Could New Zealand's Domestic Purposes Benefit in Conjunction with the Tax Systems Impact Low-Income Women's Decision Regarding Family Formation and Childbearing?

By

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Abstract

This thesis provides a descriptive analysis of whether New Zealand's Domestic Purposes Benefits (DPB) and some Family Assistance programmes, mainly Family Support, creates incentives for low-income women to become single mothers. This concern arises from two sources: firstly, eligibility criteria for many of these programmes require recipients to be single parents and secondly, assessment units for the welfare and income tax systems are different, resulting in relatively high Effective Marginal Tax Rate (EMTR) for low-income earners when they form a union with their partners.

The Household Labour Force Participation Survey (HLFS) was used in the study over the period 1986 to 2004, during which significant welfare policy changes were introduced. If welfare policies do affect incentives for child-bearing and partnering among actual or potential welfare recipients, we would expect these policy changes to have had an impact on these outcomes. Our results indicate that low educated women demonstrated a continuous decline in partnering up rates, whereas high educated women revealed an increase in the partnering up rates over this period. Nevertheless, there were no fluctuations in partnering up rates among low-educated women, in response to these policy changes. Also, the pattern in the childbearing behaviour is similar among low and high educated women. Hence, without a comprehensive regression analysis, this study suggests that the New Zealand DPB and FS, in conjunction with the income tax system, might not have had an impact on actual or potential beneficiaries' decisions to form a union with their partner and to have a dependent child.

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1.1 Introduction

Welfare and income tax systems are considered to be most governments' crucially important policy instruments. This is because most government expenditures are funded largely by collected income tax revenue. A portion of this government revenue is re-distributed to some sections of the population through the benefit system and will thus crucially determine the standard of living of those beneficiaries[1]. Consequently, both of these policies impact all households either directly or indirectly[2].

When benefits, tax rates or other components of the respective systems change (such as abatement schedules and rates of the welfare system), the price levels and thus incentives that each individual faces, change as well. As a result, individuals will change their behaviour to respond to these changed incentives[3]. Consequently, these are important policy instruments that governments use to achieve certain social and economic objectives. Inadvertently however, some policies, which are designed to achieve some specific outcomes, may possibly have unintentional social and economic consequences through the distortion of incentives and efficiency losses.

Welfare and tax policies, especially personal income tax, have been among the most debated public policy issues over the past few decades because they are believed to create some perverse incentives, resulting in unintended outcomes. For instance, there is by now extensive literature on the disincentives to work created by the benefit system; the programmes' nature and structure, generosity of benefits, certain eligibility requirements and payments in both cash and in kind appear to reduce incentives to work[4].

Another important area where welfare and tax policies have secondary consequences is in regards to agents' decisions on family formation, which include the following: [5]

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[1] See Prebble and Rebstock, 1992, p. 2.
[2] See Ibid, p. 2.
[3] See Ibid, p. 2-10.
[4] See Blackburn, 2000, p. 117; Moffitt, 1992, p. 2; Hoynes, 1996, p. 1-2
[5] See The New Zealand Family Commission, 2006, p. 25

- Relationship formation decisions, which include when couples physically start living together as well as whether or not to get married or cohabit.

- Family size decisions, which include both the timing decision as well as the decision on the optimum number of children.

- Dissolution decision, which includes when a relationship, especially those involving children, is dissolved.

- Reconstitution decision, which includes the forming of new relationships, in which at least one partner has previously had a cohabiting relationship or has a child from the previous relationship (cohabiting is not required in this case).

- Living arrangement decision, which includes how a couple arranges the how and who their children will be living with.

The intuition behind why the welfare and tax policies could impact family and relationship formation of individuals is because most of the welfare and tax policies comprise unequal treatments of married/cohabitating/de facto couples and sole and two-parent families through their structures and eligibility requirements[6]. Thus, the incentives to choose one family structure, one living arrangement and one childbearing decision over others arise.[7] According to Cantillon (1994):

> "….Because choices regarding marriage, cohabitation, divorce and remarriage are no longer ruled by the values of the past, it is generally accepted that some (potential) beneficiaries may use the opportunities offered by complex social security provisions, sometimes even adjusting their demographic behaviour to the institutional environment. Social security is not neutral towards the family. Nor can it be, even if based on the strategy of basic income. This leads to a self-reinforcing mechanism whereby social protection itself could act as a factor affecting socio-demographic behaviour…." (Cited in Whiteford, 1997, p.2).

