these two factors. Poortman suggests explanations for the remaining half: measurement error in human capital, or a failure to take into account women's more general labour market disadvantage, and interactions with State welfare assistance, in particular the negative labour supply effect of high effective marginal tax rates for beneficiaries with children. Interestingly, in contrast to Smock, Poortman finds that men who have custody fare significantly less well than those who do not – a result which she says might also be a selection effect, but operating in the reverse direction from that suggested by Smock.

Unlike studies from most other countries, US studies, especially the earlier ones, sometimes consider the role of race or ethnicity, or analyse outcomes separately for African American, White, and in some cases Hispanic, men and women. Although Nestel *et al* (1983) found a smaller negative effect of separation for African-American women than for White women, Mott and Moore (1978), Duncan and

Hoffman (1985) and Smock (1993) all found the reverse. Smock's multivariate analysis of the determinants of women's post-separation incomes, however, finds that the negative effect of being African American is not statistically significant after controlling for other factors. Avellar and Smock's (2005) analysis of separation from cohabiting relationships rather than marriage shows that the 'more precarious economic circumstances' of cohabiters is even more pronounced among Hispanic and African-American women who, having started with lower pre-separation family incomes, have lower average income-to-needs ratios and higher poverty rates following separation than do White women. Amongst previously cohabiting men, their analysis finds that only African-American men gain in terms of average income-to-needs ratios. Outside the US, and more recently, de Vaus *et al* (2014) find that, in Australia, post-separation income is negatively and significantly correlated with being born in a non-English-speaking country compared to being born in Australia.

3.3.4 Repartnering

Repartnering has been shown by a number of studies to be one means by which separated or divorced women (and, in particular, women with dependent children) can regain their previous economic standard of living. Duncan and Hoffman (1985) focused on this issue, emphasising that for many women divorce represents a temporary status between marriages, and that these women's 'economic status after remarriage compares favourably with that of women who remained married (Duncan and Hoffman, 1985, p485). Folk *et al* (1992) also conclude that 'remarriage is the surest way to raise the family income for most divorced mothers and is their most common route out of poverty' (p143). More recent studies show a similar effect from remarriage. For example, Jenkins (2009) for the UK, finds that women who were repartnered five years after having separated are considerably better off than those who had remained continuously partnered (although selection effects may bias this result).

Selection effects are clearly significant for remarriage, an important factor being whether the person has care of children. In a five-country comparative study⁴³ Ivanova *et al* (2013) find that repartnering rates are approximately equal for childless men and women, but that mothers with co-resident dependent children are significantly less likely to repartner than those not living with children⁴⁴, and that these patterns hold across all five countries. Folk *et al* (1992) find that receipt of child support slightly reduces separated mothers' probability of remarriage.

The focus on remarriage has been criticised by some feminist scholars, such as Catlett and McKenry (1996), who describe Duncan and Hoffman's (1985) subsuming of the remarried within their overall results as 'simplistic and potentially misleading' (Catlett & McKenry, 1996, p. 93). The more general point is that, in a world where the great majority of children live with their mothers after their parents split up, and separation results in the woman and children becoming a sole parent household and the man a single-person household, a finding that remarriage results in full recovery of women's prior living standards tells us little more than that, on average, the new partners' incomes are similar to the first partners'. As the number of men who have primary or equal care of children following separation grows and 'blended families' become more common the impact of remarriage can be expected to change and to become more varied depending on circumstances.

3.3.5 How does the composition of income change following separation?

The main potential sources of income after separation are the individual's own earnings, state transfers in the form of welfare benefits or broader social assistance and child-related payments, child support or spousal maintenance transfers from the ex-partner, and for those who have repartnered, income from the new partner's earnings. How the relative importance of these sources of income changes following separation provides important information on both behavioural responses to the

⁴³ The five countries are Norway, France, Germany, Romania and the Russian Federation.

⁴⁴ They find a similar, but smaller effect for separated men with care of children.

separation itself, and the extent to which State and private transfers affect the final distribution of outcomes.

A number of studies examine how the composition of income changes after separation. Often, although not in all cases, the focus is on how these changes mitigate the negative impact on the income of women or parents with custody of children. As de Vaus *et al* (2014, p36) note, changes in the absolute level of income from various sources is important as well as each source's contribution to total income as a constant level of income from any one source will contribute a higher proportion of the total if income is lower due to the loss of the partner's earnings.

Evidence of changes in women's and mother's labour force participation following separation is mixed and appears to have changed in recent years. Jenkins and Jarvis (1999) report a decrease in the proportion of women working, from 59 percent to 51 percent for the UK in the 1990s (and a decrease for men from 74 percent to 68 percent). Jenkins' (2009) follow-up analysis, however, showed women's employment rates rose after separation for his 1998–2003 sample. For women with children, the increase was from 57 percent to 67 percent. In Australia in the 2000s, de Vaus *et al* (2014) find that over the medium-term, separation has a positive effect on women's employment rates. They estimate that earnings double as a share of income from 28 percent to over 50 percent of total income. Bröckel and Andreß (2015) find that, in Germany, women (unlike men who mostly already work full-time) expand their average earnings following separation but that the impact is not great because most work only part-time or in marginal employment.

Studies examining the contribution of transfers from the ex-partner find they are generally a minor contribution to women's (or parents with custody of children) post-separation incomes (Jarvis & Jenkins, 1999; de Vaus *et al.*, 2014; Bröckel & Andreß, 2015; Tach & Eads, 2015), although Tach and Eads find that it is somewhat more significant (in the US) in the 2000s compared to the 1980s (Tach and Eads, 2015, p424). A possible exception to this general finding is Bratberg and Tjøtta (2008) in

Norway. They find that child support enforcement is a significant element of the overall post-divorce package helping to ameliorate losses for custodial parents .

State transfers are generally found to be a substantial contributor to post-separation incomes, at least for those caring for children, both in terms of the average levels of payment and the proportion of separated people receiving either benefits, child-related assistance, or both. Bröckel and Andreß (2015) report that in Germany, for one in four separated women, and one in ten separated men, state transfers comprise at least 50 percent of total income.

Jarvis and Jenkins (1999) compared their result with those of Burkhauser *et al* (1991) to examine the extent to which state transfers through social security measures reduced the estimated income gap between previously partnered or married men and women. Depending on the equivalence scale used, the gap was reduced by between 26 to 33 percent in the US, 20 to 26 percent in Germany, and 22 to 27 percent in the UK, suggesting a similar impact of welfare state transfers across all three countries.

3.3.6 Cross-country comparisons and the roles of institutions and social security regimes

A number of authors have conducted cross-country comparisons of the economic consequences of separation, focusing mostly on the difference in outcomes for men and women, and the relationship between this and different countries' welfare provisions or 'regimes'. An early study by Burkhauser *et al* (1991) compared outcomes for US and West Germany. They found a larger gap in Germany than in the US despite the former's more extensive welfare provisions. However, the small number of observations for Germany (45 husbands and 56 wives) makes the robustness of these estimates questionable.

Subsequent studies have focused on differences in European countries. Dewilde (2009), Uunk (2004) and Aassve *et al* (2009) all use European Community Household Panel survey data, while Andreß *et al* (2006) uses a four-country dataset created from individual country longitudinal panel surveys. Dewilde (2002), finds a relationship between a countries' welfare regime (using Bonoli's (1997) variant on

Esping-Andersen's welfare regimes typology) and the financial consequences of separation for women (Dewilde, 2002, p. 102).

3.3.7 Are the negative effects for women and the gender gap diminishing over time?

Some more recent studies have examined whether or not the negative effect of separation on women (and children) and the disparity in outcomes between men and women have diminished in recent years. Technically, such analyses have become possible because of the lengthening longitudinal histories available in some panel surveys. Research-wise, the hypothesis is that separation should have a less negative effect now due to women's (and mothers') rising employment rates and earnings, growth in shared-care parenting arrangements, and, in at least some countries, such as the UK in the late 1990s (Jenkins 2009), higher State assistance for parents with dependent children. Improvements in the effectiveness of child support policies may also have had an impact.

McKeever and Wolfinger (2001) suggest that women's increased labour force participation and earnings have lessened the negative impact of separation for them, although they compare results from their own analysis (using National Survey of Families and Households data from the late 1980s and early 1990s) with estimates from others' earlier studies rather than using the same data source and identical methods. Jenkins (2009) uses 14 waves of BHPS data comparing the 1991–97 and 1998–2003 periods. He finds that between those two periods, the short-term negative income effect of separation for women with dependent children has declined substantially. He identifies as the most likely causes of this trend the secular rise in women's labour force participation rate and the UK government's introduction in the late 1990s of social assistance changes, including an in-work benefit which raised sole parents' employment rates and their incomes when in work. As with McKeever and Wolfinger, Jenkins also finds that a large disparity continues to exist between average outcomes for men and women.

Tach and Eads (2015), using SIPP data covering the period 1984–2007, find a similar lessening of the negative effect for previously married women in the US. As well as rising earnings among previously married women, they find that higher child support payments, as well as income from personal networks have also help reduce the impact. However, they find the opposite in respect of previously cohabiting women. For this group, losses following separation had been relatively less but have worsened and are now more similar to those of previously married mothers.

Lastly, Bröckel and Andreß (2015) using 30 waves of the German Socioeconomic Panel Study from 1984 to 2012 find somewhat different result for Germans separating before and after the turn of the millenium. They find little improvement in median outcomes for women (including an after-housing-costs outcomes measure) between the two periods, and little or no reduction in the average disparity between men and women. They find a worsening situation for women living with dependent children after separation, and a higher risk after 2000 of a negative impact for men previously living in a dual-earner household.

3.4 Conclusions

This review of the empirical literature suggests a number of questions relevant for the present study. An immediate question is whether the same basic patterns of change are observed in New Zealand as elsewhere. Specifically, do we observe a decline in both men’s and women’s average family incomes, and a substantial gap in favour of men? In addition, does separation cause a substantial decline in women’s equalised family incomes, and is there a decline, or a small rise, on average, for men? Because the Working for Families dataset used in this study is not representative of the whole population of New Zealand families, direct comparisons of the magnitudes of the changes in income must be treated cautiously. However, its cover is extensive enough to draw general conclusions regarding similarities and differences between New Zealand and elsewhere.

A further issue when considering the relationship between outcomes for men and women is to extend Bianchi *et al*'s (1999) analysis of the 'gender gap'. What is the median gender gap – defined as the change in men's equivalised income minus the change in their ex-partner's? How common is it for gender gap to be negative, i.e., for the woman to be better off in relative terms than her male ex-partner? Combining this with the insights from McManus and diPrete's analysis of the impact of separation on men, how common is it for *both* male and female ex-partners to be made worse off in equivalised income terms?

The studies discussed above suggest that, repartnering aside, separation is characterised by a semi-permanent shock: women, especially women with care of dependent children, recover only slowly from the initial negative effect, and men similarly experience only slow growth (if at all) in equivalised incomes following the immediate post-break-up year. For women, a key factor appears to be the extent to which they are able to increase their labour market earnings, which in turn depends in part on whether they are already working full-time and, if not, to what degree policy-settings facilitate and incentivise combining child-caring responsibilities with full-time work. In the New Zealand context where women with children in low- to middle-income families are likely to work part-time, a key question is whether separation results in an increase in earnings over the medium-term. As discussed in Chapter 2, the incentives are mixed. On the one hand, moving onto a welfare benefit following separation means that a parent with care of dependent children forfeits any child support paid by the other parent. On the other, for many low-income families, child support payments are low and may be uncertain. Moreover, similar to Poortman's (2000) suggestion regarding the Netherlands, the targeting of both welfare and social assistance payments result in high effective marginal tax rates across a wide income range which, combined with childcare and work-related costs, may discourage increased earnings. Are the observed patterns of changes in the composition of income following separation consistent with Castles' characterisation of the evolution of New Zealand social policy as a 'wage-earners' welfare state?

4 The data used in this study

4.1 Introduction

This chapter describes the data used in the analyses reported in Chapters 5 to 6 and the processes used to prepare the datasets for this investigation. Chapters 5 and 6 use unit-record data sourced from the 'Working for Families dataset' now held by Statistics New Zealand as part of its Integrated Data Infrastructure (IDI) (see Statistics New Zealand, 2013, for a description of the IDI). Approved external researchers are granted access to the IDI via a secure data laboratory environment on a project-by-project basis. All data held in the IDI is in anonymised form and release of output is subject to confidentialising processes and checking by Statistics New Zealand. A Statistics New Zealand-approved disclaimer statement is included on page iii of this thesis. The data used in Chapter 7 come from a series of two- and three-way tabulations provided by Inland Revenue. They are output from Inland Revenue modelling originally undertaken for the purpose of providing advice to government.

The only alternative potential dataset for studying the economic consequences of separation in New Zealand is Statistics New Zealand's Survey of Family, Income and Employment (SoFIE). SoFIE is a longitudinal survey conducted over eight waves between 2002 and 2010. It had a Wave 1 sample size of approximately 22,000 individuals aged over 15 (Statistics New Zealand, 2011). An advantage of using SoFIE is that, suitably weighted, the sample could provide estimates of the impact of separation across the whole New Zealand population of couples with children. However, the disadvantage is that the sample of separating couples available for analysis would have been far smaller than in the Working for Families dataset. A little over half of the SoFIE participants are partnered people with children. Assuming an annual separation rate of between 3 - 5 percent, this implies a sample of around 200 to 300 separating couples, only around one-third of whom would have incomes high enough to make them unlikely to be in the WFF dataset. While many of the studies reported in Chapter 3 have samples this size or smaller, the Working for Families dataset offers the advantage of a sample that is

many times larger than that. In addition, at the time this project began, weighting problems with SoFIE meant that reliable data covering all eight waves were not available (Statistics New Zealand, 2011).

4.2 The 'Working for Families' data

The Working for Families dataset is a longitudinal dataset of administrative records originally compiled by Inland Revenue and the Ministry of Social Development in 2005 for the evaluation of the Working for Families reforms (see Chapter 2). After the completion of that evaluation, the two agencies decided to continue updating the dataset for future research purposes. At the time of this analysis, these data covered the period April 2003 to March 2013.

The coverage is all of New Zealand and includes records for:

- All individuals who have received a welfare benefit or any supplementary payment from Work and Income New Zealand, the Ministry of Social Development's agency for delivery of assistance and benefits to working aged people.
- All individuals who have received Working for Families tax credits.
- Those assessed as liable to pay or receive child support payments under the Child Support Act.
- Those included in a one-off survey conducted as part of the WFF evaluation.
- Partners of any of the above individuals, where partnership status is defined according to the rules of the relevant programme or benefit⁴⁵.

As at 2015, the dataset included information on a total of approximately 1.2 million adults.

When individuals stop receiving any of the social assistance payments referred to above, they are retained in the dataset, and tax-based records of their earnings, other taxable income and tax paid continue to be collected. When an individual joins the dataset as a result of commencing receipt of a

⁴⁵ Statistics New Zealand (2015)

social assistance payment, or by becoming the partner of a person already included in the data, retrospective information is 'back-filled' to March 2003 where it is available.

Records are structured on a family-unit basis with three unique identifiers based on IRD tax numbers: one for each partner and a 'hybrid' identifier that concatenates both partners' IRD numbers. All identifiers are confidentialised by Statistics New Zealand and the original IRD tax numbers are removed before the data are made available to researchers. For single people, the partner ID is recorded with a missing code ('999...') and the hybrid ID combines the person's own IRD number with the missing code. Each record comprises matching sets of demographic and income information for each partner in a couple, along with information on the number of co-resident dependent children in the family. Records for single people are the same except that the partner information is recorded as missing.

The base data are monthly but the datasets used in this study come from what is called the 'WFF Spells' files.⁴⁶ Spells are between one and twelve months duration. By default, a spell is 12 months corresponding to the tax year, 1 April to 31 March⁴⁷, however when relationship status changes during the year, this ends the spell and new spells are started for each individual from the first of the following month. Thus, an individual's spell can start or end part way through the year when they are recorded as entering or leaving a new relationship. The person may go from single to partnered, partnered to single, or partnered with one person to partnered with a different person.

Dollar-amount variables derived from a monthly source are summed to give totals for the spell. Variables derived from annual sources are pro-rated where spells are less than 12 months in duration. Two pro-rating methods are used (Statistics New Zealand, 2015). Simple pro-rating spreads the amount equally across the year and is applied to most pro-rated variables. Annual Working for Families tax credit payments and entitlements are pro-rated using the 'complex' method, which takes account

⁴⁶ The data are updated regularly. This analysis uses data from the IDI_CLEAN_20160224 archive.

⁴⁷ By IRD convention tax years are named according to their end-date, e.g, the 2008/09 year is referred to as "2009"

of the numbers (but not the ages) of children present in the family in each of the spells as well as the duration of the spell. This approach is used because tax credit entitlements are based on annual amounts and accurate monthly data are not available. The pro-rating does not produce an exactly accurate result for two reasons. It does not adjust for the fact that Family Tax Credit amounts vary according to the age of children. Also, it is not able to allocate In-Work Tax Credit (IWTC) payments according to the months in which the hours-work test that applies for the IWTC was met.

4.2.1 Demographic variables

The dataset includes information on the date of birth, sex and ethnicity of each individual. Ethnicity is self-identified and uses the Statistics New Zealand ethnic prioritisation of ethnicity where the individual identifies with more than one ethnic background.⁴⁸ Inland Revenue and the Ministry of Social Development have applied rules to resolve inconsistencies in their recording of demographic information. The dataset does not include information on educational qualifications, hours worked or geographic location.

4.2.2 The income variables

The dataset includes detailed information on income from different sources. These are taxable income from wages and salaries, self-employment, interest and investments, benefits, Accident Compensation Corporation earnings compensation payments⁴⁹ and New Zealand Superannuation as well as all MSD supplementary social assistance payable both to beneficiaries and non-beneficiaries, (such as Accommodation Supplement, Childcare Subsidy, or Disability Allowance), and MSD 'third tier' hardship assistance. It also includes formal child support and spousal maintenance receipts and

⁴⁸ The prioritisation rule is Maori, then Pacific, then Asian, then 'other', then European. Statistics New Zealand 2015 [IDI data dictionary WFF]).

⁴⁹ In New Zealand the Accident Compensation Corporation (ACC) is a form of social insurance which, among other things, provides earnings related compensation to those experiencing a loss of earnings as a result of an injury. The usual rate of payment, which is taxable, is 80 percent of pre-injury earnings.

information on income tax and child support and spousal maintenance payments. There is no information on informal private transfers of either child support, or maintenance, as these are not recorded in the administrative systems.

In some cases, there are two sources for the same information. For most observations, taxable earnings and income are recorded in the dataset based on Inland Revenue's calculation using the annual Personal Tax Summary (PTS) or IR3 tax return. For most of these cases, this amount is equal, or very similar to, the sum of the amounts recorded in the Employer Monthly Schedules (EMS). The EMS are returns all employers are required to submit to Inland Revenue each calendar month giving details of gross pay, and PAYE income tax deducted for each employee. The Ministry of Social Development also submits an EMS return in respect of all beneficiaries receiving a taxable benefit, including codes indicating which benefit category the payment related to. Other State agencies such as the Accident Compensation Corporation, Studylink (students) and MSD's Seniors' Service (superannuation and Veterans' Pensions) also submit EMS returns.

Where a Personal Tax Summary-based assessment has been completed and the amount differs from the EMS-based income information, Inland Revenue apply rules to determine the best estimate of income for the dataset prior to the data being transferred to Statistics New Zealand.⁵⁰ This occurs most commonly in respect of people with self-employment or capital income.

Income variables are based on records of actual amounts received. An exception is Working for Family tax credits, which use Inland Revenue's calculation of tax credit entitlements based on income and family circumstances, except in cases where this information is missing. The use of entitlement-based estimates is judged to be the most reliable for several reasons. First, there is a relatively large number of missing values in the record of tax credits actually received during the year. Second, the end-of-year over- and under-payment variables necessary for adjusting actual receipts in each period are also

⁵⁰ The rule is to use either the EMS or the end-of-year PTS/IR3 tax return data. If both are non-null, the PTS/IR3 figure is used if it exceeds the EMS figure by more than \$50, and the EMS figure if not (Statistics New Zealand, 2015).

incomplete. Third, in the data dictionary Inland Revenue advises that over-payment amounts are unreliable as many over-payment debts are not pursued (Statistics New Zealand, 2015). Reliance on the entitlement estimates, although the best available, means that in some cases tax credit receipts will be overstated. However, given that the data comprise individuals who are, by definition, already known to the tax/benefit system, and given the high general take-up of Working for Families tax credits, the over-estimation is not likely to be large.

4.2.3 The treatment of children in the data

Reflecting its origins in the evaluation of the Working for Families reforms, the dataset is primarily adult-focused since adults are the recipients of social assistance payments. There are, therefore, no unique identifiers for children.⁵¹ Instead, information about children is included in the WFF data on the basis of the adult or adults who are entitled to claim, or are claiming, some form of State assistance for the child, or are paying or receiving Child Support. The assistance may be a Working for Families tax credit, an MSD benefit or supplementary payments where eligibility or the payment rate depend on the number of children (e.g., Domestic Purposes Benefit, Accommodation Supplement, Childcare Subsidy, Out of School Care and Recreation Subsidy).

It is not possible to identify whether a person is the natural or legal parent of a child included in their family because it is only necessary to have care of the child to receive the State payments.⁵²

The data records the number of full-time equivalent (FTE) children in each of seven age groups, not the exact age or date of birth of each child. FTE numbers are used to account for situations where care of children is shared (or more precisely, where payments of either WFF tax credits or benefits are split because care is shared to a degree that meets the rules for these programmes). The age groups used

⁵¹ Inland Revenue and Statistics New Zealand intend to include unique child identifiers and child date-of-birth information in the near future.

⁵² Payers of child support are the natural or legal parents of children for whom they have a child support liability, but the data does not reveal which children they pay for.

are irregular, and were constructed to meet the various rules and rates for tax credits, Childcare Subsidy and other payments. The data records the number of children in each of the following age groups:

- 0 to 4 years
- 5 – 12 years
- 13 years
- 14 – 15 years
- 16 – 18 years
- 19 years
- ‘out of age range’

The last two groups are in the data because, although entitlement to assistance usually ends on a child’s 18th birthday, there are some circumstances where it may continue to be paid. These age groups are excluded from the analyses in Chapters 5 and 6. Children are not included in the data if they do not meet the definition of ‘dependent’. An under-18-year-old will usually be regarded as not dependent if they have sufficient personal income (from employment or capital), or if they are over 16 and married or partnered, or are receiving a benefit in their own right (e.g., as a sole parent on a benefit).

4.3 Definitions and methods

4.3.1 The choice of years for this analysis

Chapters 5 and 6 draw on the seven years’ data covering the 2006 to 2012 tax years, which run from 1 April to 31 March. Tax years are referred to by the year in which they end. Thus, 2006 is the year ending 31 March 2006. Individuals are defined as separating on the basis of a separation occurring during the 2009 year (year ‘t’). The primary comparisons are between people’s circumstances in 2008, the year prior to separation, and the three full years following separation, namely 2010 to 2012. Although the version of the dataset used for this study contains 2013 information, this was not

included in the analysis because the data are incomplete, especially in respect of market income derived from end-of-year tax returns rather than sourced from the EMS returns.

The year 2009 was chosen as the year of separation rather than an earlier year because large-scale extensions to the Working for Families tax credits were phased in over the period 2005 to 2007 which affected many families' incomes (see Chapter 2). While the impacts of the reforms on incomes, and potentially on family structure, are important topics in their own right (Centre for Social Research and Evaluation & Inland Revenue, 2007; Fitzgerald, Maloney, & Pacheco, 2008; Centre for Social Research and Evaluation & Inland Revenue, 2010; Dalgety, 2010; Dalgety, Dorsett, Johnston, & Spier, 2010), those research questions are not the focus of this project.

4.3.2 Dealing with multiple spells per year

The way the WFF dataset is constructed, the current spell ends if a person's relationship status changes part way through a year. If MSD or IR continue to have current records for the person, a new spell begins which runs either until another change of relationship status, or the end of the financial year in March.

Given that the analysis in this study is based on annual incomes, two approaches were considered for dealing with multiple spells occurring in the same year. One option was simply to drop part-year spells and analyse full-year observations only. The alternative was to sum incomes across the spells to create a single 12-month spell irrespective of relationship status. The disadvantage of the first approach is the information that is lost, whereas the difficulty with the second is that an individual's relationship status and circumstances are not consistent across the summed spells. Given the reasonably high number of multiple-spell cases, it was decided to adopt the second approach. That is, where an individual has more than one spell in the year but data were available for all 12 months, spells were

summed to create annual observations.⁵³ Approximately 10 percent of all spells were summed. Equivalised family income measures were calculated for each spell separately and then summed to obtain a weighted measure of equivalised income for the year. Price adjustments using the CPI were applied to the full-year income measures not to each spell separately.

4.3.3 Defining partnerships and identifying people who do and do not separate

The Working for Families dataset identifies people as partnered or not on the basis of records required for administering any social assistance programme covered by the dataset. In this study, an individual is defined as partnered if they are observed in the data to have been continuously partnered with the same person throughout the full 2008 ('t-1') year. A 12-month minimum period was chosen for two reasons. First, as is common in other studies of divorce, requiring 12 months minimum partnership excludes very short relationships that may never have been regarded by the couple in question as long term. Second, it minimises data error arising from mis-recorded administrative information.⁵⁴

Because of the focus on gender differences in outcomes, same-sex partners were excluded from the analysis. A total of 228 (approximately 0.1%) same-sex couples who met the partnered-throughout-2008 criterion were dropped from the analysis.⁵⁵

In survey data, people who separate or divorce are typically identified by self-report. Respondents are usually asked their marital or relationship status, partner's name and usually whether they live with that person. For research purposes, they are most commonly defined as separating either because they report themselves to be separated, or because of a change in relationship status from one interview wave to the next combined, often, with information on changes in place of residence. This

⁵³ Where data were missing for part of the year, observations for that individual were deleted for that year. A total of 26,376 person-years (or approximately 1 percent of all person years) were dropped because of missing data for part of the year.

⁵⁴ Note that a couple need not necessarily be co-resident, as this is not an eligibility requirement (or disqualification from eligibility) for family tax credits or social assistance (except Accommodation Supplement). In practice however, there are unlikely to be many couples who are recorded in the data as couples but who do not live together.

⁵⁵ Throughout this thesis, all counts derived from the IDI datasets have been randomly rounded as part of the confidentialising process.

method is not possible using administrative data as only the presence or absence of a partner, defined in terms of eligibility for social assistance payments, or for tax or child support reasons is observed.

In this study, therefore, separation is defined in the negative. Specifically, individuals were defined as having separated during 2009 if (having been observed continuously partnered with the same person throughout 2008) they were not observed as partnered with that person in any month from April 2010 to the end of the data series in March 2013.

Two alternative definitions were considered: either not being with the partner at the start of the 2010 year, or not being with that person at any point during 2010. However, these were rejected because it is not possible to distinguish cases in which a couple genuinely split up and later re-unite from those where one partner is absent for a period for some other reason such as imprisonment, long-term hospitalisation, or travel overseas. In some of these situations (e.g., imprisonment), the other partner may legitimately be eligible for social assistance as a single person. Note that, by the same token, cases where the absence is greater than four years will still be included as separations even if they are not accurate. In practice, however, such cases are likely to be rare.

A separate database in Statistics New Zealand's Integrated Data Infrastructure, the Client Register, was used to obtain records of deaths and thereby identify cases where the marital disruption was due to widowhood rather than separation. Death records were matched for the 2009 year, meaning that an individual identified as separating during that year could remain in the analysis group even if their ex-partner died at some date after March 2009. (Although, obviously they would not be part of the ex-partner dyad analysis sub-group described below.) A total of 366 widows and 195 widowers were excluded.⁵⁶

⁵⁶ Note that the numbers of widows/widowers is large enough for a separate analysis to be conducted exploring the difference in outcomes between separation and widowhood, as Nestel *et al* (1983) do.

4.3.4 Identifying ex-couple dyads

One of the advantages of the WFF dataset is that, in many cases, linked information on/about both ex-partners is available after they separate, making it possible to examine relative outcomes. Dyad-matches were defined as full-year observations (either a single 12-month spells or summed spells totalling 12 months) where a full-year observation was also available for that year for the person's 2008-year partner. Since same-sex partners were excluded from the analysis, the dyad-matches have equal numbers of men and women in each year. A total of 7,749 ex-couples (15,498 individuals) were both observed in the first post-separation year and 5,781 for all three years 2010 to 2012.

4.3.5 Income and other measures

Two primary measures of economic outcomes are reported. The first is the total disposable income of the family unit.⁵⁷ Total disposable income is income from all sources net of income taxes, payments of child support payments and, in the few cases where it applies, spousal maintenance payments. In Chapters 5 and 6 this is referred to as *total net family income* or *total family income*. The second is equivalised disposable income, referred to hereafter as *equivalised income*, which adjusts total net family income to reflect the size and composition of the family, and is used as a proxy measure for economic standard of living. The equivalisation scale used is the 'square root scale', commonly used by the OECD, which divides total income by the square root of the number of people in the family or household (see OECD, n.d.) Sensitivity of results to the choice of scale is discussed in Chapter 3. All income variables were adjusted to 2012 prices using the Consumer Price Index (all groups).

Two other outcome measures used in Chapters 5 and 6 require explanation. In the absence of data recording labour force status or hours worked, an employment variable, and 'employment rate' measure is constructed based on labour market earnings. Specifically, an individual is not in

⁵⁷ The family unit may be a couple or single person with or without children. The WFF data do not provide information on whether others are present in the same household.

employment in a given year if zero labour market earnings are recorded in the data. Where labour market earnings are positive, the individual is recorded as having employment in that year. The sensitivity of this measure to small levels of annual earnings (under \$1,000 and under \$2,000) was tested but the difference was judged too small to warrant setting the minimum above zero.

Poverty is measured using an ‘anchored’ or ‘constant value’ rather than a relative measure (Notten & de Neubourg, 2011; Perry, 2016). Specifically, a poverty threshold benchmark was set at 50 percent of 2012 median equivalised incomes (using OECD data on New Zealand median income) and this figure was then adjusted for price changes using the Consumer Price Index. While both relative and fixed-line (‘absolute’) poverty measures are important, the choice of the fixed line measure for this purpose follows Perry’s argument that ‘...in the short to medium term, the fixed line (CV) measure can be seen as the more fundamental measure in the sense that it reveals whether the incomes of low-income households are rising or falling in real terms’ (Perry, 2016, p. 99).