In this thesis, I examine the impact of the welfare and tax systems on the family and relationship formation and fertility decisions in New Zealand. This chosen narrow scope

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[6] See The New Zealand Family Commission, 2006 p. 28
[7] See Hoynes, 1996, p. 18

enables an in-depth analysis of this topic. I also hope that my study will create a significant incentive for other people to more broadly examine this research question.

1.2 **Motivations behind my thesis**

There have been significant changes in household structure in most OECD countries over the past few decades. The traditional two-parent household is losing prominence and single-headed households are becoming more common. Increases in the numbers of such non-traditional family units, as well as changes in other demographic factors such as marital rates, divorce and fertility patterns, have been documented for many OECD countries in the last few decades, most notably the United States[8].

This trend is evident in New Zealand as well for the past 25 years[9]. For instance, in 1981 only 1 in 6 families was a single parent family with dependent children. However, a single parent family had become more common with a frequency of 1 in 4 families by 1991. Moreover, the growth in single parent families was the fastest among those population groups who had never been formally married[10]. Consequently, now New Zealand has the highest proportion of single parents in the OECD. Another interesting trend which has been captured in the demographical change context in New Zealand is that the employment rates among married and sole mothers show quite a large discrepancy. This could have been a result of the operation of Domestic Purposes Benefits (DPB)[11], as well as cultural norms. However, this knowledge helps show that there are possible incentive effects from the DPB. Note that the demographic change with regards to marital and childbearing behaviours in New Zealand for the last few decades will be discussed in more detail in chapter four.

Also in my thesis, legal marriage and cohabitation are treated as equivalent. This is due to the equal treatment and recognition of both legal marriage and cohabitation by New Zealand law. Consequently, when I examine the effect of benefit and tax changes on

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[8] See Moffit, 1992, p. 1-2, Mauldon, p. 1; Hoynes, 1996, p. 12.; Nolan, 2005, p. 158-159; Hakovirta, 2001, p. 3

[9] See the Ministry of Social and Development, 2005, p. 7 [http://www.socialreport.msd.govt.nz/documents/2005/sr05-people.pdf]; Nolan and Fairbrother, 2005, p. 1; Whiteford, 1997, p.1

[10] See St. John, 1994, p. 2

[11] DPB will be discussed in more detail in chapter five. Basically, DPB is a New Zealand welfare benefit programme that has been operated for decades in order to help reduce financial burden of single parent families.

family formation, I will examine whether the cost and benefit (utility) of marriage/cohabitation is altered relative to living separately as single parents, for instance[12].

In most developed countries, there is some evidence that welfare and tax policies might have caused the increase in the incidence of one-parent families, especially female-headed households, in which women are not married to or cohabiting with their partners[13]. However, the magnitude of the welfare and tax effect is not large. Because of the incentives caused by different assessment units in New Zealand's tax and benefit system, (which will be elaborated in more detail in later chapters[14]) two potential partners might be more likely to maximise their income if they choose to live in a non-traditional one-parent household, especially among low-income earners.

The first factor behind my motivation in this area of research is the claim that although welfare and tax policies may accomplish the goals they are intentionally designed for, which are poverty reduction and improvement in living standard among the recipients, they may have other outcomes that are unintentional and socially undesirable, especially outcomes regarding the family formation[15]. Consequently, this has urged me to examine whether this claim has any basis.