4.4 Data coverage and quality issues

4.4.1 Data coverage

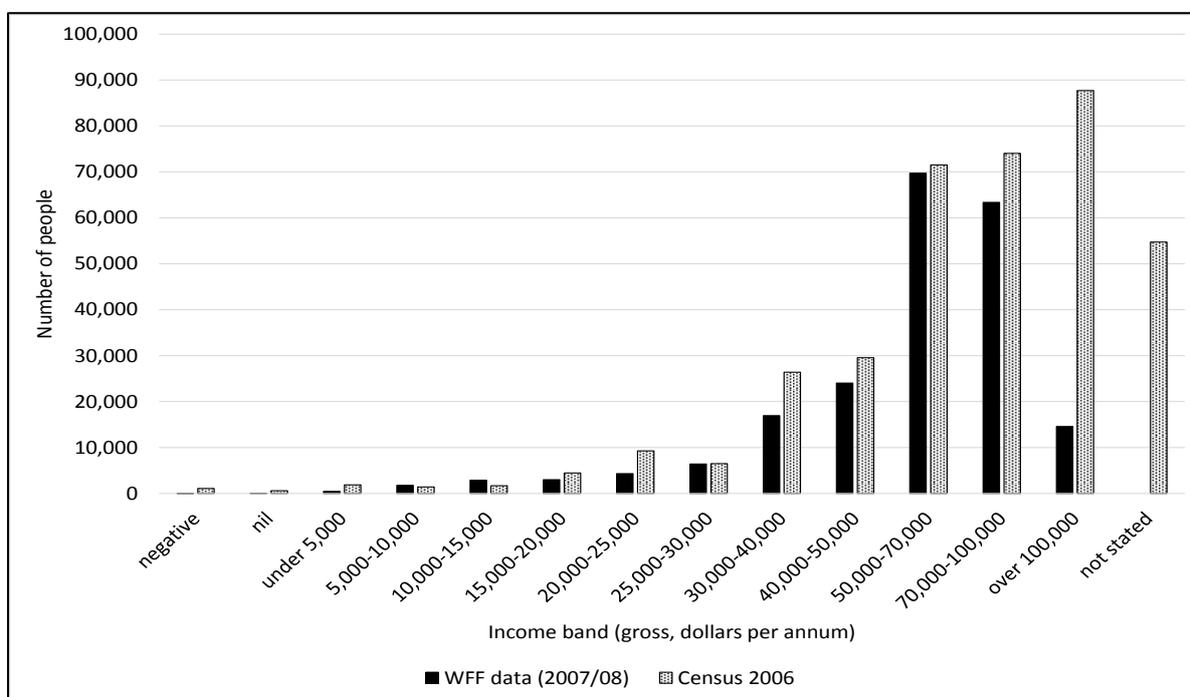
Precise estimates of the WFF dataset’s coverage of couples with children is not possible⁵⁸, however it is clear that coverage of low- and middle-income families with dependent children is high. One indication of this is that Inland Revenue estimates take-up of Working for Families tax credits is over 90 percent of those eligible. In 2008/09, a couple with one child under 16 and in receipt of the In-work tax credit is eligible for WFF up to a joint annual family income of \$74,862. With two children that figure rises to \$90,457.⁵⁹ A comparison of the WFF dataset with 2006 Census figures reinforces the conclusion that coverage is high for those with low- to middle-incomes Figure 4.1 compares the 2007/08 gross family incomes of couples used in the analyses in Chapters 5 and 6 against those

⁵⁸ Recent enhancements of the Statistics New Zealand IDI mean that in future it should be possible to obtain accurate coverage information.

⁵⁹ Most of those not receiving the In-work tax credit are people receiving welfare benefits and will therefore be included in the dataset through the MSD records.

recorded in the 2006 Census using the Census income bands. Coverage is high for families with joint annual incomes up to \$100,000, but much lower above that level.⁶⁰ The total number of couples with annual incomes under \$100,000 in the WFF dataset is 85 percent of that recorded in the 2006 Census, and the total across all incomes is 66 percent of the Census figure.⁶¹ Given the absence of information about those not included in the WFF dataset it is not possible to draw any conclusions regarding the extent to which the estimates of the impacts of separation reported in Chapter 5 will or will not be representative of the whole population of New Zealand parents who separate.

Figure 4.1: Comparison of the Working for Families dataset and Census populations of couples with children, by Census income bands



Source: WFF dataset and Statistics New Zealand

4.4.2 The accuracy of income and relationship status information

Because many parts of the social assistance welfare systems are income-targeted and based on joint spousal income, individuals sometimes have an incentive to under-report income or incorrectly report their partnership status. Several potential sources of reporting bias can be identified. First, people

⁶⁰ Note that the Census data include approximately 55,000 families with children where the gross family income is not stated or not known. Many of these are families where one adult was absent on Census night because these are recorded as not known unless the income of those present on Census night exceeded \$100,000.

⁶¹ Excluding the Census 'not stated or not known' group.

who are partnered will be not be included in the study if neither Inland Revenue nor the Ministry of Social Development were aware of their true status. This bias could operate in either direction depending on how and whether this group differs from the separating couples included in the analysis. Second, there may be some people who have re-partnered following the separation but have not informed the relevant agencies. This would mean that the estimates of the impact of separation (and perhaps especially in the out-years) would be overstated.⁶² It is not known how common fraudulent behaviour is, but penalties if caught are typically high. Third, there may be cases where income is understated. This too could work in either direction depending on whether it was understated to a greater or lesser degree prior to separation compared to after separation. In most cases, the quality of the income data is likely to be high because it is reported directly by employers or MSD via the EMS returns. Self-employment income is more open to under-reporting and the prevalence of this behaviour is unknown. It should also be pointed out that survey and Census income information is also susceptible to errors due to mis-recall and misinterpretation of what is classified as income.⁶³

4.4.3 The accuracy of data on children

Although by design all couples were observed to have children under 18 years old living with them in 2008, the year prior to separation, children are not observed in all separated individuals' households following separation. The most obvious and common situation is where the children are living with the other parent. However, because of the way this administrative dataset is constructed, there will be some cases where children are present in one or other of the ex-partners' family but the child information is missing. This situation can arise if no application is made during the year for WFF tax credits, welfare benefits, or other social assistance in which child details are recorded.

⁶² Unless they repartner with someone who also has children and the new family's equivalised income is lower than prior to repartnering.

⁶³ For example, it is know that some people mistakenly exclude welfare benefit receipts from income reported in the Census.

The dyadic data on both ex-partners makes it possible to identify cases where children are not observed in the data as present in either family/household in the year following separation, and therefore, to estimate the likely upper limits of error from this source. Among the 7,749 one-year dyad group, there were 2,109 cases (27%) where neither ex-partner was observed to have a child living with them in 2010. In 459 cases, the couple had no children under the age of 16 so the 2008 children would have aged-out of the family and, barring the arrival of new children, no children would be observed with either parent. This leaves 1,650 cases (21.3 percent) where an under-16 year old child was present in 2008, and neither partner had a child living with them in 2010.

A proportion of these cases will be genuine situations where the child or children has left the care of the two adults. This includes cases directly associated with the separation, for example, where children in a blended or step-family situation move to live with their other parent when the separation occurs, or where children move to live with other people such as a grandparent or other family member. An indication of the former situation in the dyad dataset is the 378 cases in which child support was received by the family in 2008. This suggests that the child had at least one parent living elsewhere in 2008. A recent Inland Revenue report (Inland Revenue, 2016, p. 14) shows that for the year to March 2015, there were 31,308 cases of families where the WFF eligibility of the Primary Care Giver ceased because the child left care (for reasons other than death, or turning 18) and that in 6,546 of these families the primary care givers' partner also changed at the same time.⁶⁴

There will, however, also be cases where the child is present but is not observed in the data for the reason given above. Take-up rates for WFF tax credits are high – estimated to be in excess of 90 percent and, as these were all families known to the IR/MSD system in 2008, lack of take-up by eligible care-givers is unlikely to be a major factor. However, child details are included in the data where they

⁶⁴ These figures include situations where the defined primary care giver changes – e.g. from the mother to the father – at the time of a separation.

are known, even if no entitlement to WFF tax credits exists.⁶⁵ It is possible that in some cases this occurred in 2008 but did not occur in 2010 following the separation.

The implication of this missing child information is that the true cost of separation, when measured in equivalised income terms, will be under-estimated by an unknown amount. The one-year dyad group was used to test the sensitivity of the estimates to this. In all cases where children aged under 16 were observed in 2008 but fewer or no children were observed in 2010, these 'missing' children were randomly assigned to one or other of the 2010 ex-partners' families and 2010 equivalised incomes were recalculated. Assignment was in proportion to the distribution of children observed in 2010, that is, 74 percent to the woman, 7 percent to the man, and the remaining 19 percent split 50:50 on an FTE basis across both 2010 families. The effect was to reduce the median 2010 equivalised income by 2.7 percent for men and 7.2 percent for women. The upper ends of these impacts can be considered highly unlikely given the evidence that in some cases, children will genuinely have left both households. In particular, the 7.2 percent figure for the women cannot be considered likely because the great majority of women in the data have post-separation incomes which would make them eligible for WFF tax credits and given that they were already in the IR/MSD system, their take-up of available tax credits is likely to be very high. It is important to note, however, this is one of a number of sources of potential bias in the estimates.

⁶⁵ This sometimes occurs when a tax agent files tax returns on behalf of an individual and includes details on dependent children for completeness (Pers. Comm.: Valmai Copeland, Inland Revenue 21/1/17).

5 The economic consequences of separation for New Zealand parents receiving social assistance

5.1 Introduction

This chapter focuses on estimating the short- to medium-term economic consequences of marital separation. As discussed in the Introduction, there are no published estimates to date of the impact of divorce or separation on incomes using longitudinal New Zealand data. This present study is intended to go some way towards addressing that gap. The dataset, described in Chapter 4, does not cover all New Zealand parents/carers with dependent children. It does, however, include all recipients of social assistance and provides very high coverage of those in the lower 60+ percent of the family income distribution. Arguably, this is the part of the population that is of greatest policy relevance.

The analysis follows the literature in focusing on gender differences in outcomes. The difference in outcomes between men and women remains the most prominent ‘stylised fact’ of studies of the economics of divorce (see Chapter 3) even if some more recent studies suggest that the gender gap may be narrowing (see for example Jenkins, 2009). At the same time, studies show wide within-gender dispersion in outcomes – many men are financially worse off after separation and some women are better off. This chapter examines the distributional outcomes, an issue that is then explored more closely in Chapter 6, which makes use of the dyadic information contained in the WFF dataset to analyse relative outcomes between ex-partners.

The chapter also focuses on two other policy-relevant issues. The first is the impact of separation on the likelihood of being in poverty, and the extent to which adults and the dependent children living with them post-separation face an increased poverty risk. A large negative shock to living standards resulting from separation is significant in itself but is more serious in personal and policy terms if it is associated with poverty. The second and related question is the extent to which government transfer

programmes, in the form of Working for Families tax credits and welfare benefits, are effective in ameliorating negative consequences arising from separation.

5.2 Data and method

5.2.1 The data

The source and preparation of the data used for this study have been described in detail in the previous chapter. In all, 15,954 usable observations of separating individuals were identified - 7,317 men and 8,637 women. These cases met the criteria outlined in Chapter 4 of being partnered continuously throughout the year ending 31 March 2008 ('t-1'), having at least one dependent child under 18 years old living with them at the end of that year, and having been observed in the data for each year 2010 to 2012 ('t+1' to 't+3') as not partnered with their 2008 year partner. Unlike the analysis in the following chapter, no requirement was imposed that both ex-partners be observed in the 2010 to 2012 years. Hence the number of separated men and women included in the analysis is not balanced.

The comparison group from which the matched controls are drawn are similarly defined and comprise 283,170 individuals – 141,585 men and 141,585 women – who were partnered continuously throughout the 2008 to 2012 period and had a dependent child at the end of the 2008 year.

5.2.2 Method

The primary objective of this study is to estimate the effect separation has on individuals' subsequent incomes. In evaluation literature terminology, the task is to estimate the average effect of treatment on the treated (ATT⁶⁶) where the 'treatment' is marital separation and the effect of interest is post-separation income for those who separate.

⁶⁶ Sometimes also abbreviated as ATET.

This objective fits within the general class of causal analysis problems covered by what is known as the Potential Outcomes Framework, originally developed by Neyman (Moffitt, 2005, p. 93) or the ‘Rubin causal model’ (Holland, 1986 after Rubin, 1974). The central feature of this framework is that there are two treatments (or, as in this case, a binary treatment/non-treatment event) and an outcome. Every individual receives one or other treatment, and the research objective is to identify the impact of the treatment on the outcome of interest. The focus is on estimating the impact separation has on those who separate (ie the ATT); not on estimating the effect it would have on the whole population (ie the ATE).

The average treatment effect on the treated is defined as the outcome for an individual given they separate minus the outcome if they had not separated, or:

$$ATT = E(Y_{1i} | D_i=1) - E(Y_{0i} | D_i=1)$$

Where:

D_i is the treatment (i.e. separation) and has a value of 1 if the individual separates and 0 if not;

Y_{1i} is the outcome if individual i separates; and

Y_{0i} the outcome if i does not.

All causal analysis problems of this sort face the ‘fundamental problem of causal inference’ (Holland, 1986). That is, it is not possible to observe both the impact of treatment and of non-treatment on the same individual. The counterfactual outcome ($E(Y_{0i} | D_i=1)$) is unobservable⁶⁷, and it is, therefore, not possible to observe directly the impact of the treatment, which must instead be inferred statistically.⁶⁸ Doing so, requires the imposition of particular assumptions or restrictions (Moffitt, 2005, p. 93).

One approach (known as the naïve estimator) is to assume that the average outcome for those who do not separate is an unbiased measure of the counterfactual for individuals who do separate (that is,

⁶⁷ Similarly, $E(Y_{1i} | D_i=0)$, the outcome for a non-separating individual if they had separated, is also unobservable.

⁶⁸ Holland (1986) also notes an alternative approach, which he calls the ‘scientific solution’, where, by making the invariance assumption that past measurements of the effect of non-treatment on a particular unit/individual continue to hold, these measurements can be used as the counterfactual against which to assess measurements of the impact of the treatment. Clearly, this approach cannot be applied to the study of divorce and separation.

$E(y_{0i} | D_i=1) = E(y_{0i} | D_i=0)$. This is equivalent to an assumption of statistical independence of assignment and the outcome.⁶⁹ Marital separation is an endogenous, non-random event that, to use Gangl's description, reflects 'naturally occurring assignment processes...that are socially structured, that reveal agents' choices and that, in consequence, imply a correlation between treatment assignment and expected outcomes' (Gangl, 2010, p. 26). It is highly unlikely that the average future outcomes for those who remain partnered are an unbiased estimate of the average outcomes for separating individuals had they too remained partnered. Causal analysis of the economic impacts of divorce and separation, therefore, require alternative strategies for addressing the identification problem.

In the absence of justification for the independence assumption, all alternative methods rely on establishing a plausible *conditional* independence assumption (CIA) or 'unconfoundness' between treatment and outcome conditional on controlling for possible covariates. These methods share the common goal of finding a suitable comparison group of untreated cases that can be used to represent the counterfactual outcome had the treated group not received the treatment. Even with the richest of datasets, unconfoundness is inevitably a strong assumption in the analysis of the economic consequences of an event like marital separation because of the likelihood that unobserved covariates influencing both treatment selection and outcomes are present. This problem is discussed in more detail below.

Causal analyses of the economic consequences of separation and divorce use various methods to construct comparison groups that help control for confounding effects. These include regression analysis, exact matching (or the coarsened exact matching (CEM) variant) and, the approach adopted in this study, propensity score matching.⁷⁰ De Vaus *et al* (2014) provides a good example of the

⁶⁹ An alternative approach available in some circumstances is the use of randomised control trials (RCTs). In RCTs, assignment to treatment or non-treatment is random such that, if the trial population is large enough, the independence assumption implies that the average causal effect of the treatment can be taken as the difference between the outcome for the treated and the outcome for the non-treated. RCTs are obviously not possible in the study of marital separation.

⁷⁰ A fourth approach, adopted by McManus and DiPrete (2001), employs a two-stage model using twice-lagged income as an instrumental variable in the second stage on the assumption that, conditional on twice-lagged income, treatment is uncorrelated with the outcome.

regression approach used 'as a way of comparing those who separate to otherwise similar people who remain married' (de Vaus et al., 2014, p. 31). They include in their model demographic and economic (as well as time dummy) variables that, based on theory or literature, they believe, are likely to impact on changes in income.

Exact matching is not often used as the sole strategy because conditioning on a sizeable number of relevant covariates requires very large sample sizes. It is, however, commonly used in the analysis of subsets of the population (typically dividing men and women into separate groups, but also for separate analyses by ethnicity or de facto/legal marriage status, etc). Radenacker (2015) provides one example where coarsened exact matching, which manages the sample numbers problem by collapsing continuous or multiple-category variables into a limited number of groups, is used to construct a comparison group of 'statistical twins' (Radenacker, 2015, p. 50).

Propensity score matching (PSM) is used by Aassve *et al* (2007), Ongaro *et al* (2009) and Bonnet *et al* (2016) in their studies of the economic impacts of separation. These studies all combine PSM with a difference-in-differences estimator as a means of controlling for time-invariant unobserved covariates.

Various authors have discussed the relative pros and cons of regression analysis and matching methodologies (see, for example, Gangl 2010, Austin, 2011). Perhaps the most relevant difference favouring the choice of PSM for this study is that, because it relies on a non-parametric balancing score, adequate specification of the model can be more easily assessed than is the case with a regression model (Austin, 2011, p. 417). In addition, because the PSM model is developed without reference to the outcome (in the same way an RCT is designed), there is less risk of the researcher's being subconsciously influenced in the design of the model.⁷¹

⁷¹ Note, though, that King and Nielsen (2016) argue against the use of propensity scores for matching, in part because of the subjectivity involved when users try many PSM estimation models before selecting one.

5.2.3 The use of propensity score matching in this study

This study uses propensity score matching combined with a difference-in-differences estimator ('DD-PSM') as a means of establishing a comparison group of non-separating individuals whose outcomes can be compared against those of people who separate. The propensity score matching controls for differences in the distributions of observed pre-separation variables between those who separate and those who do not. The difference-in-differences estimator takes advantage of the fact that the dataset is longitudinal. It also controls for unobserved differences between the two groups *to the extent that these are time-invariant*.

It is important to note that it is not possible to control for other unobserved differences that are time-varying and affect both the probability of separating and future economic outcomes (e.g., although potentially observable, this dataset has no information on changes in a partner's health status or job loss, both of which may affect separation and subsequent incomes (Booth, et al 1986; Charles & Stephens, 2004).

Because the interest in this study is on the average effect of separation on those who separate, the explanation below of the method and how it was implemented, focuses only on ATT. It draws primarily on Caliendo and Kopeinig's (2008) 'practical guidance' for the implementation of propensity score matching and Aaassve *et al's* (2007) application of the method to the economic consequences of marital disruption.

As discussed, the average treatment effect on the treated is defined as:

$$ATT = E(Y_{1i} | D_i=1) - E(Y_{0i} | D_i=1)$$

The issue is to obtain an estimate of $E(y_{0i} | D_i=1)$, the outcome that would have been observed for separating individual i had they not separated. In the absence of sample selection bias, it is possible to assume this equals the observed outcomes for individuals who do not separate, i.e., that:

$$E(Y_{0i} | D_i=1) - E(Y_{0i} | D_i=0) = 0$$

However, for the reasons discussed above, this is highly unlikely to be the case in respect of separation, so the PSM implementation aims to establish the best possible comparison group of people who remain partnered.

To proceed with propensity score matching, several key assumptions are required (Caliendo & Kopeinig, 2008, p. 34). First, the conditional independence assumption (CIA) requires, for ATT, that:

$$Y(0) \perp\!\!\!\perp D \mid X$$

That is, the potential outcomes are independent of assignment to treatment given the vector of observable covariates, X (Caliendo and Kopeinig 2008, pp35-6).⁷² This does not rule out the possibility that unobserved variables may also influence both the likelihood of separation and subsequent outcomes. This is partly dealt with by also using a difference-in-differences estimator as discussed below.

The second requirement is ‘common support’ or ‘overlap’. For ATT, this requires that there is at least one suitable potential comparison group match for each member of the treated group, given the covariate set and the propensity score. Members of the treated group that are ‘off support’ must be dropped from the analysis. (The Stata program used in this study operationalises this requirement by restricting the common support range to the range of propensity scores of the control group).

The propensity score is defined as:

$$P(X) = P(D = 1 \mid X)$$

and follows from Rosenbaum and Rubin’s (1983) demonstration that ‘if potential outcomes are independent of treatment conditional on covariates X , they are also independent of treatment conditional on a balancing score’ (Caliendo and Kopeinig 2008, p36), of which the propensity score is one. With this single-dimension variable, the estimator for the average treatment effect for the treated, ATT, can be written as:

⁷² A stronger assumption – that both $Y(0)$ and $Y(1)$ are independent of D given X – is required for ATE.

$$ATT = E_{p(X_1)}[E(Y_{1i} | D_i = 1, p(X_i)) - E(Y_{0i} | D_i = 0, p(X_i))]$$

(Aassve *et al* (2007, p. 790); Caliendo & Kopeinig (2008, p. 36))

Because longitudinal outcomes information is available for those who separate and those who do not, it is possible to supplement the propensity-score-matched estimate using a difference-in-differences estimator, comparing the change in outcomes before and after separation for both groups. This has the advantage of controlling for selection bias due to unobserved variables where these unobserved variables are time-invariant, because differences due to these sources net out when only the change in value is considered.

Supplementing the propensity score matching with a difference-in-differences estimator can be seen as a means of relaxing the conditional independence assumption (Ongaro *et al.*, 2009, p. 58), although obviously it still leaves the possibility of selection bias due to unobserved time-varying factors.

Following Aassve *et al* (2007, p791) the equation estimated is:

$$DD-PSM = E_{p(X_1)}[E(\Delta_{1i} | D_i = 1, p(X_i)) - E(\Delta_{0i} | D_i = 0, p(X_i))]$$

Where: $\Delta_{1i} = (Y_{1i}^{t+1} - Y_{1i}^{t-1})$ and

$$\Delta_{0i} = (Y_{0i}^{t+1} - Y_{0i}^{t-1})$$

5.2.4 Implementation of propensity score matching

Propensity score matching was implemented in Stata using the `psmatch2`, `pstest` and `psgraph` suite of commands written for Stata by Leuven and Sianesi (2003). Separate propensity scores were estimated for men and women because separate ATT estimates are needed for each sex. This is equivalent to exact matching on sex.

Having identified the people of interest who separated during 2009 (the 'treatment group') and a potential comparison group from which to draw matched 'controls', the implementation was carried out in two steps. First, `psmatch2` (with no outcome variable specified) was used to estimate a

regression model predicting each individual's probability of separation, or propensity score, given a specified covariate set. Various covariate sets were tested to achieve a satisfactorily balanced specification of the propensity score. Covariate variables were chosen from within the available data primarily on the basis of theoretical or empirical evidence that they influence both the likelihood of separation and the subsequent outcomes (Caliendo & Kopeinig, 2008, p38). The final covariate sets are detailed in Table 5.1. Age, ethnicity, number of children, number of young children, income, and welfare receipt are all plausibly associated with both the likelihood of separation and later incomes. Child support variables were included on the grounds that they are indicators for repartnering/prior partnerships. Each partner's individual income was included as a way of capturing income shares.

Variables that may be affected by the treatment itself should not be included in propensity score covariates because this introduces bias (Caliendo & Kopeinig, 2008, p. 38). One issue arising in this regard is the possibility of anticipation effects. It is possible, for example, that individuals may increase their labour market participation and earnings in *anticipation* of separating in the future. If this is the case, income in the pre-separation year may not be unrelated to treatment. (This is analogous to the "Ashenfelter dip" (Ashenfelter, 1978) - in this case, a rise - discussed in the literature on training programme evaluations.) In this dataset, those who separate in 2009, do have a somewhat higher total after-tax family income in 2008 and more rapid average growth in income over the years 2006 to 2008 than those who do not separate. However, propensity score matching resulted in similar income levels between the separating group and the matched controls across all 2006 to 2008, implying the use of 2008 income as a covariate was not picking up an anticipation effect.⁷³

The matching algorithm used was nearest-neighbour matching with a caliper restriction. Three nearest neighbours were allowed (with replacement)⁷⁴ and a caliper of 0.005 was imposed. Due to the large size of the sample and the large pool of potential comparators, tests using varying numbers of nearest neighbours and caliper size produced similar results. The chosen settings were judged a

⁷³ Assuming the 'anticipation' period was not longer than three years.

⁷⁴ Ties were not excluded.

reasonable balance of the trade-off between variance and bias. Nine women and seven men (approximately 0.1 percent of each group) were dropped from the analysis because their propensity scores lay outside the common support.

Table 5.1: Covariates and summary of covariate balancing tests

	Men				Women			
	Mean		% bias	p>t	Mean		% bias	p>t
	Treated	Controls			Treated	Controls		
Age	38.72	38.54	2.1	0.208	36.11	36.07	0.5	0.739
Partner's age	36.05	35.85	2.5	0.131	38.67	38.57	1.1	0.484
European	0.42	0.40	2.7	0.099	0.51	0.50	2	0.195
Maori	0.16	0.17	-2.9	0.11	0.19	0.20	-2.7	0.111
Pacific	0.06	0.06	-1.3	0.374	0.06	0.06	-0.6	0.654
Asian	0.03	0.03	-2.1	0.056	0.04	0.05	-1.4	0.226
Other	0.02	0.02	0.1	0.947	0.03	0.03	-0.2	0.873
Total net family income	63,330	63,120	1.0	0.598	60,634	60,494	0.6	0.705
Total net family income^2	4.60E+09	4.60E+09	0.4	0.856	4.30E+09	4.20E+09	1.6	0.379
Total personal income	39,929	39,484	2.3	0.197	25,318	25,424	-0.7	0.664
Partner personal income	23,830	24,106	-1.8	0.293	35,700	35,487	1.1	0.495
Gross MSD benefit receipts	720	757	-1.5	0.392	925	932	-0.3	0.880
Partner benefit receipt	883	911	-1.1	0.554	723	731	-0.3	0.830
Zero benefit receipt	0.89	0.88	2.5	0.163	0.85	0.85	1.6	0.354
Partner zero benefit receipt	0.86	0.86	2.1	0.256	0.88	0.88	1.5	0.362
Child Support received	35.39	36.16	-0.2	0.917	489.57	533.56	-2.7	0.189
Partner child support received	506.70	498.06	0.5	0.8	36.282	41.831	-1.5	0.448
Child support paid	367.72	374.49	-0.6	0.785	243.25	261.41	-1.9	0.342
Partner child support paid	247.23	263.79	-1.7	0.424	355.87	353.78	0.2	0.924
No. of children in family	1.91	1.93	-2.4	0.121	1.93	1.94	-0.9	0.514
No. children < 5 years	0.62	0.62	-0.7	0.654	0.61	0.61	0	0.980
No. children 5 - 12	0.81	0.82	-1.4	0.368	0.83	0.84	-0.9	0.558
Maori^age	5.77	6.11	-2.5	0.14	6.1786	6.5584	-3	0.064
Asian^age	1.00	1.22	-2.1	0.048	1.6079	1.7688	-1.6	0.180
Asian^Family Income	1328.70	1549.10	-1.7	0.154	2100.1	2284.1	-1.3	0.284
Partner Asian	0.03	0.04	-1.6	0.18	0.03848	0.04234	-1.5	0.198

	LR chi2	p>chi2	Mean bias	B	R	Mean bias	B	R
Men	19.15	0.79	1.6	1.7	7.2%	1.07		
Women	19.6	0.77				1.2	1.2	6.7%

As Caliendo and Kopeinig note, the calculation of standard errors in PSM analyses is 'not a straightforward thing to do' (Caliendo & Kopeinig, 2008, p. 51). The approach taken here is to report the 'Abadie-Imbens' standard errors which take account of the impact on standard errors of matching against more than one nearest neighbour. The standard errors reported in this study do not take into account that the variance due to estimation of the propensity score itself will also affect the standard errors.

5.3 Study sample numbers and characteristics

Table 5.2 sets out selected demographic characteristics of the group of men and women who separated in 2009, and those who remained partnered throughout the study period. It also shows the same statistics for the propensity-score matched comparison groups of partnered men and women. The figures demonstrate clear differences between the characteristics of those who separate and those who do not. The average age of individuals who separated is lower than those who did not – by 2.0 years for men and 1.8 years for women. On average, the separating groups also had fewer children living with them prior to separation than the groups of men and women who remained partnered, and fewer pre-school and primary-school aged children.

There are also some significant differences in ethnicity. Maori comprised a higher percentage of men and women who separated – 16.3 and 19.0 percent for men and women respectively, compared to 11.3 and 11.5 percent for the individuals who remained partnered. People classified as of Asian or Pacific ethnicity were under-represented among the groups of separating men and women relative to the groups remaining partnered. It should be noted that the ethnicity variable included a higher proportion of missing values for men compared to women. However, the relative distributions between those who separated and those who did not are similar for men and women, suggesting this probably does not significantly increase the error for men.

Finally, the mean after-tax family incomes of those who separated is significantly higher than that of those who did not – 12.8 percent in the case of the men and 8.0 percent for women. This is discussed in more detail in the next section.

Differences in the characteristics of those who separate and those who remain partnered highlights the importance of attempting to control for factors that may influence both the likelihood of separation and its economic consequences. Table 5.1 also reports the (weighted) characteristics of

the comparison group used in the propensity score matching, reproducing selected results from Table 5.1.

Table 5.2: Selected characteristics of individuals who separated and those who remained partnered

Characteristic (2008)	Men			Women		
	Remain partnered	Separate	Matched comparison group (weighted)	Remain partnered	Separate	Matched comparison group (weighted)
N	141,585	7,311	18,618	141,582	8,628	15,261
Age (mean)	40.7	38.7	38.5	37.9	36.1	36.1
Ethnicity						
European	45.6%	41.8%	40.5%	47.9%	50.9%	50%
Maori	11.3%	16.3%	17.3%	11.5%	19.0%	20%
Pacific	9.2%	5.7%	6.1%	8.9%	6.2%	6%
Asian	10.8%	2.6%	3.1%	11.6%	4.4%	5%
Other	3.0%	1.6%	1.6%	3.6%	2.6%	3%
Missing/unknown	20.1%	32.0%	31.5%	16.5%	16.8%	16%
Average number of children in family	2.16	1.91	1.93	2.16	1.93	1.94
Average number of children aged:						
0 - 4 years		0.62	0.62		0.61	0.61
5 - 12 years		0.81	0.82		0.83	0.84
Total net family income	56,206	63,470	63,212	56,206	60,728	60,580

5.4 Descriptive patterns

Table 5.3 summarises the mean incomes for men and women who separate and for those who remain partnered.⁷⁵ As mentioned above, those who separated in the 2009 year had a somewhat higher mean income in 2008 than those who remained partnered. Following separation, the mean of total net family income falls substantially for both men and women, while mean *equivalised* income rises in the first year by 22 percent for men and falls by 16 percent for women. The raw results suggest some limited improvement in equivalised incomes three years after the year of separation. The men's mean income has increased further to 27 percent above the 2008 mean; while the women's has recovered somewhat to be 11 percent below the 2008 level.

⁷⁵ Note that the changes reported in Table 5.3 are *percentage changes in the means* not the means of the percentage changes, which are reported in Section 5.5.