Secondly, there has not yet been a comprehensive study conducted in New Zealand to examine this question[16]. In contrast, there has been significant research in this area in the United States, the United Kingdom, as well as Australia. However, the findings of this overseas literature are mixed both in terms of the existence and the magnitude of the impacts of the welfare benefits and tax systems on family formation issues. These differences in findings may be a consequence of different methodology, data sets and approaches employed by the researchers. According to Cantillon (1994):

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[12] A couple may be living in separate households while maintaining their existing relationship, however, by living in separate households the existence of their relationship cannot be proven. Consequently, whether or not the couple is having a relationship when living apart is outside the scope of my thesis. (See The New Zealand Family Commission, 2006, p. 28

[13] See Gauthier, 2001, p. 1; Blackburn, 2000, p. 116; Schultz, 1994, p. 638; Hoynes, 1995, p. 1-2; Nolan, 2005, p. 5-6

[14] The theoretical framework will be illustrated in more detail in the chapter two.

[15] Recall that the decision regarding family formation can be divided into 3 sub decisions, which are the decisions on partnership formation, dissolution and reconstitution decisions (page 3).

[16] See The Family Commission, op. Cit., p. 8.

> "…The empirical data are unsurprisingly equivocal when it comes to the existence, scope, and nature of behavioural effects. Decisions about the organisation of family life are influenced by a multiplicity of social, cultural, and psychological factors. Financial incentives (including social protection) are only one influence. An empirical separation of the direct influence of social security on behaviour is difficult to achieve. Nevertheless, the question of the influence of social security benefits on marriage, divorce or remarriage is of great political significance." (Cited in Whiteford, 1997, p. 2).

In addition, both the existence and the magnitude of the impacts are likely to vary based on the groups of populations[17]. This suggests that an examination of this issue is of crucial importance for New Zealand, which has a comprehensive benefits system in place. This study is a response to the increasing recognition of the intrinsic importance of family related issues to the welfare system's design and objectives.

Thirdly, as mentioned above, New Zealand has also been experiencing significant changes in household structure over the past few decades, which include the noteworthy increases in the numbers of sole parent families. The majority of these sole parent families are mother only[18,19]. In contrast, the proportions of couples with children have been gradually declining since 1986. Besides, these demographic changes have been occurring even as a significant number of welfare and tax reforms have been introduced since the 1980s. As a result, the significant time frames of each reform of the welfare and tax policies since 1986 and the gradual changes in the numbers and patterns of single parent families have given rise to an opportunity to analyse whether these two trends might be related. Additionally, since the growth in the female single parent families has been a lot more drastic than the male single parent families in New Zealand, my thesis will focus on *female single parent families only*. There are a number of reasons for focusing on female single parent families.

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[17] See Whiteford, 1997. p. 2
[18] Note that the proportion single has been significantly increasing, compared to the growth of male single parent families.
[19] See Nolan, 2005, p. 158.

Firstly, there is some evidence supporting the claim that female-headed families tend to experience less desirable levels of both economic and social well-being than the traditional two-parent families with males being the heads of the families[20,21]. Moreover, single parent families are undoubtedly among the most disadvantaged population groups in most societies For instance, in New Zealand, female single persons and single parent families have relatively lower living standards than the male ones[22].

Another reason why single mother families should be given more attention, apart from the high possibility of having lower living standards, is that well-documented evidence from most developed countries suggests that single mothers who are suffering from poverty tend to experience longer poverty spells and represent quite a disproportional share of those who are persistently poor[23]. This poverty among single mother families and their persistent longer spells of poverty has led to the term "feminisation of poverty"[24]. Additionally, there is evidence that this phenomenon is transmitted through generations; children who are born in the aforementioned single female headed families have a higher tendency to have lower academic achievement, experience a variety of difficulties at school, be early school leavers, have children out-of-wedlock and are more likely to become single heads of household like their mothers[25].

Note that, ethnicity could also play a great role in the incentives; however, it probably affects the level of sole parenting, rather than changes in the level.