Table 5.3: Total net family incomes and equivalised incomes – men and women

		2006	2007	2008	2009	2010	2011	2012
		t-3	t-2	t-1	t	t+1	t+2	t+3
Total Net Family Income								
Separating men	Dollars	\$49,939	\$58,770	\$63,470	n/a	\$42,632	\$42,515	\$45,300
	% ch on 2008					-33%	-33%	-29%
Separating women	Dollars	\$45,255	\$55,833	\$60,728	n/a	\$36,667	\$36,763	\$38,315
	% ch on 2008					-40%	-39%	-37%
Partnered men	Dollars	\$48,373	\$54,362	\$56,206	\$58,704	\$60,387	\$60,669	\$63,963
Partnered women	Dollars	\$46,559	\$53,844					
	% ch on 2008					+7%	+8%	+14%
Equivalised Income								
Separating men	Dollars	\$33,152	\$32,804	\$32,707	n/a	\$39,830	\$39,313	\$41,647
	% ch on 2008					+22%	+20%	+27%
Separating women	Dollars	\$26,433	\$29,773	\$31,218	n/a	\$26,093	\$26,333	\$27,765
	% ch on 2008					-16%	-16%	-11%
Partnered men	Dollars	\$28,552	\$28,521	\$27,965	\$29,435	\$30,624	\$31,486	\$33,916
Partnered women	Dollars	\$25,914	\$27,729					
	% ch on 2008					+10%	+13%	+21%
Number of observations								
Separating men		6,540	6,861	7,311	n/a	-----	7,311	-----
Separating women		7,377	7,944	8,628	n/a	-----	8,628	-----
Partnered men		125,634	133,086	-----	-----	141,585	-----	-----
Partnered women		123,267	132,639	-----	-----	141,585	-----	-----

Notes: In the 2006 and 2007 years, values and the numbers of observations differ from other years because no requirement was imposed that individuals be present in the dataset prior to the 2008 year, or be partnered with each other before 2008. Numbers of separating men and women differ because no requirement was imposed that both ex-partners be present in the dataset after the year of separation (see Chapter 6 for a dyadic analysis).

5.5 Results

5.5.1 Estimating the impact of separation

The results above are purely descriptive; describing the circumstances of individuals who separated without consideration of the counterfactual of what may have been their situation had they remained partnered. This section uses the difference-in-differences, propensity score matching techniques described above to estimate the changes in incomes that can (with the caveats noted above) be attributed causally to separation. Table 5.4 summarises these results presenting the differences in the mean percentage change in incomes for those who separated, and the matched comparisons.

Looking first at the short-term (first-year) effects, separation has a large negative impact on average net family incomes for both men and women. For the women in this dataset, the estimated impact is

-41.4 percent, and for men it is -38.8 percent. As shown later in section 5.7, although on average women have lost more than men from the loss of their ex-partner's income, men have lost more on average than women from the loss of State assistance associated with having care of children. The result is that the estimated average impacts on men and women are similar.

Equivalising incomes to take account of family size changes the results substantially. Separation results in the men's average family size falling by more than half from 3.91 to 1.34 people, while the women's falls much less, from 3.93 to 2.94 people. The available income, therefore, must be shared among fewer people, on average, in the men's post-separation families than is the case for the women.

The estimated mean short-term impact on the women's equivalised income is -19.3 percent, whereas men's equivalised incomes are estimated to rise by +15.5 percent. In other words, although the reduction in family size goes some way to offsetting the income losses experienced by the women, it is not enough to prevent a reduction in average equivalised income. Conversely, among men, the family size effect outweighs the loss of total net income with the result that on average their equivalised income rises post-separation.

Table 5.4: Estimated effect of separation on total net family income and equivalised income, difference in mean percentage change t+1 to t+3 relative to t-1

			2008	2010	2011	2012
			Mean dollars	Mean percentage change on 2008		
Men	Separated		\$63,470	-30.1	-29.7	-25.0
	Matched comparison group		\$63,212	+8.7	+9.4	+15.8
		Difference		-38.8	-39.1	-40.8
		SE		0.013	0.008	0.009
Women	Separated		\$60,728	-29.2	-28.7	-25.8
	Matched comparison group		\$60,580	+12.2	+12.8	+19.4
		Difference		-41.4	-41.5	-45.1
		SE		0.010	0.010	0.011
Equivalised income						
Men	Separated		\$32,707	+25.2	+24.5	+32.1
	Matched comparison group		\$32,253	+9.8	+12.4	+21.1
		Difference		+15.5	+12.1	+11.0
		SE		0.022	0.011	0.013
Women	Separated		\$31,218	-5.9	-4.8	-0.1
	Matched comparison group		\$30,875	+13.4	+16.1	+25.1
		Difference		-19.3	-20.9	-25.0
		SE		0.011	0.011	0.013

Notes: Men: N=7,311. Women: N=8,628. All results significant at the 0.001 level.

Looking at the medium-term, there is no evidence of any improvement in the women’s situation either in terms of average total family income or average equivalised income. In fact, the impact is greater three years after separation than after the first year. Although the mean percentage change in the separated women’s income has recovered to almost zero by the third year, they have missed out on the substantial income growth they would have experienced if they had remained partnered. A similar process occurs among the men - their mean percentage change in equivalised income (compared to 2008) is higher in 2012 than in year 2010, but the increase between 2010 and 2012 is less than that for the matched comparison group resulting in a gradual diminution of their short-term gain in equivalised income. These patterns are summarised in Figures 5.1 and 5.2.

Figure 5.1: Mean total net family income, separating and partnered individuals, 2006 to 2012, by sex

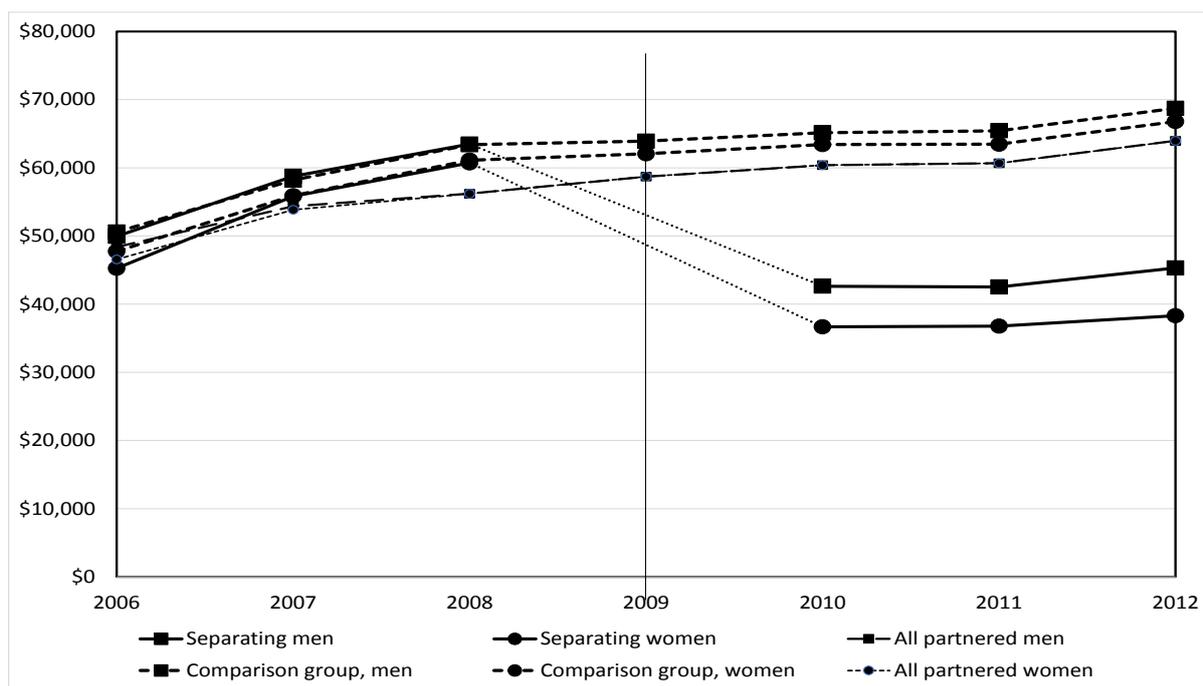
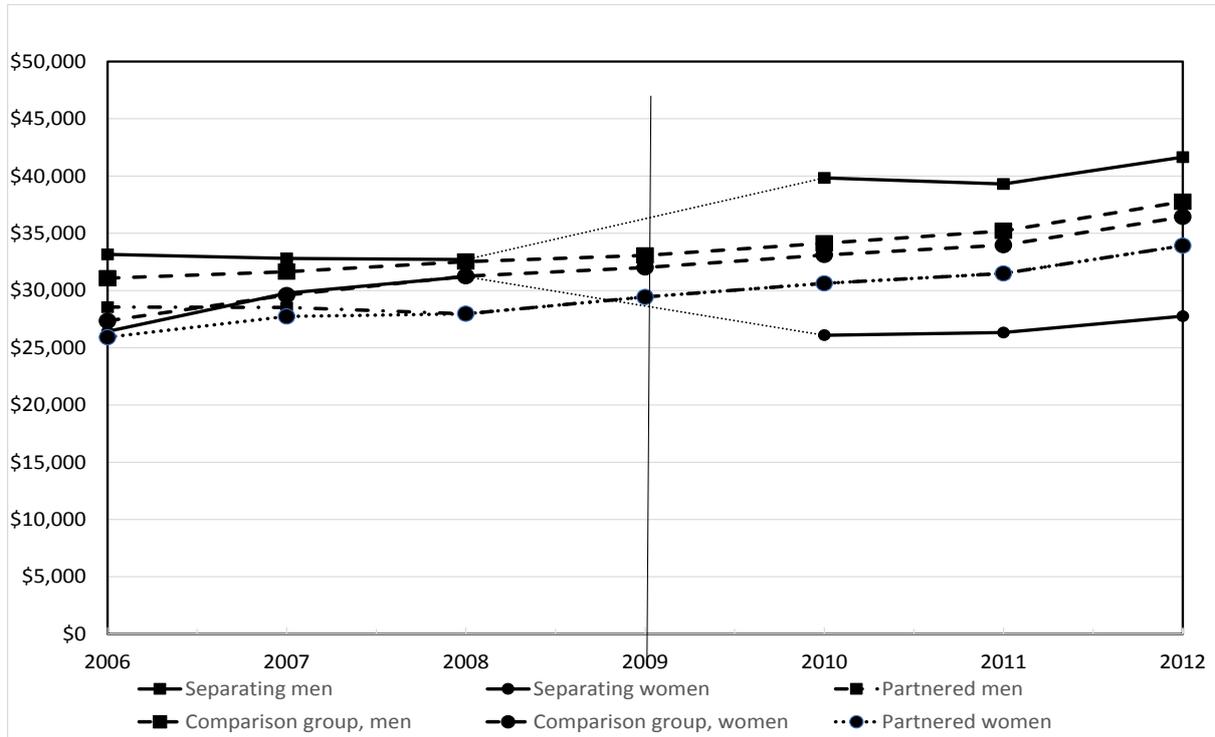


Figure 5.2: Mean equivalised income, separating and partnered individuals, 2006 to 2012, by sex

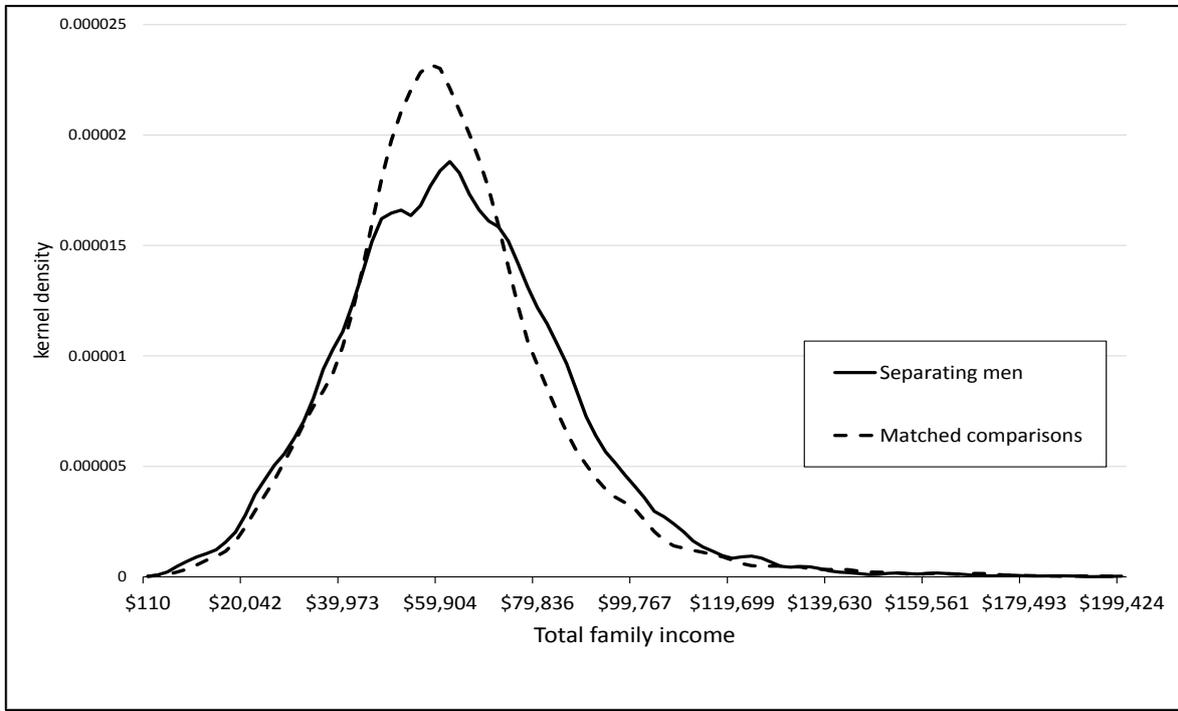


5.5.1.1 The distribution of impacts

The results reported in Table 5.4 reflect only the means in the percentage income changes. The distribution of changes in income reveal a richer story about what happens following separation. Some caution is needed in interpreting non-mean measures of change because matching on propensity scores ensures that the groups of men and women who separate have similar *mean* characteristics as the respective comparison groups but does not guarantee that the distributions are the same. However, examination of the pre-separation income distributions suggests a sufficient degree of similarity to justify comparison of post-separation incomes across the distributions (see Figures 5.3 (a) and (b)).

Figure 5.3: Distributions of separating men and women and matched comparison groups by pre separation (2008) total family income

(a) Men



(b) Women

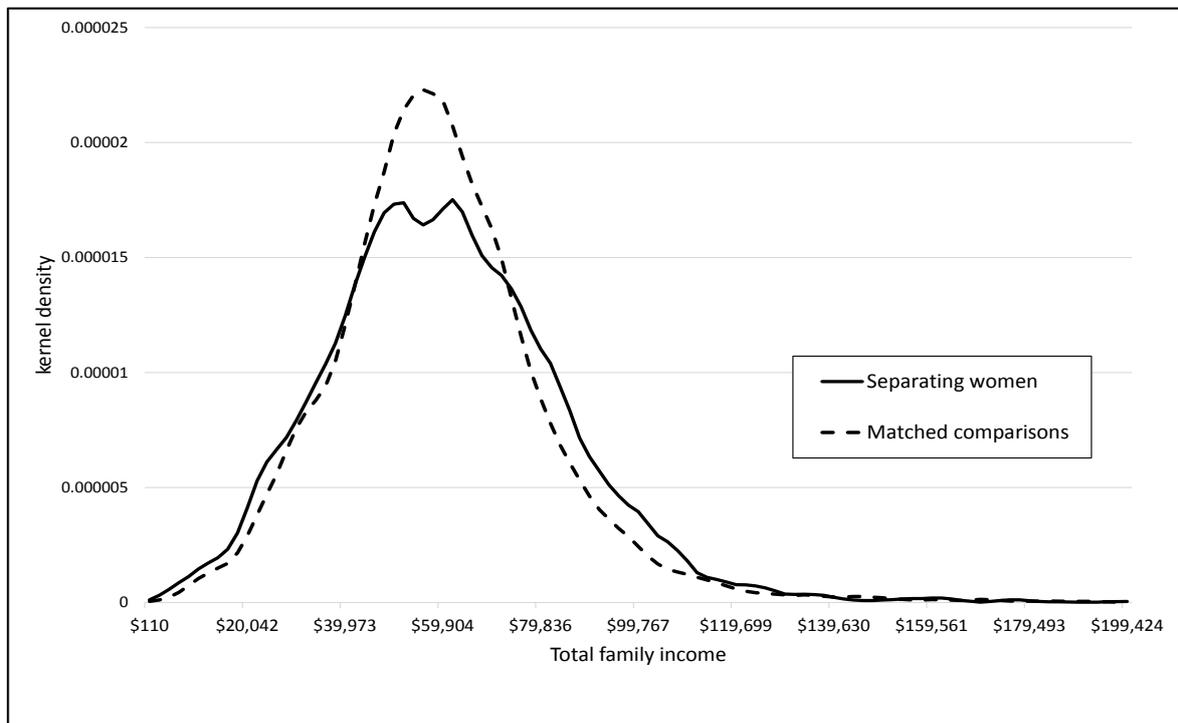


Figure 5.4 plots the distribution of percentage changes between 2008 and 2010 in men's and women's total family incomes and equivalised incomes respectively. Note that these are the distributions of the percentage changes in incomes, not the distributions of income itself. The comparison groups also experienced changes in incomes, and the distribution of these is plotted in the figures as dotted lines. Table 5.5 summarises the same information for the 2008-2010 and 2008-2012 changes.

Looking first at growth in total family income, Figure 5.4 and the top panel of Table 5.5 show the marked leftward shift for both men and women compared to the comparison group. In all, 89 percent of the men who separate and 87 percent of the women are worse off in 2010 than in 2008 compared to 35 percent of male comparisons and 41 percent of the female comparison group. The distribution of changes is somewhat wider for the separating individuals than for the comparison group, but not greatly so. For example, among the men who separate, there is a 30.5 percentage point difference between the median change (-35.2 percent) and the 10th percentile change (-65.7 percent). The equivalent figure for the comparison group is 29.9 percentage points.

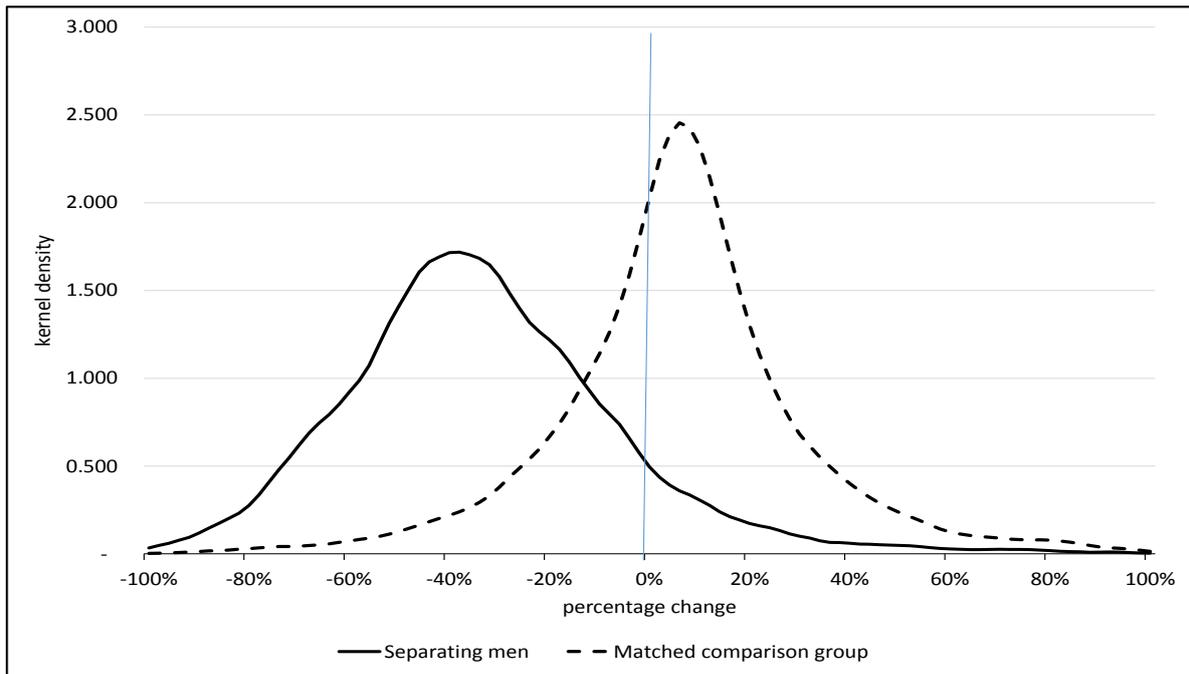
After three years, the proportions of men and women who are worse off in terms of total family income has fallen only slightly – to 83 percent and 84 percent respectively. The most noticeable difference is at the top of the distribution. The top 10 percent of changes for men (i.e. above the 90th percentile) is now 14.3 percent or larger and for the women is 16.9 percent or larger.

The distribution of outcomes in equivalised income terms is very different from total income. Separation results in a much wider distribution of changes in income than is observed for the comparison groups (see Figures 5.5 and the lower panel in Table 5.5). Among the men, the proportion worse off (36 percent) is the same for both those who separate and the comparison group. However, those who are worse off have, on average, a larger decline in income than occurs among the comparison group. The 10th percentile of percentage changes for men who separate is -40 percent compared to -25 percent for the comparison group. Similarly, those men who experience the largest

positive gains, gain more than the comparators. For example, the top 25 percent of the percentage changes in the separating men's equalised incomes is greater than 48 percent, compared to only 21 percent for the comparison group.

Figure 5.4: Distributions of separating men and women and matched comparison groups by percentage change in total family income following separation (2008 to 2010)

(a) Men



(b) Women

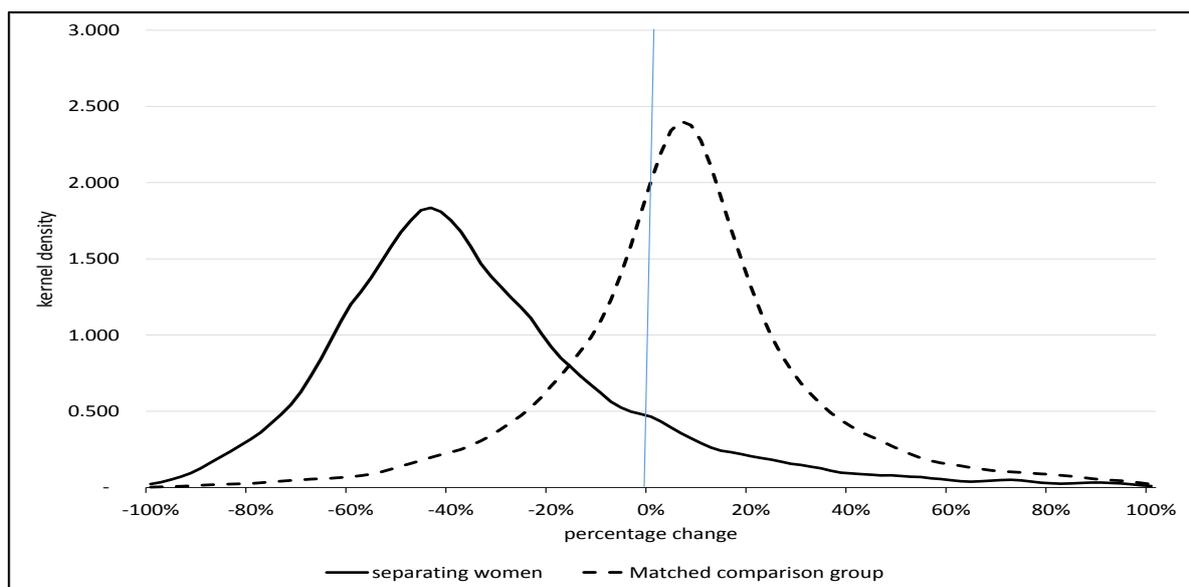
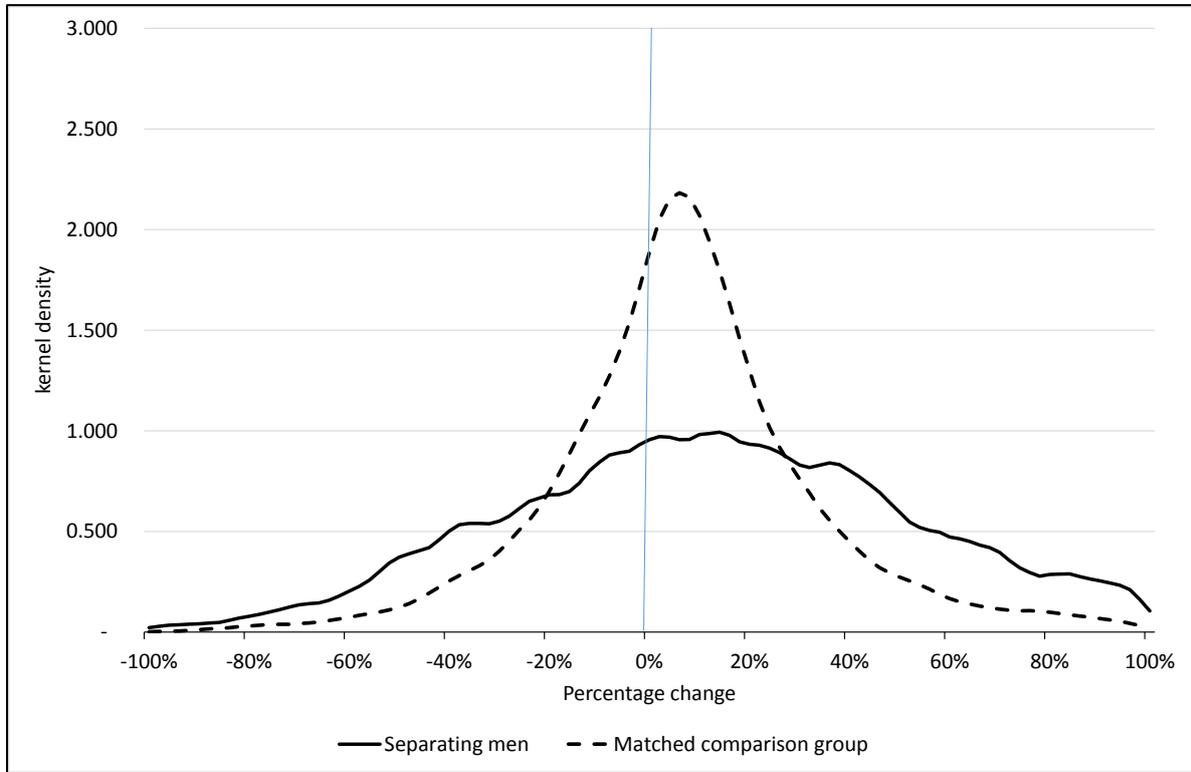


Figure 5.5: Distributions of separating men and women and matched comparison groups by percentage change in equivalised income following separation (2008 to 2010)

(a) Men



(b) Women

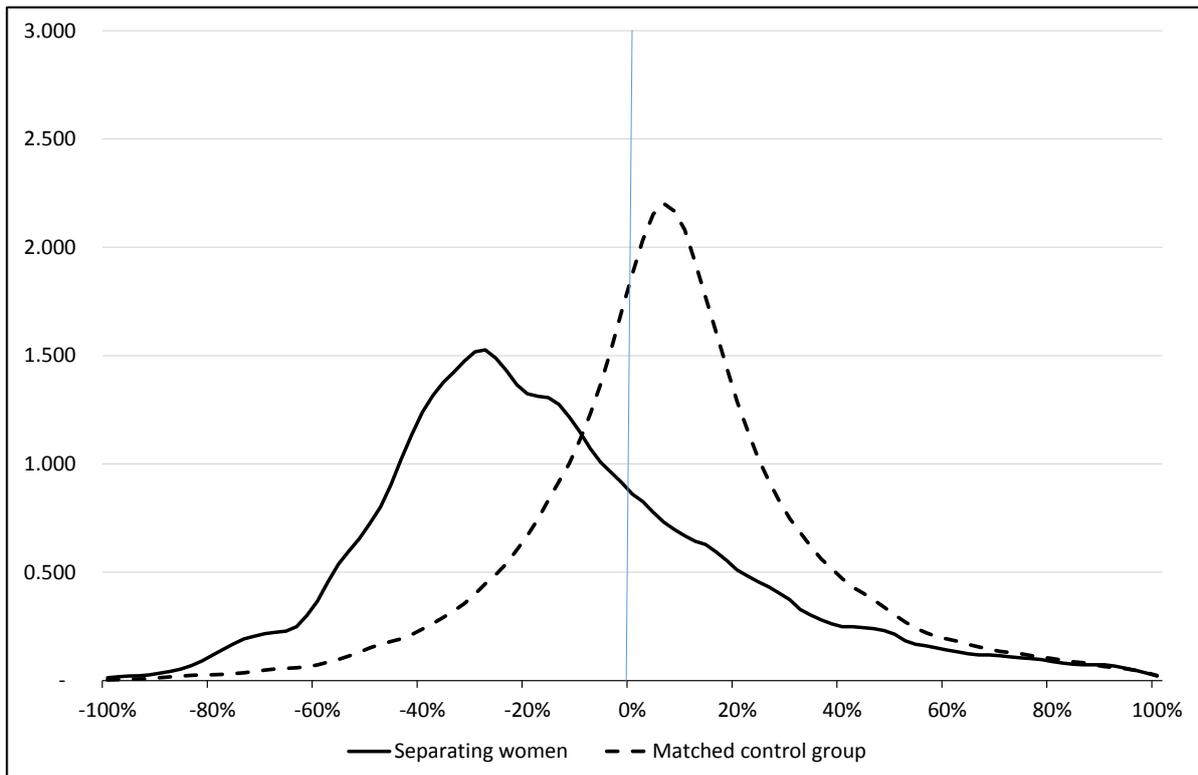


Table 5.5: The distribution of impacts of separation, percentage changes compared to t-1, separated and matched comparison group, by sex

Total net family income	t+1			t+3		
	Separated	Comparison	Diff	Separated	Comparison	Diff
Men						
Mean	-30.1%	8.7%	-38.8	-25.0%	15.8%	-40.8
10th percentile	-65.7%	-23.6%	-42.1	-65.5%	-26.4%	-39.1
25th percentile	-50.5%	-6.5%	-44.1	-48.1%	-6.0%	-42.1
Median	-35.2%	6.3%	-41.6	-31.2%	10.7%	-41.9
75th percentile	-17.5%	18.7%	-36.2	-11.0%	28.8%	-39.8
90th percentile	1.7%	37.9%	-36.2	14.3%	55.0%	-40.6
% worse off	89.3	35.2	54.1	83.1	32.4	50.7
Women						
Mean	-29.2%	12.2%	-41.4	-25.8%	19.4%	-45.1
10th percentile	-65.6%	-23.7%	-42.0	-65.6%	-26.4%	-39.3
25th percentile	-53.0%	-6.1%	-46.9	-52.0%	-6.1%	-45.9
Median	-38.8%	6.8%	-45.6	-36.9%	11.2%	-48.2
75th percentile	-19.1%	19.9%	-39.0	-15.5%	30.4%	-45.9
90th percentile	8.6%	41.5%	-32.9	16.9%	60.3%	-43.4
% worse off	86.7	34.8	51.9	84.3	32.5	51.8
Equivalised income						
Men						
Mean	25.2%	9.8%	15.5	32.1%	21.1%	11.0
10th percentile	-40.4%	-24.7%	-15.6	-40.8%	-26.0%	-14.8
25th percentile	-13.4%	-7.5%	-5.9	-11.3%	-5.4%	-5.9
Median	15.6%	6.6%	9.0	21.6%	13.2%	8.4
75th percentile	47.5%	20.9%	26.6	57.4%	37.1%	20.4
90th percentile	87.4%	42.3%	45.1	103.3%	70.1%	33.2
% worse off	35.8	35.9	-0.1	32.1	31.2	-0.1
Women						
Mean	-5.9%	13.4%	-19.3	0.1%	25.1%	-25.0
10th percentile	-50.5%	-24.4%	-26.1	-50.0%	-25.6%	-24.3
25th percentile	-35.7%	-6.6%	-29.1	-34.0%	-4.5%	-29.5
Median	-17.8%	7.2%	-25.0	-13.4%	13.9%	-27.3
75th percentile	7.6%	22.7%	-15.1	14.6%	39.3%	-24.7
90th percentile	41.9%	46.5%	-4.7	53.0%	75.8%	-22.9
% worse off	69.1	35.3	33.8	63.6	30.5	33.1

A similar widening of income changes is evident among the women who separate but occurs in conjunction with an overall negative impact on equivalised incomes. Sixty nine percent of women who separate are worse off in 2010; 34 percentage points more than the 35 percent of the comparison group who are also worse off.