Another important motivation for my focus on this research question is if it is true that the structure and nature of the welfare and income tax policies create incentives among low income population groups to prefer one type of family and relationship formation over others due to the comparative gains through these policies, could this imply that this population group has a higher tendency to become more dependent on the welfare benefits. Consequently, they may be more inclined to stay on the benefits for longer

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[20] See Hoynes, 1995, p. 1; Moffitt, 1992, p. 2; Dickert-Conlin and Houser, 1999, p. 2, Hoynes, 1996, p. 13; The Royal Security in New Zealand, 1972, chapter 22 (also see the original papers that directly do the research on the poverty among single mother families Haveman and Wolfe, 1994; McLanahan and Sadefur, 1994)
[21] see Dickert-Conlin and Houser, op. cit., p. 2; Horvath and Peters, 1999, p. 1; Krishnan et al, 2002, p.46, 51; Hakovirta, 2001, p. 5
[22] See Krishnan, op. cit., p. 46-47
[23] See Hoynes, op. cit., p. 1; Zhan and Pandey, 2004, p. 662 (also see the original research papers Bane and Ellwood, 1986 and Duncan 1984)
[24] See Moffitt, 1992, p. 2; Pong, 1996, p. 231
[25] See Hoynes, op. cit., p. 1.; Pong, op. cit., p. 231-232;

periods of time than other population groups, and may become caught up in a vicious cycle of poverty and low living standards[26]. This is a cause for genuine concern because the recipients of income-tested benefits have shown to have significantly lower living standards compared to market income earners[27]. Thus, it is in my interest to examine whether or not New Zealand's welfare and tax systems could have been one of the reasons why low income single mothers have chosen to stay on the benefits, which in turn has caused them to have comparatively lower living standards than other groups in the population. Graph 1.1 illustrates the living standards distribution by income source in the year 2000. From graph 1.1, it can be seen that the living standards of benefit recipients overall are significantly lower than those of market income earners. 57 percent of benefit recipients are in the lower living standard levels (level 1 to 3) as compared to only 14 percent of market income earners.

Graph 1.2 represents the comparison of living standards of the economic family unit with dependent children only, given the different income sources. Even though graph 1.2 represents a smaller sample than graph 1.1, a similar trend of living standards is still evident; those families with dependent children whose main income source is the welfare benefit payments have significantly lower living standards as compared to those families with children whose major source of income is market income. 63 percent of families with dependent children, whose major income source is benefits payments, are in the lower living standards (level 1 to 3) as compared to only 16 percent of those families with dependent children, whose major source of income is market income[28].

My thesis is structured as follows:

Chapter Two: Theoretical framework

Chapter Three: A literature review on this area of research conducted overseas.

Chapter Four: Background of the demographic changes in New Zealand during the last few decades.

Chapter Five: A background of New Zealand's tax and welfare system and how they have evolved since 1986 including in-depth discussions of each welfare programme included in the thesis.

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[26] Also those people who have originally been on the benefit programmes tend to be likely to be low skilled and thus would only receive little wages. Therefore, these people are discouraged to be looking for work and thus would prefer to be on the benefits instead (Birch, 1996, p. 31)
[27] See Krishnan et al, 2002, p. 61; Birch, op. cit., p. 32
[28] See Krishnan et al, op. cit, p. 111; Nolan, 2005, p. 172

Chapter Six: Hypotheses- discussions of how the welfare and tax systems could impact low-income women's decision regarding family and relationship formation as well as childbearing.

Chapter Seven: Testing the hypotheses- Examples of how the welfare and tax systems could impact a hypothetical single mother's income and thus her incentives to be a single mother and have children.

Chapter Eight: Empirical analysis, findings and discussions.

Chapter Nine: Conclusions

Graph 1.1: Living standards distribution of total population by income source 2000.
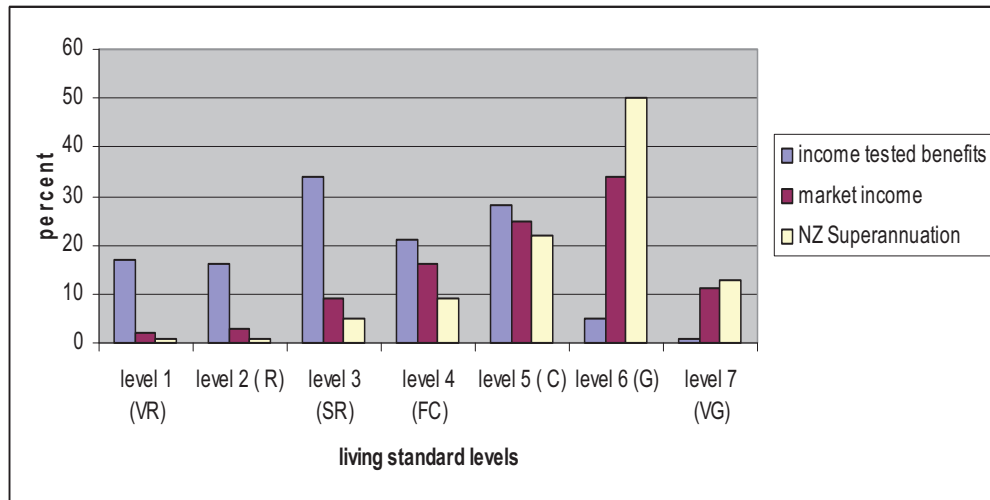
Derived from Krishnan, 2002, p. 61.