5.6 Poverty

The impact marital separation has in raising poverty rates is well documented in research from other countries (see discussion in Chapter 3) and is confirmed in this study for New Zealand. The poverty threshold used here is defined in ‘constant value’ terms (Perry, 2015). That is, it is set as 50% of median income for a given year (in this instance 2012) and indexed to price changes using the CPI for all other years. Those ‘in poverty’ are those with equivalised incomes below the threshold in any given year.

As in other studies, the effect is starkest for women. In the first year following separation, the proportion of women below the poverty threshold rises from a pre-separation rate of 11.5 percent to 24.6 percent, 16.4 percentage points higher than the matched comparison group. However, poverty also rises among the men – from 8.1 percent to 15.7 percent, 8.9 percentage points higher than the comparison group. Even though the *average* effect of separation on men’s equivalised incomes is positive, because of the increase in the dispersion of their incomes, men’s poverty rate also rises substantially.

Consistent with the other results reported above, there is minimal change in the situation in the following two years. For separated men, there is a very slight improvement in poverty, with the estimated impact falling from 8.9 percent to 8.7 percent, while for the women there is a deterioration from 16.4 percent to 18.0 percent.

Table 5.6: Estimates of the effect of separation on proportion of men and women in poverty

Percentage below poverty threshold			2008	2010	2011	2012
Men	Separated		8.1	15.72	17.19	16.59
	Matched comparison group		6.8	6.83	8.10	7.91
	Difference			8.88	9.09	8.69
	SE			0.004	0.005	0.005
Women	Separated		11.5	24.64	29.09	27.29
	Matched comparison group		8.2	8.29	9.80	9.27
	Difference			16.35	19.29	18.02
	SE			0.005	0.005	0.005

Notes: The poverty threshold used here is defined in ‘constant value’ terms (Perry 2016), i.e., set as 50% of median income in a given year (in this instance 2012) and indexed to price changes using the CPI for all other years. Those ‘in poverty’ are those with equivalised incomes below the threshold in any given year. N=7,311 for men and N=8,628 for women. All results are significant at the 0.001 level.

5.7 The impact on earnings, employment, and Working for Families tax credit and benefit receipt

This section considers the impact on men's and women's labour market activity and earnings, and on their receipt of Working for Families tax credits and welfare benefits. The expected direction of impact on earnings and employment is ambiguous *a priori* - separated individuals may respond to the loss of family income by increasing their work and earnings, or they may reduce their paid employment because of increased childcare responsibilities, especially those individuals (mostly women) who find themselves with primary care of children.

Factors working in opposite directions also make the overall average impact on entitlement to tax credits unclear. To the extent that, after the adults' separation, children are living in families with lower total family income, the means-testing of WFF tax credits would be expected to raise average tax credit receipts.⁷⁶ On the other hand, the second largest component of the WFF package, the In-Work Tax Credit, is available only to families meeting a minimum hours-worked test. Individuals who, when they were partnered, met the joint couple-based hours test (30 hours per week) but do not meet the sole parent requirement of 20 hours per week after they have separated (or are receiving a welfare benefit) will no longer receive the In-Work Tax Credit. Thus, it is not immediately evident to what extent, if at all, the WFF tax credit system as a whole contributes to ameliorating the negative impacts of separation for parents.

With respect to welfare benefits, the effect should be more clear-cut. To the extent that separation results in an increase in reliance on welfare payments, the impact can be expected to raise average welfare receipts.

⁷⁶ Assuming, that is, that a large enough proportion of the cases have pre-separation incomes above the threshold for receipt of the maximum amount of tax credits

5.7.1 The impact on earnings and employment

Table 5.7 reports the change in mean annual earnings between 2008 and each of the years 2010 to 2012 for those who separated, and for the matched comparison group. It also reports the difference between these two differences.⁷⁷ As in the other tables, results are reported separately for men and women. The impact on both men's and women's earnings is positive, and statistically significant in each of the three years following the year of separation, although only weakly so for men by year three.

The estimated effect for men is a \$1,725, or 3.4 percent, increase in the first year diminishing to \$772, or 1.5 percent, by year three. The trend is the reverse among the women: a smaller \$585 (2.5 percent) effect in the first year but with stronger earnings effect (\$1,031 or 4.3 percent) after three years.

Table 5.7: Estimates of the effect of separation on gross earnings

			2008	2010	2011	2012
Mean dollars per annum			Dollars	Difference relative to 2008		
Men	Separated		51,304	627	-632	1,862
	Matched comparison group		50,442	-1,098	-1,478	1,090
		Difference	862	1,725**	845**	772*
		SE		791.2	376.4	415.7
Women	Separated		23,722	1,429	1,940	4,023
	Matched comparison group		24,066	844	1,223	2,991
		Difference	-344	585**	717***	1,031***
		SE		229.0	242.9	265.0

Notes: N=7,311 for men and N=8,628 for women. Significance levels: *** 0.01; ** 0.05; * 0.1.

The ability to analyse impacts on employment is limited by the fact that the dataset does not include information on labour force status or hours worked. However, analysing the proportion with positive recorded earnings over the year provides an approximate indication of the labour market participation.⁷⁸ While separation has a positive impact on mean earnings, for both men and women, it also has a negative effect on employment. The effect is larger for women than for men in the first year (-3.5 percent and -1.1 percent respectively). By the third year post-separation, the impact on the

⁷⁷ That is, these are the DD-PSM estimates for earnings levels

⁷⁸ Alternative measures, such as earnings of less than \$1,000pa or \$5,000pa should similar results.

proportion of individuals who have no employment income is -2.1 percent for separated women and -1.2 percent for separated men (not shown).⁷⁹

5.7.2 Receipt of Working for Families tax credits

Table 5.8 reports the impacts on receipt of Working for Families tax credits. These are reported as the totals for the family as a whole – that is, the sum of all tax credits the individual and any partner is entitled to receive – because tax credits are assessed and received on a family-unit basis even when they may be paid out to one or other of the partners in a couple household.

Unsurprisingly, the estimated average effect for men is large and strongly negative. Because the majority of separating men do not have primary care of children following the separation, many will be in households not eligible to receive any Working for Families tax credits. In the first year, the average impact is a loss of \$3,547 or 76 percent of the men’s average 2008 tax credits receipts. The impact lessens somewhat by the third year but this is mainly due to the fact that the comparison group’s average receipts also decline as their incomes rise and/or their children grow out of the entitlement age. The average impact for the women is positive but relatively small (but is statistically significant). On average, the amount the women receive in Working for Families tax credits is less in the third year after separation than the amount their family received prior to separation. However, it falls less rapidly than the amount received by the comparison group.

An important caveat in interpreting these changes in working for Families receipts is that they do not take into account changes in the numbers of children being cared for. If the analysis is restricted to people who have dependent children living with them in the year after separation, men who separated received \$1,793 less than in the year prior to separation, and women received \$1,538 more than in 2008. Changes in the contribution Working for Families tax credits make to individuals’ post-separation family incomes is addressed in more detail in the dyadic study in Chapter 6.

⁷⁹ These figures are after adjusting for changes among the matched comparison group.

Table 5.8: Estimates of the effect of separation on amount of Working for Families tax credits received

		2008	2010	2011	2012
Mean dollars per annum		Dollars	Difference relative to 2008		
Men	Separated	4,696	-3,547	-3,527	-3,519
	Matched comparison group	4,851	177	-373	-922
	Difference	-155	-3,724***	-3,154***	-2,598***
	SE		63.25	64.15	65.46
Women	Separated	5,235	501	56	-211
	Matched comparison group	5,346	80	-537	-1,098
	Difference	-112	420***	594***	888***
	SE		58.45	60.71	63.87

Notes: N=7,311 for men and N=8,628 for women. Significance levels: *** 0.01; ** 0.05; * 0.1.

5.7.3 Receipt of welfare benefits

Separation significantly increases welfare receipt among both the men and women in this dataset. For men, the average change is an increase of \$711 rising to \$881 by year three (see Table 5.10). The first year increase is equivalent to a 44 percent average rise. The change for women is very large: an average increase in benefit receipt of \$5,305 or over 300 percent in the first year after separation. The effect diminishes somewhat over time, but in the third year after the year of separation there is still an increase of \$4,591. These very large and long-lasting increases in welfare payments are discussed further in Section 8.6 below.

Table 5.9: Estimates of the effect of separation on the amount of benefit receipt

		2008	2010	2011	2012
Mean dollars per annum		Dollars	Difference on 2008		
Men	Separated	1,603	711	707	662
	Matched comparison group	1,689	-41	-142	-219
	Difference	-65	752***	848***	881***
	SE		62.64	64.81	66.17
Women	Separated	1,648	5,326	4,839	4,454
	Matched comparison group	1,663	20	-49	-137
	Difference	-15	5,305***	4,888***	4,591***
	SE		88.90	88.36	88.43

Notes: N=7,311 for men and N=8,628 for women. Significance levels: *** 0.01; ** 0.05; * 0.1.

5.8 Discussion and conclusions

This chapter reports estimates of the economic consequences of marital separation on incomes for a large subset of the New Zealand population. These are the first such estimates using New Zealand data. While the dataset does not cover the entire income distribution, and the findings cannot therefore be extrapolated to the whole population; they do cover all those who had contact with the welfare or family assistance systems at any point over the study period. This is approximately 60 percent of the population, and the great majority of the lower half of the (2008) income distribution. Moreover, because the dataset is drawn from administrative records rather than a sample survey, it is very large. In all, the analysis covers 7,311 women and 8,628 men who separated during the year 1 April 2008 to 31 March 2009. By comparison, most studies that use longitudinal sample surveys are based on sample numbers of not more than three or four hundred cases.

A feature of the present analysis is the use of propensity score matching and difference-in-differences to obtain a credible comparison group against which to compare outcomes for those who separate. There are limitations in the data available for doing this and, more importantly, it is not possible to control for time-varying unobserved characteristics that influence both the probability of separation and the post-separation outcomes. As a consequence, like all studies of the economics of marital separation, causal inferences must be treated cautiously. That said, it is clear that the methods used have controlled for important differences between those who separate and those who remain partnered, and that comparing outcomes against those of the matched groups provides a better guide to the effect of separation itself.

Both men and women experience a considerable reduction in their total after-tax family income following separation but, using equivalised income as a proxy measure for living standards, on average men are made better off by separation and women worse off.⁸⁰ The women are, on average, not only

⁸⁰ It's worth reiterating that 'better off' and 'worse off' are used in this context in the narrow sense of equivalised incomes. Many other factors may affect both economic standards of living and broader concepts of well-being.

worse off that they would have been had they remained partnered but are also worse off in absolute terms until the third year.

Table 5.10: Summary table of estimates of impact of separation on various outcomes

	2010	2011	2012
Change in outcome compared to 2008	t+1	t+2	t+3
Men			
Total net family income (%)	-38.8	-39.1	-40.8
Equivalised income (%)	15.5	12.1	11.0
Poverty rate (%age point)	8.9	9.1	8.7
Gross personal earnings (dollars)	1,725	845	772
WFF tax credits (dollars)	-3,724	-3,154	-2,598
Benefit receipt (dollars)	752	848	881
Women			
Total net family income (%)	-41.1	-41.5	-45.1
Equivalised income (%)	-19.3	-20.9	-25.0
Poverty rate (%age point)	16.4	19.3	18.0
Gross personal earnings (dollars)	585	717	1,031
WFF tax credits (dollars)	420	594	888
Benefit receipt (dollars)	5,305	4,888	4,591

The results found here are broadly consistent with other studies. Nearly all studies report a negative impact on women's equivalised incomes, irrespective of the choice of equalisation scale. The -19.3 percent short-term impact in this data is less negative than the comparable findings of many studies discussed in Chapter 3 and summarised in Table 3.1. For example, the impact is somewhat smaller than most of the figures reported in de Vaus *et al's* recent six-country study, which includes a 21 percent decline for women in Australia, 26 percent for the UK and 30 percent for the US (de Vaus *et al.*, 2015).⁸¹

The estimated +15.5 percent average impact for men is towards the high (positive) end of the range reported in other studies. Some researchers find sizeable net average gains for men who separate. For example, Jenkins (2009) reported a 31 percent unadjusted increase in median equivalised income

⁸¹ The exception is Korea, where de Vaus *et al* report a 5 percent decline in women's equivalised incomes.

for men who separated in the UK between 1998 and 2003 (the equivalent figure in the present study is a 15.6 percent unadjusted median change). McManus and diPrete (2001), on the other hand, report a range from -3 percent to -30 percent in short-term changes in equivalised income, depending on race and marital/de facto status. De Vaus *et al* (2015) find a positive short-term gain for men in Germany, although this is not sustained over the following five years. In the other five countries they studied, men's average equivalised incomes were similar to, or less than, what the authors estimate they would have been had the men remained partnered.

A number of factors need to be kept in mind when comparing the results found in this study with those reported elsewhere. First, the absence (or very low coverage) of high-income couples in the dataset used here is likely to introduce a positive bias in the estimates. To the extent that high-income couples have two relatively high incomes pre-separation, both individuals are likely to experience a large loss as a result of separating. Such couples are under-represented in this study. Second, the choice of equivalisation scale will affect estimates of the size of effects (Jarvis & Jenkins, 1998; Gray & Stanton, 2010). For example, in their studies de Vaus *et al* (2009, 2014, 2015) use the 'standard OECD' scale. Using that scale, moving from a two-adult/two-child household to a one-adult/two-child household is a change in equivalisation factors from 2.1 to 1.6, whereas applying the square root scale used in this study, it is a smaller change: 2.0 to 1.73.

The average impact of separation on incomes hides the wide dispersion of outcomes. Among both men and women, some individuals are better off and some worse off both in terms of total family income and equivalised income. Focusing on equivalised income as the measure of standard of living, this study finds that the proportion of men who are worse off in the year after separation (36 percent) is no greater than the matched comparison group proportion. However, separation flattens the distribution, so that more large increases and more large decreases are observed among the men who separate than among the comparison group. A similar pattern occurs for the women but is overlaid on an overall downward shift in equivalised incomes. Overall, 69 percent of separating women are

worse off compared with 35 percent of the comparison group. Twenty five percent of women experience a year-before/year after change in equivalised income of -36 percent or more.

This study finds no evidence of a lessening of the negative effects of separation on incomes over the medium-term. Among women, both the mean and median impact on equivalised incomes is actually worse in the third year after separation than after the first. Separated women's incomes *do* recover, but they fall further behind relative to the comparison group. For the men, slower income growth compared to those who remain partnered partially erodes the initial gains observed at the mean and the median. This pattern is similar to that reported by de Vaus *et al* (2015) for Australia, although in their study, women recover a considerable proportion of their initial losses, unlike in the situation observed in this study of New Zealand.

Turning to changes in the components of income that contribute to the overall impacts, three findings stand out. First, average changes in earnings, although positive, are relatively small for both men and women. Among the men, the initial increase diminishes over time (relative to the comparison group), whereas for women there is some growth over the medium-term. At the same time, decreases in the numbers participating in the labour market post-separation suggest that changes in the extensive and intensive margins are working in opposite directions. Some people withdraw from employment following separation – possibly for childcare reasons – while others respond by increasing their earnings, and presumably hours.

Second, the Working for Families tax credits package plays a statistically significant but relatively small role in ameliorating the reduction in women's average equivalised incomes. It contributes more positively where women have care of the same number of children as they had pre-separation, although the same is not true for men. The contribution of tax credits to post-separation incomes in the context of ex-partner dyads is explored in the next chapter.

Third, by far the largest response is an increase in core welfare benefit payments, especially among women. The estimated mean effect for women is an increase of \$5,300 per annum, or more than 300

percent. On the one hand, this can be interpreted as the welfare system working as intended to provide a safety net. On the other, it does not prevent a large increase in numbers below the poverty threshold, and neither is it a short-term impact while parents adjust to the economic shock of separation. The final chapter discusses these important policy-related issues in more detail.

6 Comparing outcomes for ex-partners

6.1 Introduction

The study reported in Chapter 5 focused on estimating the effect of separation on incomes and economic standards of living. Central to that estimation was the use of matching procedures to address the problem of the unknown counterfactual of what separating individuals' incomes would have been had they remained partnered. This chapter takes advantage of the characteristics of the Working for Families dataset to address a different group of questions: how do post-separation outcomes compare for ex-partners? That is, the focus is on the less-studied issue of *relative* outcomes between ex-partners. In Chapter 5, individuals were compared against an otherwise-similar person who did not separate. In this chapter, the comparison is with a person's ex-partner.

Australian legal academic and chair of the Ministerial Taskforce on Child Support, Patrick Parkinson opens his 2011 book *Family Law and the Indissolubility of Parenthood*, with the statement, 'Family law is largely about distributing loss' (Parkinson, 2011, p. 3). While, certainly, losses are commonly experienced, especially through the loss of economies of scale, the studies reviewed in Chapter 3 show that there are many cases where separating individuals gain in terms of economic standards of living as measured by equivalised income. How common is it that outcomes reflect the situation Parkinson is thinking of and both partners lose? How often are declines in living standards observed for women matched by increases for their ex-partners? Similarly, in those cases where the man is worse off following separation, how common is it that his ex-partner is better off? Are there also situations where both partners' standards of living are higher post-separation? Separation is not necessarily a zero-sum game.

The only known study to have focused on the relative outcomes of ex-partner dyads is that by Bianchi, Subaiya and Kahn (1999) which used pooled data from 1984 to 1990 panels of the Surveys of Income and Program Participation (SIPP) to examine the short-term (12-month) consequences of separation for 199 couples. Bianchi *et al* restricted their study to cases of a) married couples with a child under 15 years old at the beginning of the panel; where b) the father was the parent who left the household; c) the children remained with the mother; and d) 4-monthly interviews were carried out with both parents for the full 28 or 32 month period of the panel. Cases where the child or children remained with the father were excluded because there were too few in the SIPP data to be analysed. Because of the size of the Working for Families dataset, this study does not need to be so restrictive. It is also able to examine medium term (3 year) outcomes. The numbers of dyads used in the study reported here are 7,751 couples followed for one-year post-separation, and 5,781 where data are available for both ex-partners for three years after the year of separation.

The study focuses on three research objectives relating to the interplay of factors affecting the post-separation economic circumstances of ex-partners. These factors include the level of income prior to separation, the relative earnings of each partner, how care of children is distributed across the post-separation households, changes in the level of government assistance, private transfers in the form of child support and post-separation changes in the adults' labour supply and earnings.

The first objective is to gain a better understanding of patterns of gains and losses in terms of total and equivalised incomes among ex-partners. Specifically, the study looks at four sub-groups of separating couples: those where the woman is worse off after the separation and the man is better off; where the woman is better off and the man worse off; where both experience a decline in income; and where both experience an increase. Differences in the pre- and post-separation circumstances of these groups of ex-partners are analysed.

The second aim is to examine the *relative* gap in post-separation outcomes. That is, the difference between ex-partners' post-separation incomes irrespective of whether they are individually better or

worse off. This allows an exploration of how separated partners fare relative to each other, and provides a basis for comparison with Bianchi *et al's* (1999) analysis of US data.

Third, the chapter analyses changes in the composition of income for the balanced panels of ex-partners. This provides insights into the role played by the social assistance, tax-benefit and child support systems in response to separation, as well as changes in earnings and in contributions from new partners. The dyadic nature of the data makes it possible to analyse these changes in terms of both ex-partners' post-separation family households rather than the usual analysis of men and women separately. Because both ex-partners are observed, the net fiscal impact of the separations is also able to be examined.

6.2 Data and method

The data and data preparation steps were described in detail in Chapter 4. The same definitions of 'partnered' and 'separated' are used here as in the previous study. That is, a person is counted as partnered if they are recorded in the data as partnered to the same individual for all twelve months of the year ending 31 March 2008 (the 't-1' year). Because the interest of the study is in parents or caregivers, they must also be recorded as having a dependent child living with them as at March 2008.⁸² From within this group, a person is counted as having separated during 2009 (year 't'), if they are observed in the data subsequently but are not observed to be with their 2008 partner at any point during the 2010, 2011 and 2012 years. Death records are used to exclude cases where the observed 2009 separation was due to the partner's death.

The analysis in this chapter uses two balanced-panel subsets of that group of separating individuals. The first subset is that group of individuals where records exist in the data for *both* ex-partners for the

⁸² Children are recorded in the dataset as full-time equivalents to account for shared care. People with less than 1 FTE child are included in the data used here.

2010 year. This group, comprising 7,749 couples or 15,498 individuals, is referred to here as the ‘short-term’ or ‘2010 dyad’ group. The second group are those where continuous records exist for both members of the dyads for all three post-separation years, 2010 – 2012 (as well of course the 2008 year).⁸³ This ‘medium term’ or ‘three-year dyad’ group consists of 5,781 couples or 11,562 individuals.⁸⁴ Since same-sex couples were excluded from the dataset, both these panels contain equal numbers of men and women in the years in which they are matched. No requirement was imposed that the couple be together before 2008, so the numbers of men and women are lower in 2006 and 2007 than in 2008 and differ from each other (see Table 6.1).

Table 6.1: Comparison of the population sizes in the dataset, by year

		2006	2007	2008	2009	2010	2011	2012
		t-3	t-1	t-1	t	t+1	t+2	t+3
Observed as dyads in 2010	Men	6,831	7,239	7,749	n/a	7,749	7,026	6,636
	Women	6,678	7,170	7,749	n/a	7,749	7,170	6,879
Observed as dyads 2010 – 2012	Men	5,157	5,430	5,781	n/a	5,781	5,781	5,781
	Women	5,040	5,385	5,781	n/a	5,781	5,781	5,781

As in the previous chapter, the terms ‘men’ and ‘women’ are used rather than ‘husband’/‘wife’ or ‘father’/‘mother’. The marital and parental status of the couples is not the basis for defining partners (or ex-partners) for social assistance, welfare or child support purposes and as having caring responsibilities for the children identified as living with them.

As discussed in Chapter 4, those who separate have different characteristics from those who do not (see Table 6.2). The group of people who separated in 2008 are, on average, slightly younger, more likely to be of Māori ethnicity and less likely to be of an Asian ethnicity. They also have slightly fewer dependent children living with them pre-separation, and a slightly higher percentage has no dependent children under 13 years old. Their average net family incomes are also higher (by 12 to 14 percent) than those who remain together. Table 6.2 shows that there are also differences between

⁸³ As with the previous chapter, the year in which the separation occurred, 2009, is ignored.

⁸⁴ The reduction in numbers from the one-year to three-year group is due to two main factors: i) children ageing out so that the adults are no longer observed in the data, and ii) missing observations for one or both ex-partners for at least some months. Missing data may occur because the person is in New Zealand but has no contact with the welfare or tax systems, or because the person is overseas for a period, or because they have died.

the group where both ex-partners are observed in 2010 and the smaller subset where they are both observed for three years post-separation, although these differences are generally minor.

Table 6.2: Selected characteristics of the populations in the data

	Separated in 2009		Remain partnered 2008-12
	Observed as dyads in 2010	Observed as dyads 2010 - 12	
N (2008) =	15,498	11,562	283,716
Age (2008, mean)			
Men	38.1	38.6	40.4
Women	35.5	36.0	37.7
Ethnicity			
European	48.1%	47.3%	45.5%
Maori	18.4%	18.2%	11.9%
Pacific	6.0%	6.1%	8.6%
Asian	2.9%	2.8%	10.5%
Other	2.2%	2.1%	3.2%
Missing/Unknown	22.3%	23.6%	20.2%
Children in family in 2008:			
Average number per family	1.92	1.92	2.13
Percent with youngest child aged:			
0 – 4 years	49%	47%	48%
5 – 12 years	34%	34%	37%
13 – 18 years	18%	19%	15%
Mean total net family income, 2008	\$62,254	\$63,336	\$55,752
Mean equivalised income, 2008	\$32,010	\$32,579	\$27,954

6.3 Comparing post-separation changes in income for ex-partners

6.3.1 Overall changes in incomes following separation

Table 6.3 summarises the percentage changes in incomes following separation for the short-term (2008 to 2010) and the medium-term (2008 to 2012) dyads. These results are similar to the raw results reported in Chapter 5. At the median, both men and women are substantially worse off in terms of total net family income; women are also worse off (-26.3 percent) in equivalised income terms, while for men, the median change in equivalised incomes is an increase of 12.4 percent. Focusing on equivalised incomes, the distribution of incomes is wider in the t+1 year than the t-1 year, especially for men. Although the median is 12.4 percent higher for men in t+1 than it was in t-1, the 90th

percentile is 32.8 percent higher, while the 10th percentile is 21.4 percent lower. A similar, albeit less pronounced, dispersion in the income distribution is evident for women.

As was also found in the analysis reported in Chapter 5, there is only minimal change in outcomes in the following two years. By 2012, the men’s median equivalised income had risen 5.3 percentage points to be 17.7 percent higher than its 2008 level and the women’s increased 5.0 percentage points to be 21.3 percent lower than in 2008.

Overall, 62 percent of the men were better off in equivalised income terms, and 38 percent experienced a decline. Among women, 27 percent were better off, and 73 percent had a lower equivalised income in 2010 than in 2008.

Table 6.3: Percentage changes in total and equivalised incomes, 2008 – 2010 and 2008 – 2012 at different points in the 2008 income distribution

Percentage change at:	2008-10				2008-12			
	Total income		Equivalised income		Total income		Equivalised income	
	Men	Women	Men	Women	Men	Women	Men	Women
10 th percentile	-56.6%	-41.9%	-21.4%	-19.5%	-54.2%	-41.5%	-20.0%	-20.1%
25 th percentile	-44.7%	-43.2%	-5.5%	-26.9%	-41.1%	-42.2%	-2.4%	-25.6%
Median	-37.2%	-44.1%	12.4%	-26.3%	-32.9%	-42.4%	17.7%	-21.3%
75 th percentile	-32.1%	-42.7%	24.2%	-18.6%	-27.2%	-38.6%	31.6%	-12.7%
90 th percentile	-29.3%	-40.0%	32.8%	-10.6%	-22.7%	-36.9%	41.3%	-2.6%

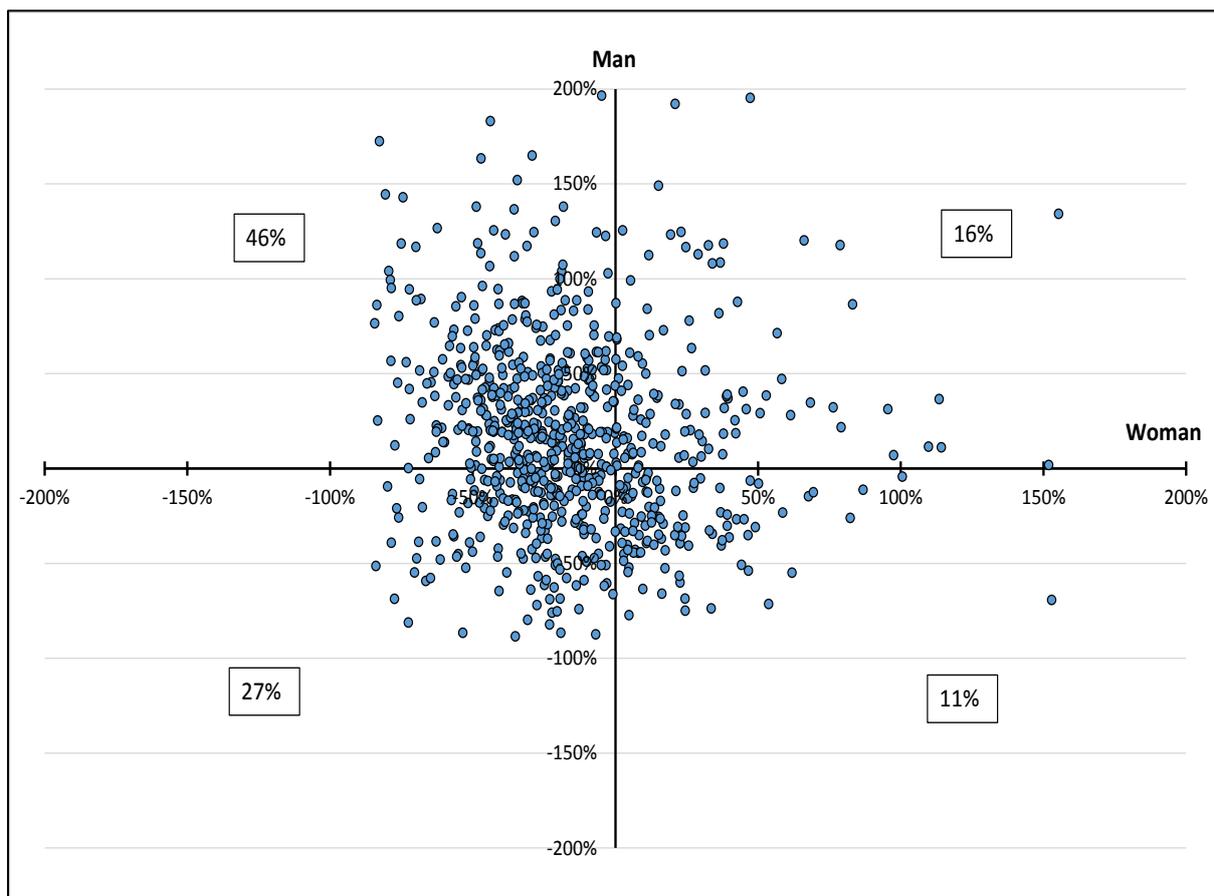
6.3.2 The distribution of changes between ex-partners

This section focuses on how the above gains and losses are distributed dyadically between ex-partners. Figure 6.1 summarises the results diagrammatically. The largest group – 46 percent of the sample – are cases where the woman’s equivalised income is lower in 2010 than in 2008 while her ex-partner’s is higher. In a quarter of the cases (27 percent) both ex-partners have lower post-separation equivalised incomes. Perhaps surprisingly, both partners are better off in 16 percent of the cases. The smallest group (11 percent) is where the woman’s equivalised income is higher and her ex-partner’s is lower.

Focusing on a distinction between positive or negative changes is arbitrary, and in some cases the changes may be very small. Before examining the characteristics of different dyadic sub-groups based

on patterns of change in income, it is useful to look more closely at the distribution of changes. Table 6.4 breaks the matrix of changes in equivalised incomes into those that are smaller or greater than plus or minus 10 percent. While this or any other figure is also arbitrary, it has the advantage of focusing on those ex-partners who have experienced a significant change in living standards following separation. An important first point to note is that small changes (i.e., under 10 percent either way) are relatively uncommon. Eighty-three percent of men and the same percentage of women experienced a change of at least plus or minus 10 percent comparing the year prior to separation and the year after separation. The equivalent figure for intact couples in this dataset was 35 percent. Only three percent of the total were cases where both ex-partners' incomes changed by less than 10 percent.

Figure 6.1: Distribution of ex-partners by percentage change in each partner's equivalised income pre- and post-separation changes in equivalised incomes among ex-partners



Note: Scatterplot is based on a 10% random sample of one-year dyads, truncated at -200% and +200% and randomly jittered using relative size of 5 to ensure confidentiality.

Looking at the four quadrants in the matrix where both ex-partners experience a significant change in equivalised income, the table shows that over one in three cases (34.9 percent) are situations where the woman's equivalised income is more than 10 percent lower in 2010 than in 2008, and her ex-partner's income is at least 10 percent higher; in almost one in five cases (17.5 percent) both are worse off by at least 10 percent; in 6.9 percent of cases the woman's income is at least 10 percent higher while her ex-partner's is at least that much lower; and in one in ten cases (10.1 percent) both have incomes that are at least 10 percent higher in 2010. These figures suggest that the outcomes for men and women are more complex than is implied by non-dyadic data. For example, the two-thirds of cases in which the woman is at least 10 percent worse off divide roughly 60:20:20 between cases where her ex-partner is considerably better off, experiences only a relatively small change, or is also substantially worse off. In the smaller (30.1 percent) group where it is the *man* who is at least ten percent worse off, the split is the reverse: roughly 20 percent where the woman is at least 10 percent better off, 20 percent where the percentage change is smaller, and almost 60 percent where the woman is also substantially worse off.

Table 6.4: Distribution of pre- and post-separation changes in equivalised incomes by ex-partners, by size of change

Men	Women				Total
	Decrease > 10%	Decrease 0 - 10%	Increase 0 - 10%	Increase >10%	
Decrease > 10%	17.5%	3.3%	2.4%	6.9%	30.1%
Decrease 0 - 10%	5.1%	1.1%	0.7%	1.5%	8.3%
Increase 0 - 10%	6.1%	0.7%	0.6%	1.4%	8.8%
Increase >10%	34.9%	4.4%	3.4%	10.1%	52.7%
Total	63.6%	9.5%	7.0%	19.9%	100.0%

These changes are not adjusted for selection bias as Chapter 5 sought to do. Hence the observed changes in income are not necessarily due to the separation itself – any number of shocks or behavioural changes may impact on a family's standard of living. One indication of the extent of other factors affecting short-term income mobility is to consider the changes in incomes for those who remain partnered. Table 6.5 compares 2008 to 2010 changes in equivalised income for the separating

men and women in the dyad sub-sample and for non-separating couples in the comparison group.⁸⁵ It highlights the extent of short-term (equivalised) income mobility among partnered couples but also that the movements tend to be larger among those who separate. For example, 18 percent of partnered couples experienced a decline in income between the 2008 and 2010 years of greater than 10 percent, but the corresponding figures for separating men and women were 30 percent and 64 percent respectively.

Table 6.5: Comparison of changes in equivalised income, 2008 to 2010, separating individuals and couples who remain partnered

	Decrease of 10% or more	Decrease of between 0 and 10%	Increase of between 0 and 10%	Increase of 10% or more
Dyad group – men	30%	8%	9%	53%
Dyad group – women	64%	10%	7%	20%
Comparison group of non-separating couples	18%	13%	22%	46%

A more detailed examination of the characteristics of each of the four groups where changes greater than 10 percent occurred for both partners reveals important differences. Table 6.6 summarises various pre- and post-separation variables for each of the four groups and for the whole sample of dyads. In total, the four groups account for 69 percent of the 7,707 dyads. The table is divided into two blocks – the first summarising key features of the families’ circumstances in the last pre-separation year, and the second the situation of the sub-groups of men and women in the first year after separation. In addition to the four groups, the same variables are reported for the full sample of dyads. The data refer to the ‘one-year dyads’ group where both ex-partners are observed in 2010, but not necessarily both in 2011 and 2012. Dollar amounts are medians and per annum.

An examination of the 35 percent of cases where the woman’s equivalised income falls by at least ten percent and the man’s increases by at least that much (‘W-/M+’) reveals certain significant features. First, this group had a relatively high median total income in 2008 (\$64,360). Second, that income came predominantly from the man’s earnings which were high compared to the sample as a whole – median male gross earnings for this group was \$60,740 compared with \$44,313 for the whole sample.

⁸⁵ This is the whole group of those who remained partnered. It is not the matched comparison group referred to in Chapter 5.

Third, the women's earnings were relatively low (\$14,535 compared with \$18,991 for all dyads). In the year after the separation, the median of the men's gross earnings was higher, cushioning the decline in their total income, and the average number of children living with them had fallen substantially from 1.99 to 0.16. Fourth, although the women had increased their gross earnings substantially, from \$14,500 to \$20,400, this was insufficient to offset the loss of their ex-partner's income, even after taking account of the reduction in the average number of children per woman from 1.99 to 1.40. This group has the largest gap in terms of the average number of children living with the ex-partners in 2010 (1.4 per woman and 0.16 per man).

Table 6.6: Pre- and post-separation circumstances of ex-partners, by pattern of change in equivalised income

Dollar amounts are median per annum except where specified	All dyads	Change in equivalised income > +/- 10%			
		W-/M+	W+/M-	W-/M-	W+/M+
Number*	7,707	2,688	534	1,347	780
Percent of all dyads	100%	35%	7%	17%	10%
<i>Pre-separation (2008):</i>					
Equivalised Income	\$29,873	\$32,550	\$24,457	\$31,566	\$20,068
Total Net Family Income	\$58,506	\$64,360	\$48,003	\$61,838	\$38,785
Gross Earnings – Men	\$44,313	\$60,740	\$15,073	\$43,045	\$24,607
Gross Earnings – Women	\$18,991	\$14,535	\$32,966	\$26,170	\$11,216
Employment rate – Men	95%	99%	80%	96%	83%
Employment rate – Women	82%	80%	86%	85%	72%
No. of children living with them (average)	1.90	1.99	1.88	1.89	1.94
Percent with an under 5 year old in family	49%	48%	46%	48%	56%
<i>Post-separation (2010):</i>					
Total Net Family Income – Men	\$37,769	\$49,649	\$16,891	\$23,583	\$37,313
Total Net Family Income – Women	\$34,408	\$29,991	\$45,345	\$31,880	\$41,760
Equivalised Income – Men	\$34,139	\$47,207	\$14,439	\$19,655	\$34,413
Equivalised Income – Women	\$22,692	\$19,862	\$33,113	\$19,888	\$28,939
Gross Earnings – Men	\$47,233	\$65,166	\$15,881	\$24,814	\$45,193
Gross Earnings – Women	\$24,828	\$20,382	\$44,003	\$21,250	\$32,060
Employment rate – Men	91%	99%	68%	83%	91%
Employment rate – Women	78%	75%	87%	71%	80%
Child support received:					
Men (average)	\$26	\$20	\$41	\$48	\$16
Men (average for those receiving any)	\$709	\$1,903	\$627	\$731	\$466
Women (average)	\$509	\$501	\$280	\$496	\$517
Women (average for those receiving any)	\$2,367	\$2,578	\$1,604	\$1,950	\$2,587
No. of children living with them – Men (average)	0.31	0.16	0.55	0.52	0.26
No. of children living with them – Women (ave)	1.33	1.40	0.99	1.57	1.16
Woman has children/Man does not	53%	58%	42%	55%	50%
Woman no children/Man has children	5%	2%	16%	8%	5%
W has children/Man has children	15%	10%	15%	24%	13%
Neither has children present	27%	31%	26%	13%	32%

* 42 dyads where one or both ex-partner had a non-positive total income are excluded

Note: the 'employment rate' here is defined as the percentage reporting any labour market income during the year.

The situation is quite different among the 17 percent of cases where both partners experience a decline of at least 10 percent in their post-separation standard of living ('W-/M-'). First, the contribution of the woman's earnings to the pre-separation family income was greater – \$26,200 compared to \$19,000 for the whole sample – although the median female earnings was still only 60 percent that of the men in the group. Second, both parties' earnings fall, rather than rise post-separation, especially so among the men (a 42 percent decrease at the median). This decrease in earnings is associated with a fall in employment for both the men and the women. Defining the 'employment rate' as the percentage with any labour market earnings during the year, the employment rate for the men in this group falls from 96 percent pre-separation to 83 percent in 2010, and that for the women from 85 percent to 71 percent. Lastly, this group has a somewhat different pattern of care of children from the other groups in that the proportion of men with children living with them post-separation is relatively high (an average of 0.52 per man) and one quarter are cases where both ex-partners have children living with them compared to 15 percent for the dyad group as a whole.⁸⁶

The smallest group (7 percent) is where the men's equalised incomes decrease by at least 10 percent and the women's rises at least that much ('W+/M-'). This is a group with low total income pre-separation, and where the women have higher earnings (and employment rates) than the men. Median female gross earnings are \$33,000 compared to \$15,000 for the men. Following separation, the women's median earnings rises by approximately one third. Their employment rate remains unchanged however, implying that this group of women responds to the separation by increasing their hours of work.⁸⁷ This group of women has the highest total family income post-separation (\$45,345): only 6 percent below their pre-separation total income. Conversely, the men have very low 2010 total incomes (\$16,900) – less than half the median for the group as a whole. Their employment rate, which

⁸⁶ In most cases this is likely to be shared care, with either the children spending time in both households or with one or more children living with each ex-partner. In some cases, however, these could be 'new' children.

⁸⁷ There may be some increase in hourly earnings as well. Data on hourly earnings rates are not available in this dataset.

was already well below the rate for other groups, drops even further in 2010: to 68 percent compared to 91 percent for the whole group. Although the women in this group are still the predominant primary carers in the year following separation, the gap is far less pronounced than for other groups. The average number of children living with the men is 0.55 compared to 0.99 for the women, and cases where the man has children living with him in 2010 and the woman does not comprise 16 percent of this group compared with only 5 percent for the total sample of dyads.

The fourth group is the one in ten couples where both partners are better off by at least 10 percent in the year following separation compared with the year prior ('W+/M+'). This couples' circumstances are characterised by two attributes. First, the family had the lowest total incomes before separation – a median of \$38,800 compared to \$60,400 for the group as a whole. In all, approximately 80 percent of this group had pre-separation total incomes below the median. These low family incomes are primarily a consequence of low earnings: – both the men and the women have 2008 earnings not much above half the all-group median. Second, both ex-partners considerably increased their earnings in the year after separation. Median gross earnings for the men rose by 84 percent to nearly the same as that for all the men in the sample. The women tripled their gross earnings to \$32,000, higher than the \$24,800 median for all women. This group is more likely than the others to have at least one child under five years old in the pre-separation household. It is possible that this is a factor in their low pre-separation earnings, and that this group's response to the separation involved increasing paid childcare (or unpaid care by relatives) to facilitate the increase in labour market earnings. Closer analysis of this group shows that one quarter were not partnered with each other two-years before the separation (or at least, not for the full year) and that these new couples had considerably lower total family incomes in 2008 than the others. Among those who were coupled in 2007, there is some sign of a dip in income in the 2008 year (of approximately \$3,000), however, their total family income was also low before that year.

Child support receipts contribute little to either the men's or the women's post-separation incomes in any of the groups.⁸⁸ For the men, the median receipt is \$26 and for the women it is \$509 (or 1.5 percent of family income). However, these averages reflect the fact that many of the ex-partners receive no child support at all. Average receipts among those who do receive child support are \$2,367 for the women and \$709 for the men. There is also considerable variation across the four groups. In the two groups where the men are better off in equivalised income terms after separation, average child support receipts by their ex-partners are highest – around \$2,500. They are lowest in the group where the men have lowest incomes post-separation. Conversely, average child support receipts among men who receive some child support are low in all groups except the group in which the women are worse off and the men are better off. Men in this group who are receiving child support receive an average of \$1900. Issues relating to child support payments and receipts are addressed in detail in Chapter 7.

6.3.3 Differences in outcomes depending on who has children living with them post-separation

It is useful to explore differences in pre- and post-separation circumstances, and outcomes according to which ex-partner is observed to have children living with them after the split. Who has primary care of children following separation is an endogenous decision that will reflect many different factors. It may be affected by the partners' pre-separation specialisation in paid and unpaid work, but it may also be influenced by (among other things) relative capacity to provide for children financially after separation. A preference for sharing care is also a consideration for some ex-partners.

Those cases where the man has children living with him post-separation and the woman does not are characterised by substantially lower median male earnings prior to separation and higher female earnings (see Table 6.7). Although the median is still higher for the men than the women, the ratio of female to male earnings, 0.63, is double that of the groups where only the woman has children living

⁸⁸ Note that the data does not identify whether the child support received by one person was paid by his or her ex-partner; it could have been paid by a third person.

with them, or where both do. The WFF data include few high-income families, and it is possible that families with two above-average incomes are more likely to share care than are lower income families. Smyth's qualitative study of Australian parents' post-separation patterns of care, for example, suggests 50/50 care may be associated with both parents having a degree of financial independence (Smyth, 2005, pp. 60-63).

The data on median incomes in the first year after separation reveal several significant points. First, in terms of total family incomes, the most significant difference is that women with no children living with them post-separation have much lower total incomes. This reflects the loss of the ex-partner's earnings and the fact that, without children present they receive much less, if anything, in the way of social assistance. Second, notwithstanding her lower total income, the absence of children post-separation offsets the reduction in her economic standard of living. This group of women is still worse off (by 10 percent) after separation, but less so than those who do have children living with them. Men who have children living with them post-separation are worse off than pre-separation. The group in which the ex-partner doesn't live with children are especially so, due to a combination of their own low earnings, the loss of their relatively higher ex-partner's earnings and the impact of the extra costs of children. In those cases where both ex-partners have children present in their post-separation households, the men are five percent worse off following separation.

These findings need to be interpreted cautiously owing to the limitations in using the WFF dataset to examine the effects of post-separation care of children. Because there are no unique identifiers for the children in the data, it is not possible to be certain that the children recorded in the 2008 data are the same children observed in the family in 2008. As explained in Chapter 4, there is also missing information in that, in some cases, a child may be present in one or other of the ex-partners' households but is not observed in the administrative data. In addition, shared care is defined by programme rules (which in most cases means a minimum of one-third care time) rather than what may actually be happening in the families' lives.

Table 6.7: Incomes by ex-partners' post-separation living arrangements

Median incomes	Post-separation living arrangements (2010)		
	Woman has children/ Man does not	Man has children/ Woman does not	Both have children
Total Income, 2008	\$53,824	\$53,451	\$56,575
Equivalised Income, 2008	\$27,341	\$27,478	\$26,883
men's earnings 2008	\$42,381	\$35,678	\$42,360
women's earnings, 2008	\$13,397	\$22,356	\$14,720
<i>ratio of women's earnings to men's, 2008</i>	<i>0.32</i>	<i>0.63</i>	<i>0.35</i>
Total Income, 2010, Men	\$32,055	\$34,033	\$38,660
<i>change in total income from 2008, Men</i>	<i>-40%</i>	<i>-36%</i>	<i>-32%</i>
Total Income, 2010, Women	\$35,123	\$25,239	\$34,811
<i>change in total income from 2008, Women</i>	<i>-35%</i>	<i>-53%</i>	<i>-38%</i>
Equivalised Income, 2010, Men	\$31,958	\$21,039	\$25,602
<i>change in equivalised income from 2008, Men</i>	<i>17%</i>	<i>-23%</i>	<i>-5%</i>
Equivalised Income, 2010, Women	\$20,560	\$24,715	\$20,046
<i>change in equivalised income from 2008, Women</i>	<i>-25%</i>	<i>-10%</i>	<i>-25%</i>

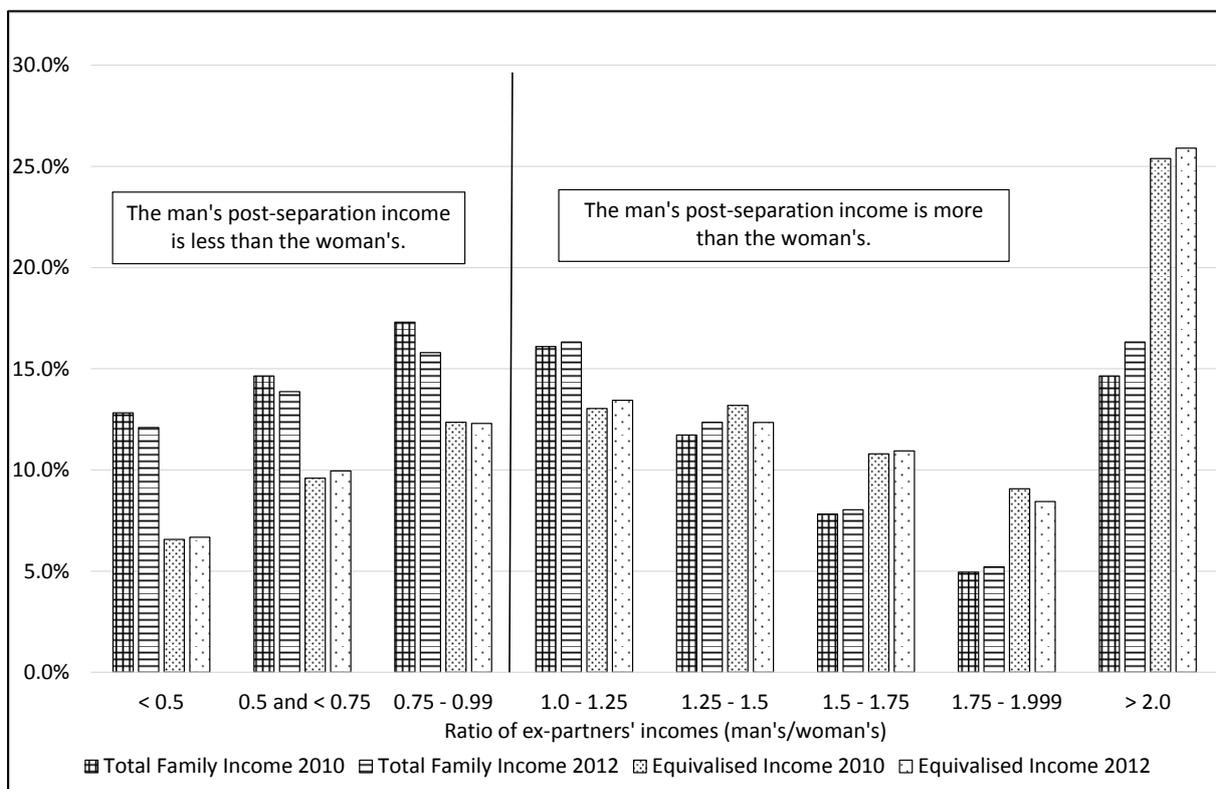
6.3.4 Relative incomes and the 'gender gap'

An alternative approach to analysing outcomes for ex-partners is to follow Bianchi *et al* (1999) and focus on the *relative* consequences of separation irrespective of whether individuals are better or worse off. Bianchi *et al* found, for their sample of 199 ex-couples in pooled SIPP panels dating from 1984 – 1990, a ratio of the mothers' to fathers' post-separation median total incomes of 0.74, and a ratio of their median income-to-needs ratios of 0.56. They also found that the father's total income exceeded his ex-partner's in 65 percent of the cases, and that his income-to-needs ratio exceeded hers in 81 percent of the cases. The men's income and income-to-needs ratio was more than double that of their ex-partners in 32 percent and 45 percent of the cases respectively.

In this present study, average relative outcomes are also very unequal in terms of equivalised income, although less so in respect of total net family incomes than is the case in Bianchi *et al.* The ratio of the women's to men's median total net family incomes in the first post-separation year is 0.89, and for median equivalised family incomes the ratio is 0.66. Fifty three percent of the men had a post-separation total income greater than that of their ex-partner's. Seventy percent of the men had equivalised incomes that were higher than their ex-partners', 25 percent (of the total) being more than double her equivalised income. The distribution of the ratio of incomes is shown in Figure 6.2. In only one quarter of cases is the gap between men's and women's post-separation equivalised income smaller than plus or minus 25 percent.

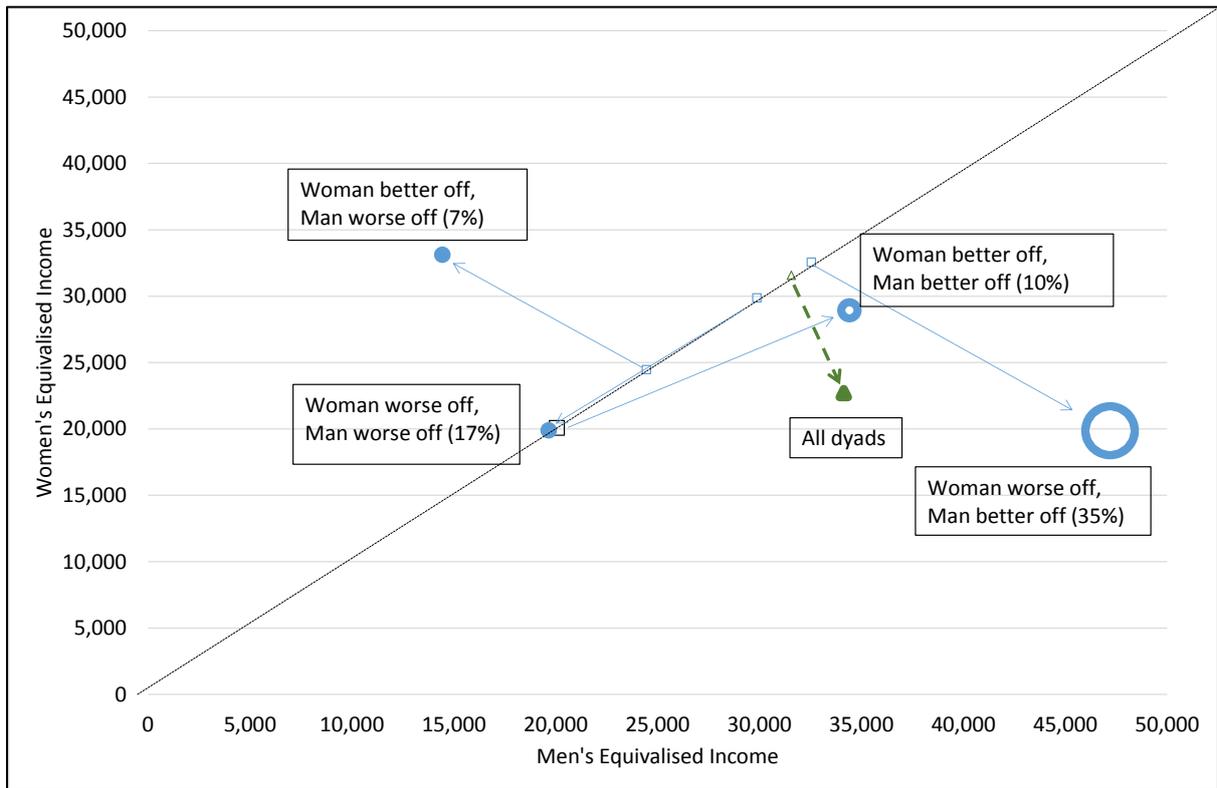
Consistent with other results from this study, there is little change over the medium-term: the ratios in 2010 and 2012 are broadly similar to each other, although the proportion of men with incomes lower than their ex-partner's has fallen slightly by 2012, and the number with incomes more than their ex-partner's has increased.

Figure 6.2: The ratio of ex-partners' total and equivalised incomes in the first year following separation



Examination of relative gaps in outcomes can be combined with the analysis of gains and losses discussed in Section 6.4. Figure 6.3, which plots the men's equivalised incomes against the women's, provides a useful way of summarising the overall median changes for each of the four groups. Prior to separation, all four groups lie on the diagonal – by definition, the two partners have the same equivalised incomes when living together. The largest group, where the woman is worse off and the man better off, have the highest pre-separation income and move almost perpendicularly away from the diagonal to a point where the men's post-separation median income is higher than any of the other groups and the women's is lower. The opposite case, where the woman gains and the man loses, is also almost perpendicular but in the reverse direction. This group started at a below-average income, and following the separation the women's median income is higher than those of other groups while the men's is the lowest. Where both ex-partners are better off, the direction of movement is below the diagonal; that is, both gain but, at the median, the men gain more. This group began at the lowest income pre-separation. In the case where both partners are worse off, the losses are shared almost equally, and the direction of movement is directly down the diagonal. This is the group where the women's pre-separation share of earnings was relatively high and in which both ex-partners earned less following the separation.

Figure 6.3: Diagrammatic representation in short-term changes in ex-partners' equivalised incomes, for cases where changes are greater than plus or minus 10 percent, first year after separation compared to the year prior



6.3.5 Benefit receipt before and after separation

In the short- and medium-term, separation significantly increases benefit take-up. In the year prior to separation, 15.3 percent of the families in this dataset received a main benefit in at least one month of the year (Table 6.8). In the first full year following the year of the separation, the figures increased to 24 percent of the men and 47 percent of the women. In 16.8 percent of the cases, both ex-partners received some benefit; in more than half (55 percent) one or other received some benefit. In terms of amounts, core benefit payments rose from an average of \$1,600 to \$8,800 (summing across both ex-partners).

Table 6.8: Percentage receiving any main benefit payments, 2008 and 2010

Percent	2008	2010			
	Couple	Men	Women	Both	Either
	15.3	24.0	47.3	16.8	55.5

N=7,749 men and 7,749 women

In terms of transitions into and out of benefit receipt, two-thirds of men who had received some benefit payments in 2008 were also likely to receive some in 2010 after separation. For women, the equivalent figure was 86 percent. Sixteen percent of men and 40 percent of women who had not received any main benefit during 2008, received some during 2010.

Table 6.9: Benefit transitions

			2010	
			Received some	Received none
Men	Received some in 2008	15.3%	66.8%	33.2%
	Received none in 2008	84.7%	16.3%	83.7%
Women	Received some in 2008	15.3%	85.8%	14.2%
	Received none in 2008	84.7%	40.3%	59.7%

6.3.6 Poverty rates and gaps

A number of studies examine the impact of separation and divorce on the likelihood of being in poverty (see Chapter 3). One New Zealand study estimated that a transition from a two-parent to a one-parent household increased the likelihood of a child moving into poverty by 43 percent (Ballantyne et al., 2004). The dyadic nature of the data available here make it possible to explore how poverty rates change for ex-partners following separation. How common is it that separation shifts one or both partners into poverty? Alternatively, how likely is it that separation shifts one or both out of poverty?

The definition of poverty used here is a ‘constant value’ measure or ‘absolute’ threshold (see for example Perry, 2015) based on 50 percent of the 2012 median incomes. That is, a 2012 poverty threshold was set using OECD data of equivalised incomes at 50 percent of the median. This figure was then adjusted for changes in the consumer price index to obtain a threshold for other years.

In 2008, 7.8 percent of the couples in this dataset were below the 50 percent of median poverty line. In 2010, after separating, 16 percent of the men and 23 percent of the women were in poverty. Table 6.10 summarises poverty outcomes for ex-partners. Among those who were below the 2008 poverty line, there is little difference between the sexes in 2010 outcomes. In one third of the cases (2.6

percent of total) both are still in poverty in 2010. Dyads, where one partner remains in poverty and the other is not, are spread fairly evenly between the sexes. In approximately one quarter of the cases neither partner is in poverty in the 2010 year.

The differences are more marked for movements *into* poverty. In 15.3 percent of cases where the couple was above the 2008 poverty threshold, the woman is below the 2010 threshold and her ex-partner is not. And in 8.1 percent of the cases, the situation is the reverse: he is below the threshold and she is not. In a smaller number of cases (3.3 percent) both ex-partners have moved into poverty in 2010.

Expressed in terms of transition probabilities, the men and women have similar chances of moving out of poverty following separation – 0.46 and 0.54 respectively – but very different probabilities of moving into poverty – 0.11 for the men and 0.21 for the women.

Poverty rates are only one dimension of poverty and can be misleading because they are simply a headcount of numbers below a given threshold. The total poverty gap, defined as the sum, for all those below the poverty line of the difference between their equivalised incomes and the threshold⁸⁹, provides a different measure of the level of poverty. In 2008, the total poverty gap for this group was \$288,400 in 2008, an average of \$318 for each individual below the threshold. By definition, this total was shared equally between the men and women who comprised the couples in poverty in 2008. In 2010, the total poverty gap had risen five-fold to \$1,696,200 and the average gap to \$741. In other words, both the number of people in poverty and the average depth of poverty increased. In 2010, 43 percent of the total gap was accounted for by men and 57 percent by women. Interestingly, the average gap was higher for men (\$782) than for women (\$732). That is, separation was associated with worse poverty outcomes for the women as a group, but those men who were in poverty in 2010 were, on average, in deeper poverty than the women.

⁸⁹ Or, equivalently, the sum of the number of dollars required to lift everyone who is below the poverty line up to exactly that level.

Table 6.10: Poverty rates and transitions, 2008 to 2010

2008 poverty status		2010 poverty status					
		Both below poverty line	Woman below/Man not	Man below/Woman not	Neither below poverty line	All women below poverty line	All men below poverty line
Couples below poverty line (7.8%)	<i>Transition probability</i> Share of total population	.33 2.6%	.21 1.6%	.23 1.8%	.23 1.8%	.54 4.2%	.46 4.4%
Couples not below poverty line (92.2%)	<i>Transition probability</i> Share of total population	.04 3.3%	.17 15.3%	.09 8.1%	.71 65.5%	.21 18.6%	.11 11.5%
	2010 Poverty rate	5.9%	16.9%	9.9%	67.3%	22.8%	15.9%

6.4 Changes in the composition of income following separation

This section reports how the composition of income changes following separation. Because the data is a balanced panel of ex-partners, and because it contains detailed information on income by source, it is possible to examine the differences in the make-up of the men's and women's incomes which lie behind the observed differences in total incomes.