Note: VR- Very Restricted, R- Restricted, SR- Somewhat Restricted, FC- Fairly comfortable, C- Comfortable, G- Good and V- Very Good. For more explanation of each abbreviation of the living standard levels please refer to an appendix B.

Graph 1.2: Living standards of families with children by income source 2000.
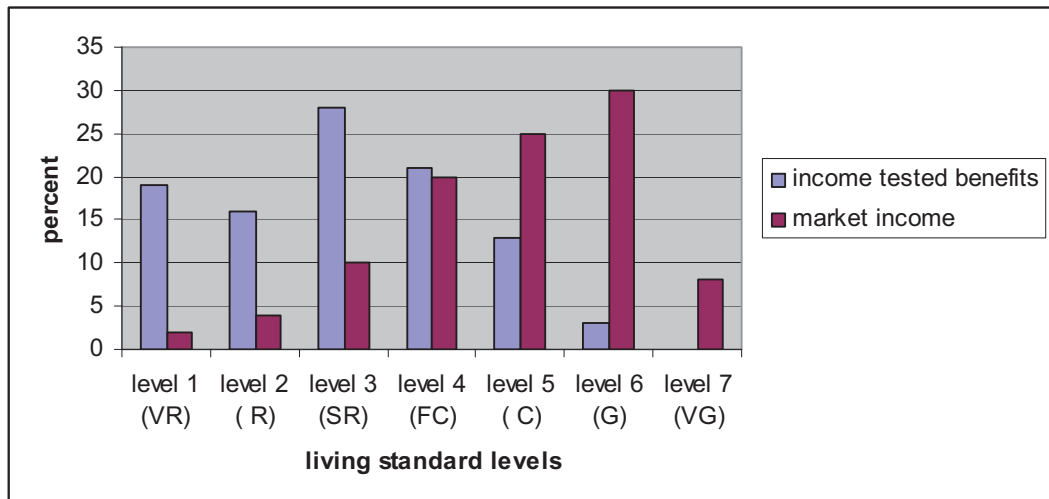
Derived from Krishnan, 2002, p. 111.

Chapter Two: Theoretical Framework

2.1 Theoretical Framework

Although the main analysis of the issue in this study is based on the economic perspective, other major proximate influences such as cultural, sociological and psychological factors, which are shown in chart 2.1, should also be taken into account. However, since this study's main focus is on financial incentives that could have been caused by the tax and welfare systems, thus, the following sections discuss the financial incentives and how they impact the family and relationship formations and fertility decisions of women.

Additionally, as aforementioned in chapter one, this study focuses on female single parent families, which could be either unmarried mothers or mothers who are already in a relationship and have to make a different, but related, decision concerning whether or not to leave the relationship, whereas, this study's main population group of analysis is unmarried single mothers.

2.1.1 Decisions regarding family and relationship formations: the economics theory of marriage

The theoretical framework applied in this thesis is the one employed in most of the research papers in this area, which is the theory of marriage pioneered by Becker in 1973 and 1974[1]. The framework is based on the hypothesis of, besides other determinants, whether or not the welfare and tax policies influence family formation decisions, which include marital status, living arrangements, and childbearing decisions of unmarried mothers[2]. According to the theory, unmarried mothers will take into account all the possible factors, including government benefits and taxes that could

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[1] See Hoynes, 1995, p. 8
[2] Unmarried mothers can be never married, separated or divorced.

affect their utilities when they are outside and inside the union of marriage/cohabitation[3].