Tables 6.11 and 6.12 summarise the composition of the men's and women's incomes respectively and the changes between 2008 and 2010. The figures, which are the means for the group, are based on the 5,778 couples where both partners were observed in the data for the 2010 – 2012 period.

Looking first at the men, the principal source of income decline is the loss of their ex-partners' earnings. On average, the men lose \$23,500, from their ex-partners' earnings, offset by a reduction in tax of \$5,740. Income from new partners is low – an average of \$487 – as very few have repartnered by the first year following separation. The men's own earnings rise very little, which is unsurprising given their already high employment rate and levels of earning suggest that the great majority are already working full-time. The men's households also lose an average of \$3,750 in WFF tax credits reflecting the fact that the majority no longer has children living with them. Benefit payments rise, although only modestly, and are offset in part by a reduction in supplementary assistance from MSD.

This is possibly because of a reduction in Accommodation Supplement and Childcare and Out-of-School Care Subsidies due to the fact that the men have fewer qualifying children in their care. Net child support payments reduce the men's incomes by an average of \$1,770 in 2010, up from \$85 in 2008. The overall average loss in income among the men of \$21,900pa is, however, more than offset by the reduction in average household size from 3.86 to 1.24 people, equivalent to a change in the equivalisation factor of -0.85. The result is the 15 percent increase in equivalised incomes reported above.

Table 6.11: Change in composition of income, 2008 and 2010,

<i>Men</i>							
Men	2008	2010	Change 2008-2010		2012	Change 2008-2012	
(2013 dollars), means	Dollars	Dollars	Dollars	Contribution to change	Dollars	Dollars	Contribution to change
Own earnings	\$49,717	\$50,351	\$634	2.9%	\$51,216	\$1,500	7.7%
2008 partner's earnings	\$23,506	-	-\$23,506	-107.3%	-	-\$23,506	-120.3%
WFFTC (includes PPL)	\$4,805	\$1,058	-\$3,747	-17.1%	\$1,118	-\$3,687	-18.9%
Benefit, MSD	\$1,606	\$2,306	\$700	3.2%	\$2,301	\$695	3.6%
Supplementary assistance	\$1,046	\$696	-\$351	-1.6%	\$674	-\$372	-1.9%
Child Support (net)	-\$85	-\$1,769	-\$1,685	-7.7%	-\$1,660	-\$1,575	-8.1%
Spousal Maintenance (net)	\$167	-\$9	-\$176	-0.8%	-\$10	-\$177	-0.9%
Income tax (negative)	-\$17,428	-\$11,692	\$5,736	26.2%	-\$11,053	\$6,375	32.6%
New (2010) partner earnings	-	\$487	\$487	2.2%	\$1,210	\$1,210	6.2%
				% change			% change
Total net family income	\$63,336	\$41,428	-\$21,908	-34.6%	\$43,797	-\$19,539	-30.8%
Equivalisation factor	1.96	1.12	-0.85	-43.2%	1.14	-0.83	-42.2%
Equivalised net income (per person)	\$32,241	\$37,136	\$4,895	15.2%	\$38,560	\$6,319	19.6%

For the women, the only component of income that declines is partner earnings. Their own earnings rise by an average of 10 percent or \$2,360 (earnings from new partners make a small contribution of \$970 on average.) Income tax is considerably reduced (down \$11,240 or 65 percent) as this is primary tax on their ex-partners' incomes. Benefit payments and supplementary assistance rise substantially – by \$4,920 and \$2,120 respectively – but average WFF tax credits increase by only \$593 on average.

The low average increase in tax credits mainly reflects the lower number of children in the households but is affected by some loss of In-Work Tax Credit payments in cases where the women no longer meet the work hours test for that payment, and the fact that some lower income families would already have been receiving maximum tax credit payments, so no increase is possible.

Table 6.12: Change in composition of income, 2008 and 2010,

<i>Women</i>							
Women	2008	2010	Change 2008-2010		2012	Change 2008-2012	
(2013 dollars), means	Dollars	Dollars	Dollars	Contribution to change	Dollars	Dollars	Contribution to change
Own earnings	\$23,506	\$25,864	\$2,358	8.8%	28,312	4,806	19.1%
2008 partner's earnings	\$49,717	\$0	-\$49,717	-185.2%	0	-49,717	-197.2%
WFFTC (includes PPL)	\$4,805	\$5,399	\$593	2.2%	4,745	-61	-0.2%
Benefit, MSD	\$1,606	\$6,522	\$4,916	18.3%	5,714	4,108	16.3%
Supplementary assistance	\$1,046	\$3,167	\$2,121	7.9%	2,644	1,598	6.3%
Child Support (net)	-\$85	\$300	\$385	1.4%	364	449	1.8%
Spousal Maintenance (net)	\$167	\$448	\$281	1.0%	326	159	0.6%
Income tax (negative)	-\$17,428	-\$6,186	\$11,242	41.9%	-6,000	11,428	45.3%
New (2010) partner earnings	\$0	\$970	\$970	3.6%	2,021	2,021	8.0%
				% change			% change
Total net family income	\$63,336	\$36,484	-\$26,851	-42%	38,126	-25,209	-40%
Equivalisation factor	1.96	1.46	-0.50	-25.5%	1.45	-0.52	-26%
Equivalised net income (per person)	\$32,241	\$24,942	-\$7,299	-23%	\$26,366	-\$5,875	-18%

Average net child support receipts make a very small contribution of \$300 to the women's incomes, considerably less than the average payment made by the men. Several reasons underlie this. First, these are net amounts: the difference between child support received and payments paid out, so they will be affected by cases where the woman is a child support payer (and where the man is the recipient). Second, as noted earlier, there are cases where children appear not to be living with either of the ex-partners, and if child support is paid for these children, it will be to a third party. Third, where the parent with primary care is on a welfare benefit no child support, payments are transferred to her or him except any amount in excess of the total benefit payment. It is not possible from the available

data to identify whether the final recipient of any child support payment is the ex-partner, some other person, or the State.

The discussion above shows that for this group of ex-partners, the men are, on average, approximately \$5,000 better off in equivalised income terms and the women are approximately \$7,000 worse off. Because the data are a balanced panel of equal numbers of ex-partners, it is possible to examine the overall impacts the process of separation has on the group as a whole, and to consider the fiscal implications. Table 6.13 combines Tables 6.11 and 6.12 to show the change in average incomes across all the couples and the average changes in the composition of that income. Note that in order to be comparable before and after separation, Table 6.13 is calculated on a *per couple* basis. That is, the figures presented here are the average across the 5,778 ex-couples, not the total number of individuals (i.e., not the $2 \times 5,778 = 11,556$ individuals).

Overall, average total family income per ex-couple rises by \$14,600 (23 percent) in the year following separation. Increased market earnings by both the men and the women contribute to this increase. On average the men's earnings rise slightly in the first year, by \$600 (a 4.4 percent net contribution to the change) and the women's increases by \$2,400 (a 16.2 percent contribution). New partners contribute an average of \$1,500.

Private (formal) transfers make a net negative contribution. Spousal maintenance contributes an average of \$272 (1.9 percent contribution) and the net impact of child support is negative \$1,400 (-9.5 percent contribution). Some part of this is a rise in child support transfers to third parties but the dominant factor is likely to be the retention by the State of child payments in cases where the parent with primary care is on benefit.

The largest contributor by far however is State transfers. Benefit receipts rise \$7,200 (a 49.5 percent contribution) supplementary assistance such as Accommodation Supplement, childcare subsidy and discretionary third-tier support increases \$2,816 (19.3 percent contribution) and Working for Families tax credits increase by \$1,700 (11.3 percent contribution). Income tax increases an average of \$450

making a negative 3.1 percent contribution. Overall, the average net first-year fiscal impact of these separations is \$11,240 per couple, not including retained child support payments.

While separation results in a 23 percent average increase in total family incomes for these couples, that increase is not sufficient to avoid an overall decline in average equivalised incomes across both sets of households. Even after allowing for the reduction in the total number of children living in one or other of the ex-partners' households (or shared across both), average equivalised incomes are 4 percent lower in 2010 than in 2008.

*Table 6.13: Change in composition of income, 2008 and 2010,
Men and women combined*

All couples (2013 dollars), means	2008 Dollars	2010 Dollars	Change 2008-2010		2012 Dollars	Change 2008-2012	
			Dollars	Contribution to change		Dollars	Contribution to change
Man's earnings	\$49,717	\$50,351	\$634	4.4%	\$51,216	1,500	8.1%
Woman's earnings	\$23,506	\$25,864	\$2,358	16.2%	\$28,312	4,806	25.9%
WFFTC (includes PPL)	\$4,805	\$6,457	\$1,652	11.3%	\$5,863	1,058	5.7%
Benefit, MSD	\$1,606	\$8,828	\$7,222	49.5%	\$8,015	6,409	34.5%
Supplementary assistance	\$1,046	\$3,863	\$2,816	19.3%	\$3,319	2,272	12.2%
Child Support (net)	-\$85	-\$1,469	-\$1,385	-9.5%	-\$1,296	-1,211	-6.5%
Spousal Maintenance (net)	\$167	\$439	\$272	1.9%	\$316	149	0.8%
Income tax (negative)	-\$17,428	-\$17,878	-\$450	-3.1%	-\$17,053	375	2.0%
New (2010) partner earnings	\$0	\$1,457	\$1,457	10.0%	\$3,231	3,231	17.4%
				% change			% change
Total net family income	\$63,336	\$77,912	\$14,577	23%	\$81,923	18,588	29%
Equivalisation factor (average across both ex- partners)	1.964	1.289	-0.675	-34%	1.291	-0.674	-34%
Equivalised net income (per person)	\$32,241	\$31,039	-\$1,202	-4%	\$32,463	\$222	0.7%

In the medium-term, three years after separation, mean total family income has risen further to 29 percent above its 2008 level, which is just sufficient to bring average equivalised incomes across all the ex-couples' family units to slightly above its 2008 figure (0.7 percent). The largest contribution to this increase is still made by MSD benefit and supplementary assistance (49 percent combined

contribution) but this is considerably lower than in the first year. The contribution from earnings by the women, men and new partners have all increased, together contributing 50 percent of the increase in mean total income. Child support payments continue to have a net negative effect, although somewhat less than in the first year. This is presumably the impact of State retention of payments made in respect of beneficiaries.

6.5 Discussion and conclusions

The purpose of this chapter was to examine individuals' changes in incomes following separation relative to their ex-partners'. It differs, therefore, from the previous chapter in that the objective was not to identify causal effects, but rather to describe how post-separation outcomes are distributed. If the couple had not separated then, given the intra-household income-sharing assumptions discussed in Chapter 5, both partners would have shared the same fortunes or misfortunes in terms of income and economic standards of living as each other. Investigating how outcomes diverge for ex-partners following separation makes it possible to better understand the more commonly studied separate outcomes for women and men, and to explore differences in the patterns of outcomes affecting ex-partners. The analysis revealed a number of valuable insights.

First, it is rare for separation not to be associated with a significant impact for at least one of the partners. Only 3 percent of the dyads in this dataset did not experience a change income of at least plus or minus ten percent comparing the year prior to separation and the year after. While this may seem unsurprising given the significance of the economic shock separation represents, it is an important finding, especially because it persists over the three-year medium-term.

Second, among those cases where the woman experiences a significant decline in economic standard of living (63 percent of the total), two outcomes are common for their male ex-partners. In half of

these cases, the man's equivalised income increased by at least ten percent; but in more than a quarter of the cases he too was worse off by that amount or more. The corollary of this is that the reverse situation is less common: more than half of the cases where the man was substantially worse off so too was his ex-partner. Only seven percent of the whole sample were cases where substantial losses for the man were paralleled by substantial gains for his ex-partner.

Third, consistent with McManus and diPrete's (2001) findings regarding men, the group in this study where the woman is significantly better off and the man is worse off, is characterised by a more equal sharing of pre-separation earning (coupled with a reasonable combined level of income). It is possible that as full-time employment becomes more common among mothers, this pattern of outcomes will also become more common, although the extent to which that is so will depend on both patterns of child-caring post-separation and on the quantum and targeting of social assistance payments such as WFF tax credits that ameliorate the loss of the other partner's earnings.

Fourth, there is a sizeable minority of cases where both partners are substantially better off after separating. This analysis does not tell us where there is a *causal* link between their separation and the improved outcomes – perhaps their situations would also have improved if they remained together – but it does point to two key characteristics of this group: they were overwhelmingly poor when they were together as a couple, and they dramatically improved their earnings following separation.

Fifth, as other studies have found (see, for example, Smock, 1994), responsibility for primary care of children post-separation plays a dominating role in influencing outcomes. Among the ex-couples in this data, the women are far more likely to be living with dependent children after the separation than are the men. In the small number of cases where the situation is reversed, the men (and the children living with them) experience a decline in average equivalised incomes following separation.

Sixth, the State plays an important role in supporting family incomes following separation – but not necessarily in ways that are helpful for longer-term outcomes. Among the group covered by this dataset, the main programme to assist families with children, the WFF tax credits, does only a modest

amount to ameliorate declines in living standards following separation. Further analysis is needed to understand why this is so but it appears to be driven by a combination of programme design, levels of assistance and targeting regimes. The biggest State contribution comes from the welfare system and social security benefits, with the implication that carries of low incomes, low standards of living and a substantial increase in poverty rates. This could be seen as an expected and beneficial outcome – the welfare safety net working as intended – if welfare were a short-term support while separating couples adjusted to their new circumstances. However the evidence in this study (and in Chapter 5) is that for most it a longer-term outcome lasting at least three years.

Finally, the analysis in this chapter suggests child support – the programme designed to most directly balance the costs of raising children following parental separation – does little to support many separated parents with primary care of dependent children. This is less a matter of enforcement, which is a central issue in some jurisdictions, than of programme design, and in particular the State retention of child support payments where the parent with care is on welfare. It is these issues and the likely consequences of the recent Child Support Amendment Act that the next chapter focuses on.

7 The Child Support Amendment Act 2013 and the likely effects of the new liability assessment formula

7.1 Introduction

The focus of this chapter is New Zealand's child support scheme. The Child Support Amendment Act 2013 is the most substantial reform of New Zealand's child support system in its 23-year history.⁹⁰ Central to the amendments is a new formula for assessing liability, which came into effect on 1 April 2015 – i.e., after the period covered in the analyses in Chapters 5 and 6. The purpose of this chapter is to examine some implications of the new formula. It has three main objectives. First, it aims to elucidate the impacts of each element of the changes to the formula. The impact on child support amounts for any individual paying or receiving parent is the net effect of each aspect of the changes and it is useful to identify the significance of each for people in different circumstances. Second, it presents an analysis of the predicted distributional impacts of the new formula. For this, the chapter draws on cross-tabulations provided by Inland Revenue from modelling it carried out for policy-advice purposes. The analysis focuses on who is likely to gain and who is likely to lose from the introduction of the new formula (in terms of immediate increases or decreases in child support liabilities or receipts), the magnitude of predicted changes and some of the implications for different groups of paying and receiving parents.

The chapter also makes some comparisons with the Australian reforms, using the summary of predicted impacts published by Australia's Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA)⁹¹ (Commonwealth of Australia, 2008) and analysed by Smyth and Henman (2010). Australia-New Zealand comparisons are of particular interest because of the similarities between the two systems. New Zealand has always followed Australia closely on child

⁹⁰ A version of this chapter was published in 2016 in the *Australian Journal of Family Law* (Fletcher, 2016)

⁹¹ Now part of the Department of Social Services.

support issues; its old formula was modelled on Australia's pre-2008 one and the new one is even more similar to the one now used in Australia. A central finding of the analysis presented here, however, is that a few key differences in policy design result in substantial differences in the likely impacts of the reforms.

Although the terms 'gains' and 'losses'⁹² are used here to describe these changes, it is important to recognise that the point of amending the formula is to change liabilities – hopefully doing so in ways which, to quote officials' advice to the Select Committee, help ensure the new system 'achieves an equitable outcome' (Pallot, 2012). A loss or a gain for any group of parents may - or may not - be a movement in that direction and assessing 'equity' – or perceived equity – is beyond the scope of this analysis.

It should also be borne in mind that the findings reported here are static predictions. They will differ from the actual *ex post* out-turns because of behavioural responses to the new regime and errors inherent in the assumptions needed for modelling. That said, they provide a valuable baseline against which to assess actual outcomes post-2015/16.

7.2 Impacts of child support

There has been relatively little research published on New Zealand's child support scheme. Chapple and Cronin (2007) carried out what they describe as 'a preliminary economic analysis' using grouped Inland Revenue and Household Economic Survey data. They concluded that the scheme's likely impact on poverty was 'probably minimal' and that its impacts on labour supply were ambiguous. The New Zealand Families Commission published a qualitative study of post-separation parenting involving interviews with 24 mothers and 15 fathers from 31 different families (Pryor, Robertson, & Moss, 2009)

⁹² The terms 'gain' and 'lose' are used throughout in the sense of 'pay less or receive more' and 'pay more or receive less' respectively.

and also commissioned a survey of child support scheme participants (Colmar Brunton, 2009), although the usefulness of this was hampered by a poor response rate (16 percent). There have been a number of legal commentaries and analyses (see, for example, Atkin & Black, 1999; Atkin, 2013) and some primarily policy-focussed papers (Baker, 2008; Casswell-Laird, 2010; Birks, 2011a, 2011b). Several authors have also discussed child support in the context of broader analyses of child poverty alleviation (see, for example, Fletcher & Dwyer, 2008; St John & Fletcher, 2011; Boston & Chapple, 2014). A forthcoming qualitative study by Keil and Elizabeth (in press) explores New Zealand resident Pacific mothers' approach to pursuing child support payments. Skinner *et al* (2017) provides a comparative analysis focusing on the contribution of child maintenance to poverty reduction in sole parent families in the United States, United Kingdom, Australia and New Zealand. The analysis in that article is based on the new New Zealand liability formula. Birks (2011a) and Boston and Chapple (2014) are the only direct assessments of the formula changes. Birks argues that 'the system results in a major power imbalance [in favour of the receiving parent] and potential source of conflict, with enforcement and penalty provisions for child support payers but no constraints or even guidelines for payees' (Birks, 2011a, p. 38). He recommends a system where the legislative formula covers only part of the costs so as to provide a safety net, 'while leaving the remainder of the costs of the children to be covered through voluntary contributions by either or both parents' (Birks, 2011a, p. 37). Boston and Chapple argue that child support needs to be 'an integral part of a broader set of institutions that are designed to support the incomes of children, especially poor children' (Boston & Chapple, 2014, p. 177). They identify the absence of pass-on of child support payments to parents on benefit as the 'biggest flaw' of both the old and the revised scheme.

There is a large international literature examining the impacts of child support in other countries. The design and administration of schemes varies considerably across countries (Skinner, Bradshaw, & Davidson, 2007; Skinner & Davidson, 2009), as do their impacts. It is beyond the scope of this study to review fully the literature on child support but two key points are important to note.

First, the proportion of eligible parents that receives child support varies widely. As a result so does its contribution to average sole parent household incomes and to poverty reduction among sole parent households. Overall, child support receipts make up a relatively low proportion of mothers' post-separation incomes *on average*. For example, Beller and Graham (1985) using 1978 Current Population Survey data report that among the 73 percent of the sample who were awarded child support at the time of separation, the average amount awarded was \$2,028 per annum. Seventy one percent of these received partial or full payments averaging \$1,899 (the median income for female-headed households at the time was \$10,830). Bradshaw (2006) and OECD (2011) have both reported the wide cross-national variation in the impact of child support on child poverty rates. Bradshaw using 1999/2000 Luxembourg Income Study data reports contributions of child support to reducing child poverty of around 25 percent for Switzerland and Austria to near zero in Spain, Israel, Mexico and Taiwan. The contribution in the UK, US and Canada are all low at around three to four percent. New Zealand is not part of the Luxembourg Income Study so is not included in Bradshaw's analysis. Bradshaw also considers the various direct and indirect mechanisms by which child support may raise or lower child poverty rates and uses 2004/05 UK Family Resources Survey data to estimate the direct impact of child support. He finds that 5.6 percent of all children were lifted above the poverty line by child support receipts, which includes 11.8 percent of children in lone-parent families. He also finds that, amongst those who actually receive child support, the impact is far higher – eg, child support receipts were the difference between being above or below the poverty line for 50 percent of lone-parent families not in employment and receiving child support, and for 64 percent of lone parent families in employment and receiving child support. Harkovirta (2011) also finds large variations in the poverty reduction effects of child support receipt – from over 40 percent in some Scandinavian countries to 18 percent in the US. A recent Australian analysis showed that 55 percent of sole parents in that country had received some child support in the previous 12 months and that for this group child support receipts reduced poverty by 21 percent (Cook, Sinclair, Skinner, & Fry, 2015).

Secondly, US evaluations of the effects of pass-on show that it increases child support payments and that non-custodial fathers are more likely to pay child support. The evaluation showed only a slight effect on employment status, some reduction in welfare receipt and few effects on mothers' earnings (Meyer & Cancian, 2003; Cancian, Meyer, & Caspar, 2008). In the UK, a prospective analysis of raising the 'benefit disregard' from £10 to £20 per week concluded that the package overall is "unlikely to have any large adverse consequences for employment behaviour and may even raise participation rates", although its impacts were expected to depend critically on compliance rates (Paull, Walker, & Zhu, 2000, p. 138). No evaluations have so far been published of the UK's current policy of complete pass on combined with user fees (see Skinner, 2012 for a description of UK policy).

7.3 The Child Support Amendment Act 2013 and the new formula

The New Zealand child support scheme is described in Chapter 2. There have been numerous minor amendments to the scheme since its introduction in 1992 but its core features have remained unchanged – and many of these are not altered by the 2013 amendments.

The amendment Act followed a reform process which was carried out by way of consultation on a Ministerial discussion document (Dunne, 2010) rather than an independent Taskforce as occurred in Australia in 2004. There were no explicit terms of reference but the discussion document identified the key objective as a desire to "update" the scheme so that it better reflects current parental employment and income patterns and the growth in shared care arrangements. The (then) Minister for Child Support noted the level of discontent with the current scheme. He emphasised the importance of updating the scheme to improve perceptions of fairness since a widespread view that the scheme is out of date "could undermine [paying] parents' incentives to meet their child support obligations" which in turn "could be detrimental to the wellbeing of their children" (Dunne, 2010, p. 1). This representation of the policy problem – that the scheme is out of date because a) mothers are

now more likely to work and b) fathers are more likely to share care – can be seen as broadly consistent with Cook and Natalier’s (2013) analysis of the ‘gendered framing’ of Australia’s earlier child support reforms. The primary focus is on the impacts for paying parents and fathers and only indirectly on children and receiving parents. In keeping with the ‘updating’ brief, wider issues, such as the objectives of the Act, its relationship with other aspects of family law and with the social security system, were downplayed in the discussion document.

The 2013 Amendment Act included changes in three main areas: the new formula, revised penalty and debt write-off rules, and various administrative and definitional changes. This analysis in this chapter focuses on the new formula but some aspects of the other amendments should be noted. First, the Amendment Act responded to the problems of rising levels of child support debt by easing the penalties regime.⁹³ Although over the life of the scheme Inland Revenue has collected 89 percent of all the Child Support payments it assessed, considerable debt has accumulated and by June 2010 it stood at \$1.944 billion (Dunne, 2010, p. 57). Penalties accounted for over 70 percent of this debt (\$1.368 billion). Second, the Act gives the Commissioner of Inland Revenue more flexible discretionary powers to recognise such matters as significant day-time care⁹⁴ and post-separation re-establishment costs⁹⁵ in the determination of liability. Third, from 1 April 2016 the maximum qualifying age for a child is 18 year, rather than 19, unless the child is still in full-time education and was under 18 at the beginning of the year.⁹⁶

The 2013 amendments also included wider provision for automatic deduction from wages (previously this could only be required once a liable parent was behind in payments) and had broadened the definition of income to align it with the new definition of income used for Family Tax Credit eligibility and which includes income from family trusts and other sources. However, both these (potentially

⁹³ Child Support Act 1991 ss134, 135.

⁹⁴ Child Support Act 1991 s15.

⁹⁵ Child Support Act 1991 s105.

⁹⁶ Child Support Act 1991 s5.

significant) changes were dropped in late 2014 following a blow-out in ICT costs associated with implementation of the new scheme.

7.3.1 The new formula

The old formula is described in Chapter 2. It used a percent-of-income model based on the liable parent's income after deduction of a living allowance. The percentages depended on the number of children; living allowances varied depending on whether the liable parent was single, partnered and/or had dependent children living with them; and the definition of dependent children was broad, including co-resident step-children in most cases. A minimum payment, set at the same rate for beneficiary and non-beneficiary liable parents, applied and was CPI-adjusted each year.⁹⁷ Assessable income was capped at an amount equal to 2.5 times average weekly earnings (AWE).⁹⁸ Where care was shared "substantially equally" – defined in normal circumstances as at least 40 percent of nights each – a cross-application system was used. Both parents applied for child support, the living allowance for each parent included the shared children and lower percentages of income applied. The amount of child support payable was the net difference between these two calculations.

The new formula is closely modelled on the one introduced in Australia in 2008. It takes both parents' incomes into account, is based on empirical evidence of how much couple families spend on children, has a lower threshold for recognition of the costs of sharing care and applies new rules for living allowances and the costs associated with dependents living with the paying parent.

⁹⁷ The minimum payment in 2014/15, the final year of the old scheme, was \$885pa.

⁹⁸ In 2014/15, this was \$130,822. The definition of average weekly earnings used is that published by Statistics New Zealand for all industries, males and females combined, for the June quarter in the immediately preceding child support year (and annualised as appropriate).

A person's liability⁹⁹ is defined in s 30 of the Act as:

$$(i\% - c\%) \times p$$

Where:

i% is the person's percentage share of both parents' combined 'child support income'

c% is the person's percentage share of care costs

p is the child-expenditure amount as determined by Schedule 3 of the Act.¹⁰⁰

A person's child support income is (usually) taxable income minus a living allowance. The standard living allowance has been set equal to the gross rate of sole parent benefit (\$17,687pa in 2015/16).¹⁰¹

Care costs percentages depend on the amount of time each parent has care of the child (usually determined as overnight care). Below the minimum threshold of 28 percent (less than an average of 2 nights per week) a person's care cost percentage is deemed to be zero (and therefore the other parent's is 100 percent). This is one difference from the Australian formula, which has a 14 percent minimum threshold.¹⁰² Between 28 and 34 percent of care-time, the care-cost percentage is set at 24 percent with the amount rising incrementally above that to 50 percent once care of the child is approximately equal (i.e., between 48 and 52 percent of time each).

The child expenditure amount, p, is determined according Schedule 3 of the Act (see Appendix 7.1). It is based on the total of the parents' combined child support incomes and rises as that income rises, but at a diminishing rate. The schedule sets out different percentages for one, two and three or more children and has lower rates for under-13 year old children than for teenagers. Three studies were

⁹⁹ Once it has been determined that they are a liable person under the Act.

¹⁰⁰ The formula for multi-group cases is ignored here.

¹⁰¹ For people receiving the Supported Living Payment, the living allowance is set equal to that higher rate of benefit (\$20,449pa in 2015/16). The Supported Living Payment is payable primarily to people unable to work due to long-term disability or illness.

¹⁰² A threshold of 14 percent of time was considered in New Zealand and was the preferred option by submitters in the consultation process but was rejected in favour of 28 percent as "it may be seen as too generous, particularly when the majority of everyday and other significant one-off costs are still being borne by receiving parents. It would also involve a greater fiscal cost as more child support liabilities would be reduced, thereby further reducing the amount received by the Government to offset benefit payments to receiving parents" (Inland Revenue (2011) *Regulatory Impact Statement: Child support scheme reforms.*) See C Millward and B Fehlberg. 'Recognising the costs of contact: Infrastructure costs, 'regular care' and Australia's new child support formula' (2013) for an analysis of this issue in the Australian context.

considered in the development of the schedule of expenditure on children – two carried out for the Australian Ministerial Taskforce (Henman, 2005; Percival & Harding, 2005) and one New Zealand study that used Household Economic Survey data to estimate actual direct expenditures on children living in two-parent families (i.e., the same methodology as Percival and Harding) (Claus, Leggett, & Wang, 2009). The schedule is to be adjusted annually in line with movements in average weekly earnings. The percentages per child and ratios of the annualised AWE used for the income bands are identical to those in Australia.

The minimum payment has been kept unaltered, other than annual inflation adjustments.¹⁰³ The minimum for the 2015/16 year is \$892pa. The cap on maximum assessable income has also been retained at 2.5 times the annual equivalent of the ordinary-time average weekly earnings (men and women combined).

Finally, as mentioned above, the policy regarding pass-on has also not been changed. Child support payments made by a paying parent are retained in full by Inland Revenue where the other parent is in receipt of a sole parent benefit, except if the amount of child support paid exceeds the amount of the benefit in which case the excess is passed on.¹⁰⁴

7.4 The child support population

Before turning to the likely effects of the new formula, it is helpful first to provide some contextual information on the child support population.¹⁰⁵ The child support system touches a considerable proportion of New Zealand children and their parents. As at 31 March 2012, 272,000 children, or approximately 23 percent of all dependent-aged children were part of the scheme, as were 360,000

¹⁰³ Child Support Act 1991 s32.

¹⁰⁴ There are about 2,000 (approximately 1 percent) such cases. Most are likely to be situations where an abated amount of benefit is being paid because of the beneficiary parent's earnings. See Child Support Act 1991 ss32 and 142.

¹⁰⁵ Except for the overall numbers, the figures in this section are based on the dataset described in Section 5 below (and cover approximately 90 percent of cases).

parents and other carers (Department of Inland Revenue Policy Advice Division, 2012). A considerably higher proportion of children will be part of the scheme at some point during their childhood and others will be affected by it indirectly when their parents use the formal system as a guide when negotiating private agreements. Men account for eighty-six percent of paying parents and 12 percent of receiving parents. Sixty-nine percent of cases relate to one child, 22 percent to two children. Only six percent involve three and two percent four or more children.¹⁰⁶

One-third of paying parents have either a partner or dependent children living with them in respect of whom they were able to claim a higher living allowance under the old formula. Seven percent are partnered with no co-resident children and twenty-eight percent (either single or partnered) have children living with them, half of these having two or more children. The data available for this paper do not distinguish between a paying parent's own children, the costs of whom are still accounted for in the formula (although by a different method), and step-children for whom there is no longer any adjustment.

Most paying and receiving parents have low incomes (see Table 7.1). Ninety-four percent of receiving parents have gross taxable income (including welfare benefits, if any, but not including family tax credits or other non-taxable assistance) of less than \$50,000pa¹⁰⁷ and 81 percent have incomes below \$30,000pa. Eighty six percent of paying parents having incomes below \$50,000pa and 64 percent below \$30,000pa. In just over half of all cases combined parental income is less than \$60,000pa.