Theoretically, unmarried women with dependent children will take into account the following factors that directly impact their utilities when considering whether or not they are better off being in the marriage. These factors are women's wages, their potential partner's wages (note that both the women's and their partner's wages are the earnings shared within the union if the marriage is formed)[4], earnings outside the union; such as benefit payments including welfare transfers and tax credit/negative tax payments depending on whether or not any particular women are eligible, and other observable and unobservable characteristics of these women[5]. The utility function can be derived as follows;

$$U\ (FH,\ W^F,\ W^M,\ B, X)^6 \qquad\qquad (1)$$

Here, U represents maximum utility received between choosing either marriage or female headship (they can still have on-going relationships with their partner, however, they will not be behaving in such a way that will represent them as married couples – for instance, they may have separate living arrangements.)

> FH is a female headship variable, which is equal to one if the women with children choose to become heads of their families and choose not to marry or forsake marriage.
>
> W^f is the wages of the woman, net of taxes
>
> W^m is the potential wages of woman's partner, net of taxes
>
> B is the welfare benefits and tax credit returns (negative tax)
>
> X is the woman's characteristics

It is likely that women with children will choose female headship over marriage if FH^* is greater than zero, given that FH^* represents the difference in the maximum utility received between female headship and being married. This can be algebraically written as;

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[3] See Becker, 1973

[4] Theoretically, it is assumed that the earnings between wives and husbands will be shared among them within the same households.

[5] See Becker, op. cit.; Dickert-Conlin and Houser, 1999, p. 3-4; Moffitt, 1992, p. 29.

[6] See Becker, op. cit; Hoynes, 1995, p. 9

$$FH^* = U^1 - U^2 \qquad\qquad (2)$$

Given the conditions that FH = $\{$ $\quad$ 1 if FH* > 0

$\qquad\qquad\qquad\qquad\qquad\qquad\quad$ 0 otherwise

and $\quad$ U^1 = $U(1, W^f, 0, B, X)$

$\qquad\quad$ U^2 = $U(0, W^f, M^m, I, X)$

$\qquad\quad$ I = [0, B]

I is the amount of benefit payments women would receive when she is partnered, which vary from 0 to the maximum amount of B. The amount of the benefit payments she receives depend on both how much labour earning her partner earns and how much labour earning she earns if she works[7].

In order to examine how welfare and tax systems could impact each individual's decision to form a union, we can examine how these two systems impact each factor in the utility function. As previously stated, marriage can result in quite significant changes in the disposable income unmarried women may receive when compared to their earnings prior to the marriage as a result of the combined impact of the welfare and income tax systems. Some of these women might suffer significant losses of the disposable income if they choose to get married to their partners, especially if their partner earns sufficient labour income that can make their new household's income higher beyond the exemption income levels. The loss in the income as a result of marriage is referred to as a marriage penalty[8]. The loss can occur through (i) some of

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[7] Note that in order to analyse the probability that each woman will choose to become a single mother over marriage, the woman's wage and her partner's wage need to be observed[7]. However, the partner's wage can only be observed if the woman is married and the partner is working. Moreover, her own wage can only be observed only if she is working. Consequently, if a woman is not in a marriage or her spouse is not working at the time of the observation, her spouse's wages will not be observed. Moreover, if the woman is not working, we will not be able to observe her wage either. Thus, this gives rise to _a counterfactual problem_.

[8] The gain in the income after marriage is thus referred to as marriage subsidy.

the original benefits these women have already been receiving are abated against the new household income (their partner' labour income) and (ii) their partner's labour market earnings are taxed away. This combined effect of both the welfare and tax systems could increase an incentive of some women with children to choose female headship over marriage, especially when a ratio of their income prior to marriage to income after marriage significantly declines[9,10]. Examples of hypothetical single mothers in chapter seven will provide a clearer application of this theory.