Table 7.1: Paying and receiving parents' gross annual income (estimates as at 2011)

Paying parent's annual income	Receiving parent's annual income					Total
	Less than \$10,000	\$10,000 - \$30,000	\$30,000 - \$50,000	\$50,000 - \$70,000	\$70,000 and over	
Less than \$10,000	5.7%	15.6%	3.2%	1.0%	0.4%	25.9%
\$10,000 - \$30,000	6.3%	25.6%	4.7%	1.2%	0.4%	38.1%
\$30,000 - \$50,000	4.5%	15.0%	3.3%	0.9%	0.3%	24.0%
\$50,000 - \$70,000	1.7%	4.8%	1.4%	0.5%	0.2%	8.5%
\$70,000 and over	0.7%	1.5%	0.7%	0.3%	0.2%	3.5%
Total	18.9%	62.5%	13.3%	3.9%	1.5%	100.0%

¹⁰⁶ Note that these figures refer to cases – an individual paying or receiving parent may be party to more than one case.

¹⁰⁷ \$50,000pa is approximately equal to the median annual earnings for all employees, males and females combined.

7.5 The effects of the formula changes

The various elements of the formula changes have different and sometimes opposing effects on liabilities and receipts. The purpose of this section is to illustrate the implications of each aspect of the new formula separately.

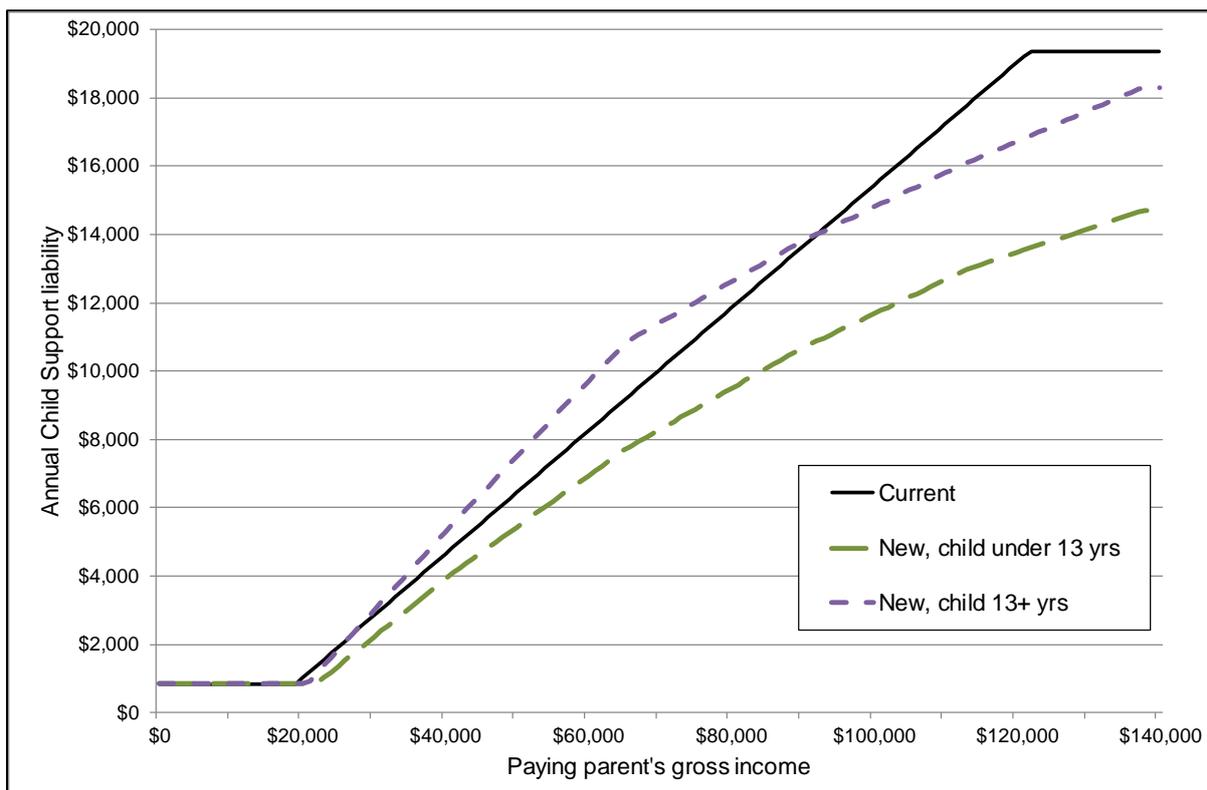
The expenditure on children percentages. Figures 7.1(a) and (b) plot child support liability against the paying parent's gross income. To minimise any effects from other changes to the formula, it is assumed that there is no qualifying shared care and that the receiving parent's income is at or below the living allowance (and does not therefore directly affect the calculation). As the figures illustrate, other things being equal, liabilities are lower than under the old scheme where the child is under 13 years old and in most situations are higher if the child is a teenager. For under-13 year old children the decreases are greatest in the one-child case; in respect of teenaged children the increases in liability rise with the number of children.

Inclusion of the receiving parent's income. For most who are part of the scheme the inclusion of the receiving parent's income into the formula will have a relatively modest impact. Figure 7.2 plots the paying parent's liability against his/her income for various receiving-parent incomes. A two-child scenario where one is under 13 years and the other a teenager has been chosen because it results in relatively little change in liability when the receiving parent has no income above the living allowance.¹⁰⁸

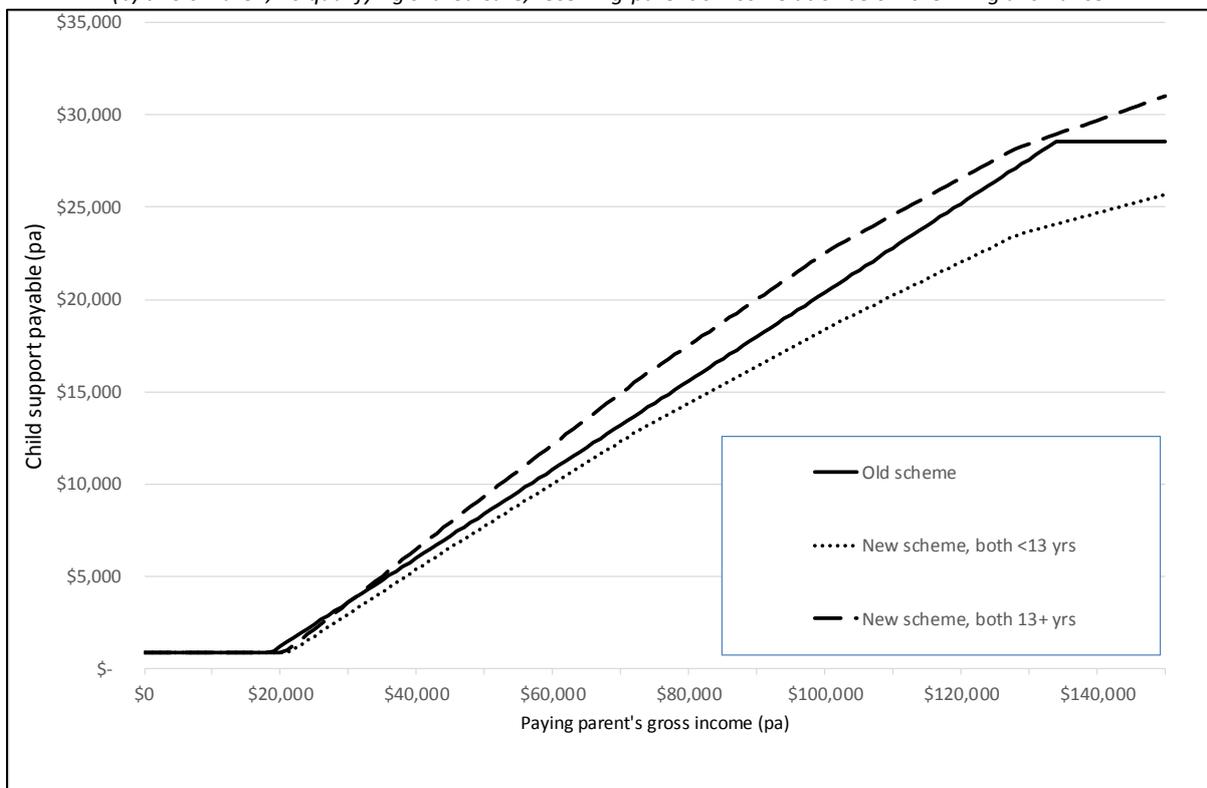
¹⁰⁸ Other combinations produce qualitatively similar results.

Figure 7.1: The effect of the change to expenditure-on-children estimates

(a) one child, no qualifying shared care, receiving-parent's income at or below the living allowance



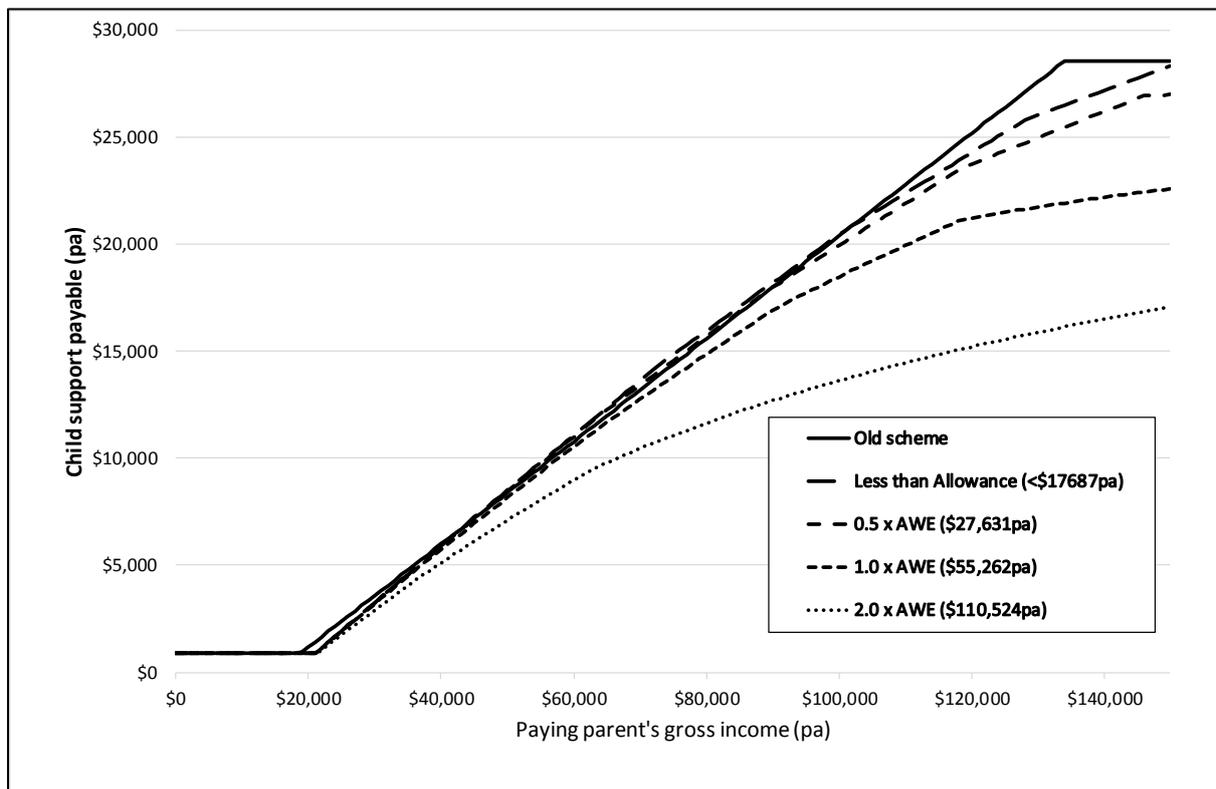
(b) two children, no qualifying shared care, receiving-parent's income at or below the living allowance



Source: Author's calculations

It is only when the receiving parent is a relatively high earner (and particularly if the paying parent also has a good income) that the incorporation of both incomes into the calculation makes a sizeable difference. This is because the reduction in the paying parent's income share ('i%') and therefore his or her liability resulting from inclusion of the receiving parent's income is partially offset by the increase in the assumed expenditure on the child ('p') that also follows from it. Although relatively few parents in the formal system have these levels of income, this aspect of the formula changes is likely to be significant for better-off parents using the formula as a guide when negotiating private arrangements outside the system.

Figure 7.2: the effect of including the receiving parent's income:
one child under 13 years and one child 13 or older, no qualifying shared care



Source: Author's calculations

Lowering of the 'recognised care' threshold. The new system of a graduated allowance for shared care from a threshold equivalent to two nights per week will make a significant difference to some liabilities and receipts. However, the effects of the change vary. Where the minority carer has care of the child

for amounts of time that fall between the new 28 percent threshold and the old 40 percent one, child support payments will in many cases be substantially reduced – typically by 20 percent or more. However, in cases where the paying parent already qualified for share care (i.e., where their care-time is over 40 percent) the effect of the new method of calculating care costs percentages is in at least most cases less generous to them than the old one (see Table Two). This is because the old formula often resulted in a substantially lower liability once the 40 percent shared-care threshold was reached.

Table 7.2: Example of the effect of the new shared-care provisions

Nights per fortnight (percent)	Thresholds	Old scheme	New scheme	Total change	Change due to change in shared-care rules
Fewer than four (0 – 28%)	Below old threshold, below new	\$9,858	\$9,649	-\$209	nil
Four (29%)	Below old threshold, above new	\$9,858	\$7,492	-\$2,366	-\$2,157
Five (36%)	Below old threshold, above new	\$9,858	\$7,253	-\$2,605	-\$2,396
Six (43%)	Above old threshold, above new	\$4,186	\$5,844	+\$1,658	+\$1,867
Seven (48%-52%)	Above old threshold, above new	\$4,186	\$4,929	+\$743	+\$952

Note: Annual child support liability assuming one child under 13 years and one child 13 or older, paying parent income equal to AWE, receiving parent income equal to or less than the living allowance.

Source: Author's calculations

Changed living allowances and the treatment of second families. The fourth significant element of the new formula is the change in living allowances. The principles behind the change are that parents are assessed as individuals, rather than on a couple basis and that children from different relationships should be treated as equally as possible. Two types of cases are involved with quite different implications. Unfortunately, the available data available do not allow identification of how many of the affected cases fall into each of the two categories.

The first effect arises because paying parents can no longer claim any living allowance for a partner or for children living with them who are not their own legal children.¹⁰⁹ The income to which the formula applies is therefore correspondingly higher. This can make a significant difference, given that living allowances in the 2014/15 year ranged from \$28,946 for a (single or partnered) person with one

¹⁰⁹ The option of an administrative review exists on the basis that the paying parent has a duty to maintain another child or person in special circumstances.

dependent child living with them to \$38,119 if there were four or more children compared to the living allowance in 2015/16 under the new scheme of \$17,687. A similar, although smaller, effect also results from the removal of the higher rate of living allowance for payers who are partnered but without children living with them. For this group the 2014/15 living allowance was \$20,474.

The other affected cases are those where a paying parent has children from a current relationship as well as from another relationship (i.e., most commonly, a 'second-family' situation). Then, instead of the schedule of allowances, the new regime seeks to treat the children more equally by first applying a version of the formula in respect of the payer's co-resident children and deducting this amount from his or her child support income for the purposes of calculating the child support liability.¹¹⁰ The effect is an increase in child support liability for low- to middle-income paying parents and a decrease for some high-income payers. That is, using the new formula to calculate the adjustment for the children living with them produces a smaller deduction than the old living allowance where the payer has a low income but a larger one where his or her income is high. Take as an example, ex-partners who have two children, one a teenager and one under 13 years, where there is no shared care and where the receiving parent earns at or below the living allowance and the paying parent is partnered with two young children. If the paying parent has an income of \$37,000pa (approximately 2/3rds AWE) he or she will pay \$2,740 more than if he or she was single whereas he will pay \$150pa less if his income is \$110,000pa (2xAWE).

As the above analysis demonstrates, each of the four elements of the changes to the formula has different effects on assessed liability. Depending on the circumstances of the case these may work in the same direction to cumulatively raise or lower liability and receipts or they may counteract each other resulting in only a small net change. The next section uses Inland Revenue data to examine the likely 'day-before/day-after' static effects.

¹¹⁰ The formula differs in that his new partner's income is not taken into account and their joint care of the children is assumed to count as his care – that is the formula used is $c\% \times p$ where his $c\%=100\%$ and p is based on his income only.

7.6 Predicted static impacts of the change to the formula

The analysis in this section draws on summary data provided by Inland Revenue based on modelling they carried out in order to provide Ministers with advice on policy options. The available information comprises eight tables of counts produced from a dataset consisting of 136,478 cases. The dataset represents just less than 90 percent of the total number of cases. It excludes equal-care cases¹¹¹ (approximately five percent) and third-party carer cases (six percent). The tables report counts of paying and receiving parents according to various characteristics and by estimated changes in monthly child support liabilities or receipts on a grouped scale ranging from increases of more than \$300 per month to decreases of more than \$300 per month. Data are based on 2008/09 tax year records up-rated using the CPI to 2011 (the year the discussion document was released). Interactions with the welfare system are included only in the sense that they take into account the withholding of child support to offset sole parent benefit payments. Unlike the Australian FaHCSIA modelling, interactions with tax credits are not modelled. These are relevant in the New Zealand system inasmuch as child support counts as income for the abatement of family tax credits whereas the changes in Australia were a 'package deal' involving changes to Family Tax Benefit as well as to the child support formula.¹¹² In the absence of data on care-sharing below the 40 percent equal-care threshold, Inland Revenue randomly distributed sharing percentages uniformly over the 0-39 percent-of-nights range. The modelling by Inland Revenue is purely static, incorporating no assumed behavioural changes in response to the reforms. Neither is any attempt made to incorporate interactions with other elements of the reform package such as the originally-intended wider definition of income.

In practical terms, the most significant of these data limitations are, first, the absence of two relatively small but important sub-groups, equal-care cases and third-party carers, whom the new formula may

¹¹¹ Defined according to the old scheme's rules, i.e. 40 percent or more of nights each.

¹¹² Family tax credits are abated at 21.5 cents in the dollar for income above \$36,350pa (2014/15 year).

affect in ways not captured in this analysis, and, second, the likely error introduced by the lack of exact information on the distribution and prevalence of shared care below the 40 percent level.

Comparisons with Australia discussed below are restricted to the *predicted* Australian outcomes reported by FaHCSIA and analysed by Smyth and Henman (2010). FaHCSIA released an updated report that included data from the first six months of the new formula (Commonwealth of Australia, 2009)¹¹³ but these are not used as the information incorporating actual Australian outcomes combines both forecast static effects and behavioural responses.

7.6.1 Aggregate changes and fiscal impacts

The net impact of the formula changes on total liabilities is likely to be small. Inland Revenue has not released estimates of expected changes in total liabilities, however an approximation is possible using the data provided on numbers of paying parents in each of the 21 'change-in-liability' bands. This suggests decreases in liability will be approximately \$39.6 million pa, and increases will be \$37.3 million pa resulting in a net decline in total assessed liability of around \$2.3 million pa.¹¹⁴ These figures compare to an estimate of approximately \$394 million in total liabilities from the cases in the dataset analysed here. Increases in receipts by receiving parents are estimated to be approximately \$28.4 million and decreases to be \$25.6 million, meaning a net increase of approximately \$2.8 million per annum. Combined, these changes imply an overall cost to the Crown of \$5.3 million pa, close to the \$6 million pa estimated by Inland Revenue once the scheme is fully implemented.¹¹⁵ The net cost to the Crown results from lower child support receipts in respect of children whose custodial parent is on a sole parent benefit.

¹¹³ See also B Smyth, B Rodgers, V Son and M Vnuk (2015) for a more recent analysis.

¹¹⁴ This estimate uses the mid-point of each band as the average and +/- \$350pm as the average for the two open-ended bands, 'greater than \$300 per month' and 'less than \$300 per month'.

¹¹⁵ Inland Revenue (2011). As well as being based on more accurate individual-level data, the official estimate takes into account the 11 percent of cases not included in the data available to me.

7.6.2 Overall numbers of gainers and losers

The most immediately striking result concerning overall numbers who gain or lose is the high proportion of parents who will be unaffected on a static 'day-before/day-after' basis. Forty-two percent of paying parents and 60 percent of receiving parents are predicted to experience no immediate change (see Figure 7.3). Most of the paying parents in this group will be people whose liability remains at the minimum and most receiving parents will be people who either continue to receive minimum payments or who are on benefit and will continue to have all child support retained by Inland Revenue. These figures are in contrast to the Australian changes where the *ex ante* predicted figure reported by FaHCSIA was for only one in seven to experience no immediate change (Smyth & Henman, 2010, p. 15).

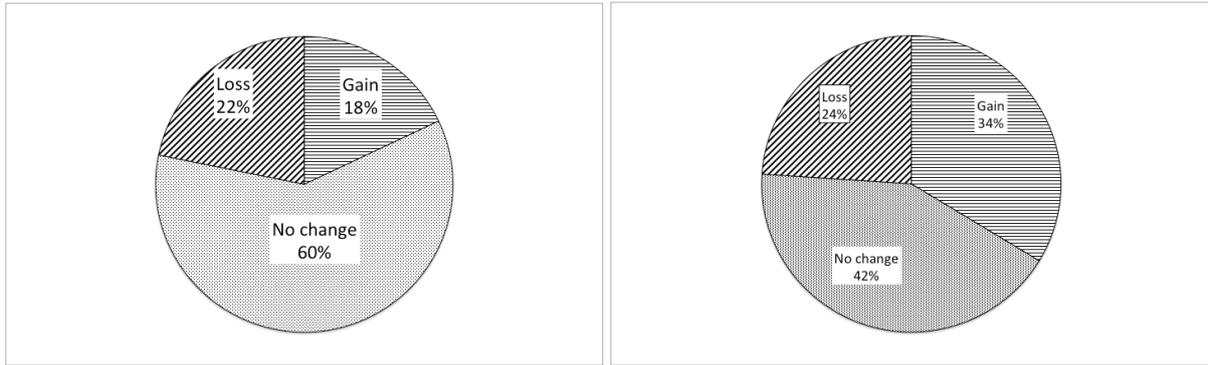
Consistent with the prior view of some that the reforms would favour paying parents, more payers than receiving parents are expected to gain (34 percent compared to 18 percent). Perhaps less widely anticipated is that almost one quarter (24 percent) of paying parents will pay more under the new formula. This group appears mainly to be those affected by the change in the calculation regarding living allowances and co-resident dependent children, although the higher rate for teenaged children will also be a factor.

Analysis by gender shows that gender differences in numbers of gainers and losers reflect the above patterns. One in three (34 percent) men gain compared with fewer than one in five women (19 percent) and approximately equal proportions of men and women lose (23 and 22 percent respectively). Considering payers and receiving parents separately, men and women gain or lose roughly in proportion to their numbers in each group. That is, the new formula does favour men as a group over women but it does so because men are more likely to be paying parents, more of whom gain, rather than because of income or other within-group differences.

Figure 7.3: Percentage of receiving and paying parents expected to experience a gain or loss from the new formula

(a) Receiving parents

(b) Paying parents



Source: derived from Inland Revenue data

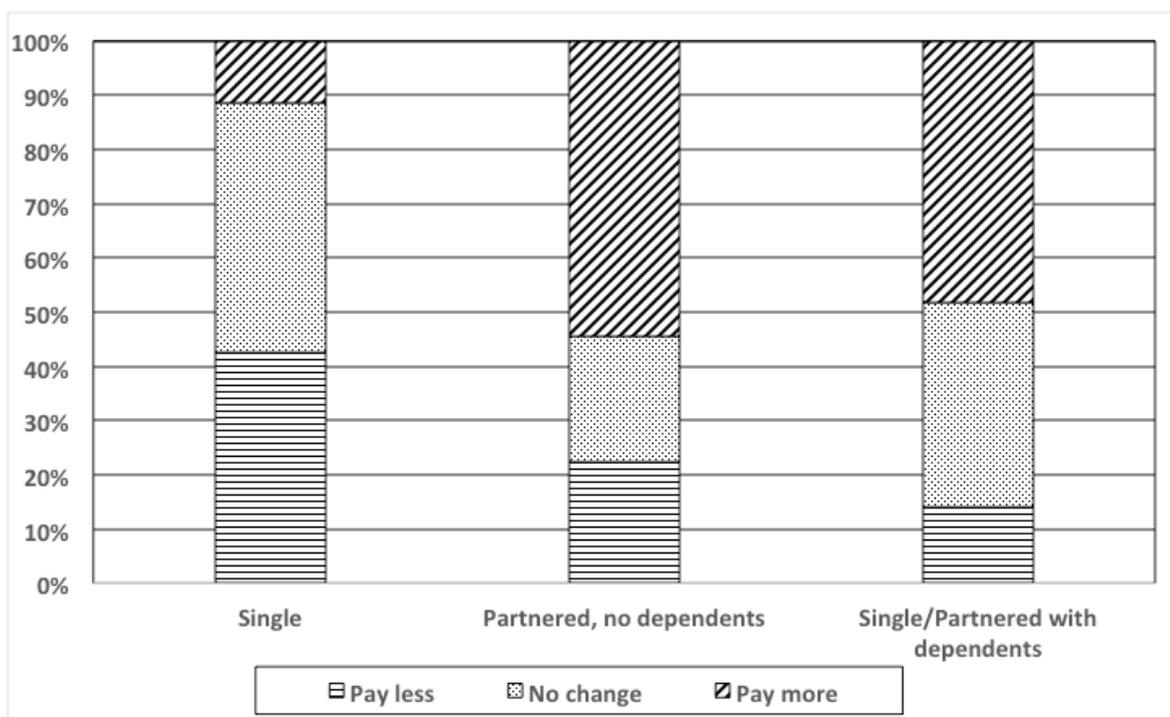
7.6.3 Changes by number of children and family status

There is little variation by number of children in the proportions of receiving parents who are predicted to gain, lose or experience no immediate change. The exception is the two percent of cases that relate to four or more children, of whom only six percent of receiving parents are expected to receive higher payments under the new formula. The old formula had a higher rate for the fourth and subsequent child, which has not been included in the new formula.

Figure 7.4 highlights the impact of the change in living allowance policy for paying parents. Fifty-four percent of payers who have a partner and 48 percent of those who have a dependent child living with them are predicted to pay more under the new formula compared with only 11 percent of single payers without dependent children.¹¹⁶ Moreover, 96 percent of cases where liability rises by more than \$140 per month are where the payer has either a new partner, co-resident dependent children or both. The impact on paying parents with dependent children is broadly in line with the Australian situation where 66 percent of paying parents with dependent children were predicted to experience a net loss, 19 percent a net gain and 16 percent no change (Smyth & Henman, 2010, p. 23).

¹¹⁶ These figures refer to paying parents whose living allowance included an allowance for a partner or dependent children.

Figure 7.4: Paying parents, change in liability by family status



Source: derived from Inland Revenue data

7.6.4 How big are the changes?

Consideration of the magnitude of predicted gains and losses is important for gaining a fuller understanding of the likely static impacts of the new formula. In most instances, changes are relatively small in absolute terms (see Figure 7.5). Among all the 136,478 cases in the dataset, four out of five (79.7 percent) are predicted to involve upward or downward changes in liability of less than \$80 per month and only one in ten involve changes greater than \$140 per month. Predicted decreases in

liability for paying parents, and corresponding lower receipts for receiving parents not on benefit, tend to be concentrated at the low end, mostly under \$40 per month (and in fact half of these are under \$20 per month). Increases in liability for paying parents (and gains for receiving parents) are spread somewhat more evenly across the \$1 - \$140 per month range. This is because different factors are driving increases and decreases. Many of the reductions in liability come from the lower expenditure percentages for children under 13 and, as discussed in Section 3, this impact tends to be modest in absolute size at the level of income of most paying parents. In contrast, it appears that loss of the dependent spouse/step-child allowance is a significant cause of increases in liability and this can make a more substantial difference.

Although changes will be modest for most of those affected, there are small groups who are predicted to experience large changes in liabilities or receipts. Ten percent of payers face increases in liability of \$100 or more per month and seven percent face decreases of that size. The corresponding figures for receiving parents are eight percent and five percent.

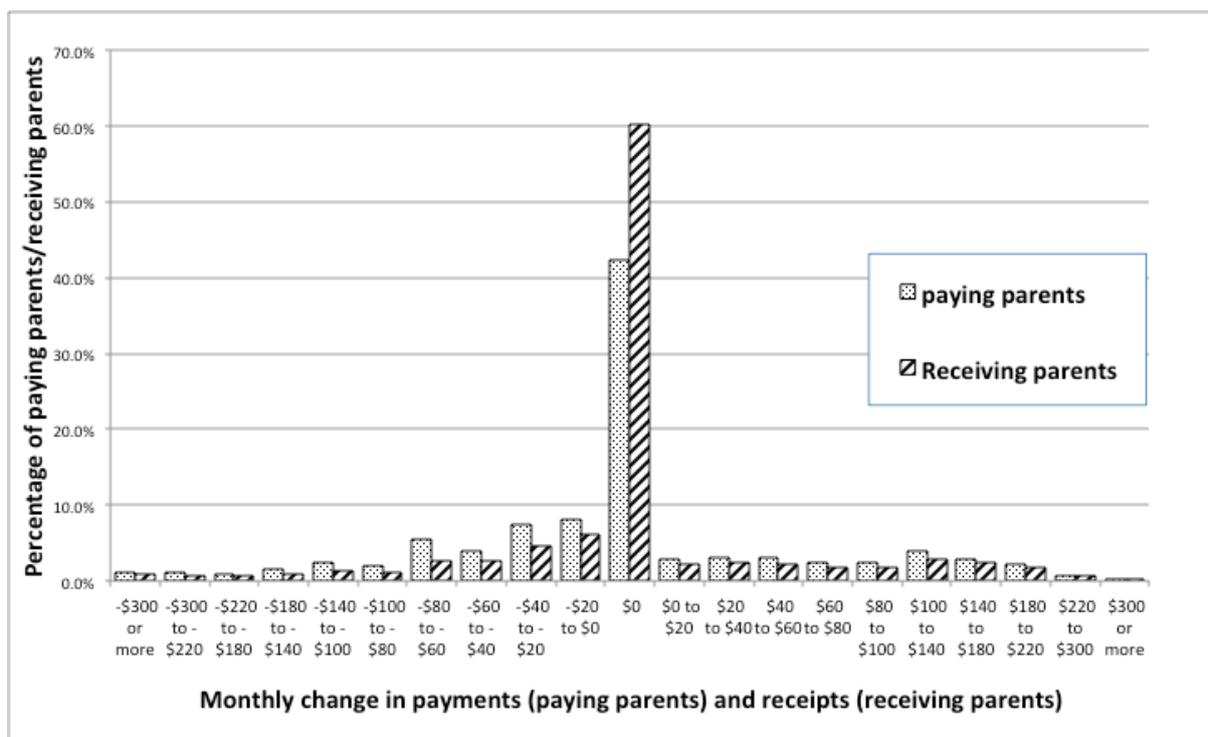
How do these results compare with those predicted by FaHCSIA ahead of the Australian reforms? The main difference is that most changes in liabilities and receipts are expected to be smaller in New Zealand. In Australia, one in five (19.9 percent) receiving parents were expected to experience a loss of \$20 per week or more (\$87 per month) and a similar proportion (21.6 percent) to gain at least that much (Commonwealth of Australia 2008).¹¹⁷ By comparison, in New Zealand only six percent of receiving parents are predicted to lose more than \$80 per month and only ten percent to gain more than that amount. Similarly among payers, in Australia one quarter (24.8 percent) of paying parents were expected to gain at least \$20 per week, compared with only nine percent of New Zealand paying parents expected to gain in excess of \$80 per month. Interestingly however, proportions of payers

¹¹⁷ Unfortunately, the New Zealand data are grouped by change-per-month where the Australian data is by week so precise comparisons are not possible.

predicted to *lose* more than \$20 per week (Australia) or \$80 per month (New Zealand) were about equal at 12.8 percent and 12.4 percent respectively.