Graphically, the pathways of how the welfare benefit and tax systems could impact on family formation decisions can be basically illustrated in the model in chart 2.1, adopted from Fein et al 2002[11]. Theoretically, there are a number of different channels through which the welfare and tax policies could impact decisions regarding relationship and family formations. Although the main analysis of the issue is based on the economic perspective, other proximate influences such as cultural, sociological and psychological factors should also be taken into account[12]. As it can be seen from chart 2.1, the impact of the welfare and tax systems on the family related decisions can either be direct (path 3), or indirect, which is mediated by employment (path 1) or family income (path 2).

2.1.2: Decisions regarding childbearing: Economic Model of Fertility

Becker's (1973) economic theory of family[13], which was previously elaborated, set the foundations for another well-known theory employed in much of the research on the relationship between government policy and fertility. Theoretically, Becker states that the demand for children can be algebraically explained as a function of each individual's preference at a given level of income, and the costs (both monetary and

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[9] See Becker, 1973; Hoynes, 1995, p. 8-9; Moffitt, 1992, p. 29
[10] However, this marriage's model has quite a number of assumptions that need to be held in order to make it valid. One of the assumptions is that each woman is rational and aware of her choices of the headship status. Moreover, she is assumed to have perfect information of the determinants of her own utility. However, some economists argue that these assumptions may be implausible because not every woman would have perfect information of the choices and determinants of their utilities.
[11] See The New Zealand Family Commission, 2006, p. 23
[12] See Ibid, p. 23
[13] See Ibid, p. 46

non-monetary) incurred from having children[14]. Consequently, the utilities of parents are directly dependent on both the quantity and quality of children[15]. The quality of children refers to their well being both physically and mentally, including such matters as good education and healthcare[16]. Theoretically, women will make a decision of whether or not their child should be conceived by examining both the costs and the benefits of having a child. Hence, if the benefits of bearing a child outweigh the costs, women will be more likely to have a child[17].

As previously stated, the demand for having children is a function of the levels of income and the costs of bearing children; thus, changes in both these factors will directly impact on the decision regarding fertility. However, changes in levels of income have an ambiguous impact on the number of children. Increasing income may ease the financial difficulty and thus having more children becomes more affordable and viable. On the other hand, increasing income may result in parents' desire to substitute quality for quantity. This hypothesis implies that instead of having more children as a result of increasing income, parents may want to spend this marginal income on their existing child through more expensive education and better lifestyle. Thus, in this case, increasing income may lead to falling fertility[18].

Additionally, the cost factor of the demand for children also plays a great role in the fertility decision of parents. There are various factors, which could either directly or indirectly impact the costs of bearing a child. The costs of having a child can be either direct monetary costs, which involve the tangible costs of raising a child, such as childcare expenses and healthcare expenses. Non-monetary costs can be human capital costs of the mothers who have to forgo training and working experience in the labour force while raising their child. Moreover, the non-monetary costs can also occur in the form of opportunity cost, which refers to the labour earnings foregone as a result of not

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[14] See The New Zealand Family Commission, 2006, p. 46, Becker and Barro, 1988, p. 1
[15] See The New Zealand Family Commission, op. cit., 46, Becker and Barro, op. cit, p. 3, Peter, Plotnick and Jeong, 2001, p. 4
[16] See The New Zealand Family Commission, op. cit., p. 46
[17] The New Zealand Family Commission, op. Cit., 46, Becker and Barro, op. cit., p. 3, Peter, Plotnick and Jeong, op. cit., p. 4

[18] See The New Zealand Family Commission, op. cit., p. 46

being in a labour force or a reduction of work hours due to the care of a child[19]. As stated in Grant et al (2004):

> "Hence, as labour market opportunities expand for women during the process of economic development, the cost of raising children increases" (cited in The New Zealand Family Commission, 2006, p. 46).