A key reason, aside from the fact that the formulas are not identical, for the differences in the changes in liabilities between New Zealand and Australia is probably the relatively lower incomes of New Zealand paying parents.¹¹⁸ In the absence of a “private collect” option, New Zealand parents who arrange to transfer payments privately are not included in the formal child support system or data.¹¹⁹ It appears that, as a group, higher-income parents are more likely to negotiate private arrangements (and also be less likely to have one parent on benefit and therefore required to be part of the formal system). As a consequence, the New Zealand system is heavily weighted to lower income parents, where large changes in liability are less likely.

Figure 7.5: Predicted changes in child support liabilities and receipts due to change in the liability formula



Source: derived from Inland Revenue data

¹¹⁸ Smyth and Henman (2010) note that there is ‘a bias towards low-income payers being registered with the CSA, but this appears to be less so than in New Zealand. The Australian Child Support Agency’s 2007/08 *Facts and Figures* publication reported that median taxable incomes for payers was \$38,660 in the previous year. By comparison the median for the New Zealand cases used in this article was under \$20,000pa. Obviously another factor affecting the average change in child support receipts in New Zealand is the high number of receiving parents on benefit and who receive no child support.

¹¹⁹ Although s180 does allow a (non-beneficiary) payee to ask Inland Revenue to not pursue payments that are in arrears if s/he chooses to.

Other factors affecting lower-income paying parents are that in Australia paying parents with 'regular care' between 14 and 34 percent of time lost entitlement to pro-rated Family Tax Benefit (a change which did not occur in New Zealand) and that a fixed minimum rate was introduced for low-income parents not on benefit. In New Zealand, such a minimum already applied so this group of paying parents were more likely to experience no immediate change in liability.

The absolute value of the change is a limited indicator of the significance of the impact. As Smyth and Henman note, 'a \$20 loss of income each week is likely to be a significant imposition for low income households' (Smyth & Henman, 2008, p16). The FaHCSIA tables available to Smyth and Henman did not allow them to investigate this issue but the New Zealand data permit some broad consideration of the circumstances of those who lose in the New Zealand reforms. Based on the tables available, it appears that in New Zealand there is only a weak relationship between the predicted size of receiving parents' losses and their income. Over half of all receiving parents who are predicted to receive less have taxable incomes below \$20,000pa, with 40 percent of these expected to lose more than \$40 per month. Moreover large losses for receiving parents are not confined to those who have higher incomes – of the 2,200 cases where the monthly predicted loss is greater than \$220 or \$2,640pa, almost half (46 percent) have incomes below \$40,000pa including one-in-five whose income is under \$20,000pa.¹²⁰

The picture is somewhat different for paying parents who are predicted to lose. Only three percent of this group have child support incomes below \$20,000pa. About half (52 percent) have incomes of between \$20,000 and \$40,000pa and a third (35 percent) fall into the \$40,000 to \$60,000pa bracket.

¹²⁰ A different way of looking at the significance of the changes for payees is to compare the size of the change with the total pre-reform child support payment. Although the summary tables only allow an approximate estimate, more than one in five receiving parents who lose will experience a reduction in child support that is greater than one third of their pre-reform payments.

This is an area where future research is critical. While it may well be that the new formula is more 'equitable', it may also be having a significant negative impact on some low-income families, particularly those who are receiving parents and primary carers of the children.

7.7 Conclusions

This chapter has been concerned primarily with the likely static impacts of the switch to the new child support formula. Four key findings emerge, some of which are consistent with the predicted changes in Australia's 2008 reforms and some not.

First, unlike Australia, the largest group of both receiving parents and payers are those for whom the introduction of the new formula will have had no immediate effect. These are people who will continue to pay or receive the minimum or who are 'receiving' parents on sole parent benefit who will continue to have all payments withheld.

Second, and like Australia, paying parents are more likely to gain than are receiving parents. That said, a quarter of paying parents will experience an increase in their liabilities. This latter group is predominantly those who are partnered or live with dependent children for whom they can no longer claim a living allowance or, if the child is their own, the new formula calculation is less generous than the old living allowance was.

Third, as Smyth and Henman (2008, p26) conclude with respect to Australia, the gender impacts are complex and interact with income and other factors. Men as a group are more likely to gain than are women; a result which is due to the fact that payers, who are mostly men, are more likely to gain than receiving parents are. At the same time, however, the number of men (combining payers and receiving parents) who lose is about the same as the number of women who lose.

Fourth, although most of the changes are relatively small in dollar terms, and smaller on average than in Australia, there are groups of both paying and receiving parents for whom the change in child

support amounts will be substantial, including in some cases where the change represents a significant proportion of total income.

What can be said about the overall effects of the reforms? In some respects the new formula does make the scheme more “up to date”. Mothers’ labour force participation and earnings are recognised by taking both parents’ income into account; the preference of many parents to share care is now somewhat better incorporated into the formula. In other critical ways though, the scheme remains a captive of its history. In particular, New Zealand has retained the least modern aspect of child support: its retention of full cost-recovery and the treatment of child support and welfare benefits as substitutes rather than complements (Skinner et al, 2017). In this area the original failed Liable Parent Contribution Scheme still hangs over the new scheme. New Zealand is increasingly out of step with other countries in regard to pass-on, and a hallmark of most modernised schemes around the world is a recognition of their role in contributing to the alleviation of child poverty (OECD, 2011; Boston & Chapple, 2014). Not only does the failure to include some element of pass-on mean that the child support system makes no direct contribution to improving living standards among children in sole parent beneficiary families, it also removes the financial incentive on paying parents to meet their obligations or to increase their child support payments by increasing their earnings. In principle, it may have an offsetting effect, encouraging payees to leave benefit so they become eligible to receive child support payments, however there is no New Zealand evidence that it has this effect in practice.

While this chapter has been mostly concerned with the static impacts of the new formula, it is useful to consider briefly some of the possible behavioural responses. The first issue is whether, as the Minister hoped, the new formula results in higher compliance as a result of a greater perception of fairness. An assessment of this is beyond the scope of this chapter, although the analysis above suggests there will be some situations where the new formula is likely to be seen as fairer and others where the reverse is true. With regard to compliance, it is unfortunate that the originally intended

broadening of the definition of income and the wider provisions for direct deduction from wages have both been dropped.

Shared-care is the area where behavioural incentives have been changed most. For most paying parents, their liability will be substantially reduced if they have care of the child or children an average of two nights per week – a much easier threshold to attain than the previous 40 percent of nights per year. It remains to be seen whether this will elicit a behavioural response and result in an increase in partial shared-care arrangements among parents who are not on benefit. For the large group where the primary carer is on a sole parent benefit, the new threshold creates an even stronger incentive: moving to a two-nights per week arrangement will lower the paying parent's liability with no corresponding impact on the primary carer's income. A corollary of this is that Inland Revenue (or possibly the benefit agency, Work and Income New Zealand) is now faced with a much expanded – and highly intrusive – monitoring and enforcement role if it wishes to ensure that the recognised care arrangement has in fact been adhered to.

A further area where the impact on behaviour will need careful evaluation relates to partnership formation. The new formula is inconsistent with the welfare system and family tax credits in that the latter are income-tested and abated against joint spousal income while the former is now assessed on individual income. If, for example, an employed child-support paying parent and a sole parent beneficiary move in together, they will in most cases lose entitlement to the benefit, may, depending on income, have their family tax credits abated but at the same time will no longer be able to claim a higher child support living allowance for the partner and children that the social assistance system implicitly assumes the paying parent's income must support. The result may be fairer for the receiving parent whose child support is unaffected (if indeed she is not on benefit so is receiving it) but it increases the partnership penalty affecting the paying parent.

There are other, broader, issues that are not addressed in this paper. Two in particular should be noted. First, the appropriateness of the cost-of-children estimates is not covered here.¹²¹ In particular, the expenditure on children schedule includes no recognition of the opportunity costs or childcare costs associated with very young children. The assumption is that parent's living costs should be met by each parent individually irrespective of the age of the child. For some parents caring for young children this will not be possible and will effectively mean they need to rely on a sole parent benefit until their child is older.

Second, child support reforms need to be considered in conjunction with a wider set of policies that impact on separated parents and their children so that the complex interactions between policies (and the sometimes contradictory assumptions underlying them) can be addressed. One important aspect of this, the integrated effects of child support and social assistance on poverty among sole parent families, is considered by Skinner *et al* (2017). It is notable that reviews of tax policy,¹²² early childhood education,¹²³ and welfare¹²⁴ occurred in New Zealand at approximately the same time as the child support reforms but with minimal integration between them.

In New Zealand, substantial reforms of the child support scheme happen rarely. As this analysis shows changes to the scheme result in a complex mix of gains and losses for different groups of parents and children. While the new formula has modernised the New Zealand scheme in some respects, other more fundamental aspects of the scheme, and its relationship with social assistance policies, remain unchanged and a rare opportunity has been lost.

¹²¹ But see Birks (2011a); Child Poverty Action Group, *Submission: Child Support Amendment Bill*: Child Poverty Action Group, New Zealand, (n.d.).

¹²² Tax Working Group, *A tax system for New Zealand's future*. Victoria University of Wellington, Wellington, 2010.

¹²³ ECE Taskforce, *An agenda for amazing children: Final report of the ECE Taskforce*. ECE Taskforce, Wellington, 2011.

¹²⁴ Welfare Working Group, *Reducing long-term benefit dependency: Recommendations*, Welfare Working Group, Wellington, 2011.

Appendix 7.1: Child Support Act 1991 Schedule 3 Expenditure on Children Table

This table sets out percentages of child support income amounts that are expended on children. The percentages represent marginal expenditure, which means how much of each additional dollar of child support income in an AWE* band is treated as expenditure on children. Where child support income extends over several AWE bands, expenditure therefore accumulates down the columns.

Fraction of AWE	Percentages of child support income amounts								
	Age group: all children aged 0 to 12			Age group: all, or the oldest 3, children aged 13 or over			Age group: at least 1 child aged 0 to 12, and 1 or 2 children aged 13 or over		
	Number of children			Number of children			Number of children		
	1	2	3 or more	1	2	3 or more	2	3 or more	
Up to and including 0.5	17%	24%	27%	23%	29%	32%	26.5%	29.5%	
More than 0.5 but no more than 1	15%	23%	26%	22%	28%	31%	25.5%	28.5%	
More than 1 but no more than 1.5	12%	20%	25%	12%	25%	30%	22.5%	27.5%	
More than 1.5 but no more than 2	10%	18%	24%	10%	20%	29%	19%	26.5%	
More than 2 but no more than 2.5	7%	10%	18%	9%	13%	20%	11.5%	19%	
More than 2.5	†	†	†	†	†	†	†	†	

*Average weekly earnings, as published by Statistics New Zealand (for all industries, males and females combined) for the June quarter in the immediately preceding child support year. The weekly earnings are annualised.

†For child support income amounts that exceed 2.5 times AWE, the marginal expenditure on children does not increase. The relevant amounts to be inserted in a child expenditure table in this row are therefore the maximum amounts from the row immediately above it.

8 Discussion and conclusions

8.1 Introduction

The purpose of this thesis has been to explore aspects of the economic consequences of partnership dissolution among New Zealand parents with dependent children.

The analysis in Chapter 5, drew on the large 'Working for Families' longitudinal administrative dataset to identify 7,311 men and 8,628 women who separated from stable relationships during the year ended March 2009, and for whom data were available for the following three years. Central to this analysis was the use of propensity score matching and difference-in-differences techniques to identify suitable comparison groups of men and women who remained partnered and therefore to obtain more accurate estimates of the impact separation had on incomes and living standards.

Chapter 6 used the same dataset to identify dyads – separating couples where information was available for both ex-partners following the separation. Outcomes for 7,749 couples, or 15,498 individuals, were analysed for the first post-separation year, and for 5,781 couples, or 11,562 individuals, for whom three years of data were available for both ex-partners. The objective of this study was to explore outcomes for ex-partners relative to each other. Hence the comparator was the ex-partner, rather than a similar still-partnered individual as in Chapter 5.

Chapter 7 focused on a specific policy issue that aims to ameliorate the negative impacts of separation. The focus of this chapter was child support and the likely impacts of the new child support liability formula introduced by the Child Support Amendment Act 2013. The data for this analysis came from different sources from that used in the analyses in Chapters 5 and 6. Inland Revenue provided a set of cross-tabulations based on its own modelling of the child support population. In addition, the chapter drew on a purpose-built spreadsheet model to enable comparisons in liabilities and receipts under the new and old formulae.

Conclusions and a discussion of findings are included in each of the earlier chapters and are not repeated in detail here. Rather, the purpose of this chapter is to summarise overall results and to bring together key conclusions and policy implications. In addition, it considers some of the data and methodological limitations of this study and discusses these in the context of possible directions for future research.

8.2 Overall findings

The first objective of this research was to obtain estimates of the impact of marital separation on the economic wellbeing of New Zealand families. To date no such estimates exist for New Zealand. At the time the project began, the only dataset available for doing this was the Working for Families administrative dataset, which at that time had only been used within government agencies. The dataset has the advantage of being large and having near-universal coverage of all families who are, or have been, part of the welfare or social assistance system. It includes the great majority of families in the lower two-thirds of the income distribution.

The high-level findings reported in Chapter 5 are broadly consistent with studies carried out in other countries. On average, total family incomes decline substantially for both men and women following separation. The estimated impact of separation, compared to the matched comparison group of people who remained partnered, is a mean percentage change of -39 percent for men and -41 percent for women when comparing the first year after separation with the last year prior to separation. As in other studies, this research also finds that the average effect for men and women is dramatically different after equivalising to account for differences in family composition: women are substantially worse off following separation, while men, on average, are better off. Compared to the matched comparison group, this study finds a mean percentage change in women's equivalised disposable income due to separation in the short-term of -19 percent. The corresponding figure for men is estimated to be a 16 percent increase.

Although cross-country comparisons must be treated cautiously, it is useful to give some indication of how these results compare with other studies. For women, a 19 percent decline in equivalised incomes is somewhat below the mid-point of other studies' findings. Perhaps the best recent comparison study is that by de Vaus *et al* (2015) who report changes ranging from -35 percent (Germany) to -19 percent (Switzerland) for five of the six countries they study. Only Korea (-5 percent) stands out as having a substantially smaller effect. The impact size found here for New Zealand is similar to the -21 percent de Vaus *et al* find for Australia.

The estimate found in this study of the average impact on men's equivalised incomes is high (more positive) in comparison with most other studies. Using the de Vaus *et al* study as a comparison, they report a negative impact for men in Korea and the US relative to men who remain partnered and little relative impact for men in the UK, Australia, and Switzerland. Only in Germany do they find men experience a gain in equivalised incomes compared to those who do not separate, and this effect is short-lived (de Vaus *et al.*, 2015 Figure 1, p10). The de Vaus *et al* findings differ somewhat from an earlier European comparative study by Andreß *et al* (2006) although these too do not find the same large positive findings found in this study. Andreß *et al* report increases in male equivalised income at the median in Belgium, Italy and Great Britain, and small negative median impacts in Germany (-2 percent) and Switzerland (-7 percent).

It should be noted that one probable reason for the large average gain found for the men in this study is that the dataset includes few high-income couples. Such couples are more likely to have two relatively high incomes so that the loss for men will be greater than in the case where the woman's income is relatively low.

Changes in means do not reveal the more complex patterns evident when the distributions of changes in equivalised incomes for men and women are considered. What is evident from the results in Chapter 5 is that the impact of separation is superimposed on the distribution of changes in incomes that occurs for other reasons, widening as well as shifting it. Two key points emerge.

First is the difference between men and women in respect of the proportions who are worse off in equivalised income terms. Just over two-thirds of women who separate are worse off in the year following separation relative to the year prior. This compares to one-third of the matched comparison group of women. That is, the estimated net impact of separation is to increase by 34 percent the proportion worse off. By contrast, separation has no short-term net impact on the proportion of men in this dataset who are worse (or better) off. For separating men, 36 percent are worse off the following year – the same proportion as the matched comparison group. This finding is in contrast to McManus and DiPrete's (2001) results. One possible reason for at least part of the difference in results is the under-representation of higher-income couples in the Working for Families dataset.

The second key finding is that separation widens the distribution of percentage changes in incomes, especially among men. Compared to the men in the comparison group, there were more separating men who experienced either large rises or large falls in their equivalised incomes (see Figures 5.7 and 5.8). This is consistent with one of McManus and DiPrete's central points: while it is true that on average men fare better than women, a proportion of men also experience substantial declines in equivalised incomes. The dyadic analysis in Chapter 6 shows that, consistent with McManus and DiPrete's results, these tend to be men who either had very low pre-separation earnings, or their partners had relatively high pre-separation earnings. They were also more likely than other men to be living with dependent children post separation, possibly in shared-care situations.

8.3 Comparing outcomes for ex-partners

A unique contribution of this study has been the analysis of a large population of ex-partner dyads. Several results stand out. First, there are very few cases where separation has only a small impact on both ex-partners' equivalised incomes. Only 3 percent of the 5,781 ex-couples were cases where both partner's incomes changed by less than plus or minus 10 percent.

Secondly, although four in ten cases involve one partner's income rising by at least 10 percent and the other's falling by at least that much, it is not uncommon for both partners to be significantly worse off or both to be significantly better off. Eighteen percent of the cases involved both partners being at least 10 percent worse off in the short term, while in one in ten cases, both were at least that much better off.

Thirdly, closer examination of the relative outcomes of ex-partners revealed important differences. Cases where the woman was worse off following the separation and her ex-partner was better off were characterised by low female earnings and relatively high male earnings before separation. On average these women increased their earnings after separation, but not by enough to offset the loss of their ex-partner's income. Interestingly, the group where both ex-partners were better off was also characterised by low pre-separation female earnings and an increase in the women's earnings following separation. The main difference between the two groups was that, in the latter case, the men also had low pre-separation earnings, and average post-separation earnings.

The most notable feature of the group where both ex-partners are worse off by at least 10 percent is that, on average, there is no gender gap in outcomes. This group, about one in six of all cases, experience comparable declines. The women in this group are worse off as a result of losing the contribution of their ex-partner's income while still being more likely than the men to have care of children. The men are worse off because of a substantial decrease in average earnings.

8.4 Poverty

The analyses in Chapters 5 and 6 examined the impact of separation on poverty rates. Separation substantially increases poverty among both men and women. Compared to the matched comparison group, the estimated impact of separation is to raise the men's poverty rate by 9 percentage points and the women's by 16 percentage points. The transitions analysis in Chapter 6 showed that the probability of moving into poverty was considerably higher for separating women (0.21) than for separating men (0.11). At the same time, however, there was little difference between the sexes in

the probability of moving out of poverty. Approximately half of all men and women who were below the poverty line in the year before separation were also in poverty the year after.

8.5 Medium-term outcomes

This study found that the impact of separations on incomes persists over the medium-term. Men's and women's average total and equivalised incomes are higher three years after separation than they are in the first year. However, the income increase experienced by separated men and women is less than that experienced among the matched comparison group of individuals who did not separate, with the effect that separating partners fall further behind.

Three years after separation women's average equivalised incomes have recovered to approximately the same level as the year prior to separation, but the rate of increase is less than among the comparison group. The estimated impact of separation is -25 percent in year three compared to -19 percent in the first year. Among the men, the estimated average gain resulting from separation diminishes slightly over time – from +15 percent in the first year to +11 percent in the third. Different trends underlie these medium-term patterns. There is an initial positive impact on men's average earnings but this reduces over time. The impact on women's earnings rises over the three years, but not by enough to offset the declining impact on welfare receipts.

8.6 Policy implications

The findings reported in this study cannot be interpreted in isolation, but they do have potential implications for policy development in a number of areas.

8.6.1 Implications for social assistance and welfare policy

Several conclusions can be drawn from the analyses in this thesis regarding family tax credits and welfare policies. First, and importantly, it is clear from findings in Chapters 5 and 6 that New Zealand's family assistance and welfare policies play a critical role in mitigating the negative financial consequences separation has on parents and the children they care for. On average, for both men and women in the dyadic sample, income from benefits, supplementary assistance such as Accommodation Supplement, and Working for Families tax credits all increases. Benefit payments show the greatest increase, rising by an average of \$7,222 per ex-couple. Family tax credits also rise, but by less: \$1,652 per ex-couple.

At the same time, however, marital separation results in a considerable number of both men and women moving into poverty. In simple terms, the level of assistance provided through welfare and family tax credits is often insufficient to ensure individuals are not below the poverty threshold, especially if they have children living with them.

Perhaps the most concerning finding coming out of this study is that the negative impacts of separation persist for at least the first three years. As the data in Chapter 2 showed, partnership dissolution is a common event in the lives of families with children in New Zealand. If it merely caused a short-term shock to economic circumstances, from which people quickly recovered, its implications would be far less serious. While this is clearly the case for some individuals, it is equally clear that for many people separation has long-term effects. What is also clear is that for some people and their children it is associated with a prolonged period of low living standards.

It is beyond the scope of this project to establish a causal link between these outcomes and policy, however, one plausible factor is the high effective marginal tax rates (EMTRs) faced by many people with some earnings who also receive tax credits or benefits. High EMTRs are well recognised as an issue with the design of New Zealand's social assistance system (see, for example, N. Johnson, 2005; Spier, 2010; Fletcher, 2011; New Zealand Inland Revenue, 2011). Earlier work by this author shows

that there is little or no financial gain in moving from part-time to full-time employment for relatively low-paid sole parents. If they must also cover child-care or after-school care costs, they may be worse off by doing so (Fletcher, 2011). The findings in this present study suggest that the welfare system acts in some degree as a safety net, cushioning the negative impact of separation for women and those with care of children post-separation. However, minimal evidence of improvement over the following three years is consistent with the possibility that current policy settings create poverty traps which makes it harder for lower-income separated parents to gradually improve their circumstances.

8.6.2 Implications for child support policy

The analysis of separation in Chapters 5 and 6 relate to the period 2008–2012, before the change in child support legislation. That analysis revealed several key points about the impacts and effectiveness of the old child support regime. In particular, it showed that for this group of mostly low- to middle-income families, child support contributes little to average post-separation family incomes. Even among those receiving child support, the average amount received by women was \$2,367 in 2010, equivalent to 6.9 percent of women’s average total family incomes. For men receiving child support the average amount was \$709, or 1.9 percent of men’s average total income.

One limitation of this study is that the data are not representative of the whole population. Child support could be quite different for high-income ex-couples. Nonetheless, it is concerning that a policy whose primary objective is to share the costs of raising children appears to have so little effect on a large proportion of those affected.

Chapter 7 focused on whether or not it was likely that the new child support liability formula introduced from the 2015/16 year could be expected to improve outcomes. Three broad conclusions were drawn.

First, the new formula will have little impact on child support payments and receipts overall. For most people, especially those in the lower half of the income distribution, the new formula will result either in no change, or only a small change.

Secondly, for a minority of receiving parents, the new formula will result in large changes and this is not always closely related to their income. Some relatively low-income receiving parents will experience quite large reductions in their child support receipts.

Thirdly, the biggest changes are reductions in liability for higher-income paying parents. This is true in cases where the receiving parent has a low income, but is most pronounced where both parents have relatively high incomes. Whether this is 'fairer' or not, depends largely on whether the cost-of-children estimates and the cost-sharing formula are judged to be fair.

An underlying driver of child support outcomes in New Zealand is the absence of pass-on of child support payments to parents in receipt of a sole-parent rate of benefit. Recent comparative analysis by this author and others examines the poverty reduction effects of child support regimes in four English-speaking countries¹²⁵ focusing on the extent to which the State regards child support as a complement to, or substitute for, cash benefits (Skinner et al., 2017). The New Zealand regime stands out – as indeed it does in relation to all OECD countries (OECD, 2009) – in treating child support as a complete substitute for welfare payments, with the consequential effect that the New Zealand system makes the least contribution of the four countries to poverty alleviation.

As discussed in Chapters 2 and 7, moving to either full or partial pass-on was ruled out by Government at the beginning of the review that led to the Child Support Amendment Act 2013. The analyses in Chapter 5 and 6 suggest that pass-on would improve outcomes following separation in terms of reducing the decline in living standards, ameliorating poverty rates, and reducing the gap between parents with care of children (mostly women) and paying parents (mostly men). Moreover, US evidence suggests that paying parents pay more child support when they know it is being passed on

¹²⁵ Australia, New Zealand, the U.K. and the U.S. (Wisconsin).

(Meyer & Cancian, 2003; Cancian et al., 2008). Obviously, there is a fiscal cost in pass-on although this would be reduced by savings in discretionary Temporary Additional Supplement payments, and maybe further reduced if it encourages greater labour supply by paying parents.

8.7 Limitations of this research

This study has added important new information concerning aspects of the economic consequences of partnership dissolution for parents in New Zealand. It has also demonstrated the potential to use large administrative datasets for the study of divorce and separation in New Zealand. However, there are a number of limitations that must be noted. Some relate to data and could be addressed in future research, thanks to enhancements occurring in the integration of longitudinal data in New Zealand.

The first point is that a great many important issues relating to the economic consequences of partnership dissolution are not touched on in this study. In any research project certain questions have to be prioritised over others. Topics significant in the literature but not covered here, include the impact of repartnering, changes in the size of effects over time, and sensitivity of results to the choice of equivalisation scale.

Secondly, although the large, dyadic dataset is a strength of the analyses in Chapters 5 and 6, it contains a number of weaknesses. When this research began, the Working for Families dataset was held by Inland Revenue and was accessible only at its National Office. Although the data analysis was finally carried out within the Statistics New Zealand secure data laboratory environment after the Working for Families data was incorporated into the Statistics New Zealand Integrated Data Infrastructure, the analysis continued to be based on that single dataset. Key limitations in the data are discussed above. In particular, the dataset is not representative of the entire population of New Zealand couples with children; there are weaknesses in the quality of child-related data. More recent

IDI enhancements mean both these issues could be addressed in future. This is discussed below in respect of possible future research directions.

A different type of data quality issue concerns its accuracy. In some instances, programme entitlement rules create incentives for individuals to misreport their income or partnership status. Three points are relevant. First, for the great majority of people in the working for Families dataset, income data is recorded on a monthly basis by their employer or the Ministry of Social Development. As such, it is highly accurate and not subject to problems associated with information recall that can occur with survey data. Secondly, the scope for deliberately understating income is mostly limited to self-employment earnings and 'under the table' income. Undoubtedly this type of under-reporting occurs, but it is not obvious that such income is accurately reported in panel surveys either, or that it biases results by occurring more before separation than after separation. (Child support liabilities give an added incentive to under-report income post-separation, but the structure of family tax credit abatement also gives an incentive to do so prior to separation.) Thirdly, and this is where the data may be weakest, there are strong incentives on people receiving benefits or family tax credits not to report new relationships. From a policy point of view, the incentive, at least for lower-income individuals, is not to *form* new relationships. The living standards of at least one of the two new partners (and the children living in the new household) is likely to be lower due to the joint income-testing of welfare benefits and family tax credits. The data issue concerns the extent to which people have formed new partnerships which are not evident in the data. Information on this is limited, and is an area for further research. However, both Inland Revenue and the Ministry of Social Development have good residential address data so it is probable that the most common situation is that new partners retain separate addresses and, therefore, do not gain the full benefits of economies of scale assumed in the calculations of pre- and post-separation living standards.

8.8 Future research directions

The rapidly developing integration of multiple administrative and survey datasets underpins the expansion of research possibilities. The WFF dataset has been incorporated into the IDI and the IDI itself has been considerably enhanced and expanded both in terms of the datasets and the usability of those data. Further enhancements are also planned by Statistics New Zealand and Inland Revenue. For example, Inland Revenue has now overcome weaknesses in the child data in the Working for Families dataset, and as of June 2017, individual child identifiers are included. This will allow future research to examine the impacts of parental partnership dissolution on children. By linking to other IDI datasets it will also be possible, in most cases, to identify biological and legal parental relationships, and to distinguish these from social parenting/step-parenting and 'blended family' situations.

Four areas stand out as warranting future research beyond initial work to extend the estimates to the full population. The first of these, already mentioned, is to examine the consequences of separation on children's economic well-being. Data now exist in New Zealand to examine in detail the impact of adults' separation on children. As mentioned, it is also possible to investigate differences in outcomes for children between separation involving their biological/legal parents, and other family/partnership dissolutions. An important aspect of this strand of research will be to better understand the differences in economic consequences depending on whether care of children is shared or not. This will require some re-thinking of how to measure living standards when children live in more than one household.

A second, related, direction for future research is to move beyond, or at least to augment, the use of equivalised income as a proxy for standards of living. Chapter 3 discussed problems arising in the literature relating to the use of income measures, and of equivalisation scales as a proxy for living standards. A small number of studies have been able to compare direct measures of well-being against income-based measures. Relationships between different measures are complex, and it is clear that income is not always a reliable guide either to pre- or post-separation living standards.

Another dimension of changes in living standards following partnership dissolution is the division of assets. For home-owners, this is likely to be particularly significant, but it is also important to understand better how other assets, such as retirement savings, are divided when couples separate. Qualitative studies suggest that it is common for separating parents to reach agreements between themselves that involve the division of assets, income transfers such as child support and care/contact arrangements. The Law Commission's current review of the Property (Relationships) Act 1976 is already examining some of these issues.

Fourthly, analysis of a longer post-separation time period is needed. This study has found that the initial impact of separation persists for the following two years. Further work should determine whether the impact is in effect permanent, or whether there is a longer slow recovery.

Lastly, further research is needed in respect of policy effectiveness. This study suggests that there are significant problems with child support, family tax credits and welfare benefits, and their impacts on separating parents. While the latter two programmes provide important support for people with low post-separation incomes, they do not prevent significant increases in poverty, and may contribute to poverty traps. Child support may help some higher income couples arrange appropriate support for care of children, but does little or nothing to help many lower-income separated parents.

8.9 Conclusion

Marital separation among parents and others caring for dependent children is an important topic, affecting a large number of New Zealanders. It often has significant impacts on living standards, and is associated with increased poverty. This thesis has provided a sounder understanding of the impacts separation among New Zealanders caring for dependent children has on people's incomes and standards of living, and on the equity of outcomes. In doing so, it has strengthened the evidence-base for future policy-making.

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