Theoretically, any government policies that could have either direct or indirect impact on both the levels of income and the costs of bearing children, would have an impact on the fertility decision of these parents. Hence, any welfare and tax programmes that result in a direct or indirect reduction in the costs of having children are assumed to have a positive impact on fertility. For example, the DPBs provide financial assistance to single parent families through direct payment from the government to the recipients' bank account; this indirectly reduces the costs of having children. Moreover, the Accommodation Supplement provided to low-income families also indirectly reduces the cost of having children in such a way that the housing expenses are partially subsidised. Thus, there is extra income, which can be spent on children. In contrast, any policies that result in a direct or indirect increase in the costs of having children would have a reverse effect on the fertility decision[20]. Nevertheless, it is unpredictable whether welfare and tax policies, which result in an increase in income, would lead to the parents' desire to have more children. It is, whether or not the quantity effect outweighs the quality effect.

As common as any other insurance scheme, despite the unpredictable outcome of how an increase in income may impact the fertility decision, welfare and tax policies acting as an insurance against the unfortunate outcome of single parenthood are likely to result in the moral hazard problem. This terminology of moral hazard implies that if women acknowledge that having more children will instantly make them eligible for a marginal increase in earnings from the government, they may deliberately bear more children. It has been a widely accepted assumption that the marginal cost of having an extra child is

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[19] See The New Zealand Family Commission, 2006, p. 46,; Peter, Plotnick and Jeong, 2001, p. 4

[20] See Peter, Plotnick and Jeong, op. cit., p. 4; The New Zealand Family Commission, op. cit., p. 46

less than the financial cost of having the first child born to the household due to the economies of scale[21]. As a result, the women's total earning may be maximised. Chart 2.2 illustrates how the welfare and tax policies could have an impact on the fertility decision.

From chart 2.2, it can be seen that there are several paths through which the government's welfare and tax policies could impact the decision regarding fertility and family size. These policies can have either a direct or indirect impact on the decision through various proximate determinants, including changes in the costs of having children, broader economic factors, individual lifestyle factors, and societal norms. Moreover, the different units of assessment (joint or individual) of the tax system can influence the decision of whether or not to have children through a proximate determinant of individual lifestyle. Basically, different units of tax assessment have a direct impact on how the household's income will be shared among spouses. Hence, this can have an impact on whether or not a relationship should be formed. From chart 2.2, certain changes in each proximate determinant such as increasing in the costs of children, uncertainty about the future increases or less generous of the childcare, these may lead to lower fertility. On the other hand, if these changes occur in an opposite direction, in essence the costs of having children decrease, the future becomes more certain or increases in the childcare generosity, they may possibly lead to increasing fertility.

2.2: Why do we need to consider both the welfare and tax policies when examining the family formation decisions?

There are a number of reasons why both welfare and tax policies need or should be examined simultaneously when considering whether or not these policies impact on family formation decisions of the affected groups of populations and also the magnitude of the impacts. Firstly, both welfare and some of tax policies were originally designed to provide financial assistance to the similar target groups, which are low-income families with dependent children. In essence, they provide the benefit or tax credit payments to these lower income families with children from the tax payments received

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[21] See Nolan, 2005, p. 48

from higher income families and individuals. Consequently, this similarity of target groups has provided the linkage between these two policies. Secondly and as previously mentioned, some welfare programmes are believed to have been more favourable toward one-parent families than two-parent families, through eligibility requirements and the programme's structure. Thus, the welfare policy is _believed to have created some incentives for female headship over marriage during the past few decades._

Thirdly, New Zealand's welfare and tax systems have completely different units of assessment. For the welfare benefit system, or the so-called "Social Assistance" system[22], the unit of assessment is based on the entire household as a whole[23]. Consequently, the household's income, not the income of each individual member of the household, is to be considered when regarding whether or not the household is eligible for the benefit. If so, how much of the benefit payments will the household be entitled to. However, for the income tax system, the unit of assessment is purely based on individuals[24]. Thus, regardless of the household's income, each member of the household is legally bound to pay the income tax if they are in the labour force and receiving labour income. Moreover, due to the changes in household structure, employment outcomes, as well as the introduction of the taxation of main welfare benefits over the past few decades, have implied that larger proportions of the New Zealand population can now be affected by both the welfare and tax systems simultaneously[25]. Consequently, due to these differences in the units of assessment and the increasing integration between the tax and welfare systems in New Zealand, it is inevitable for both the welfare and income tax policies to be taken into account when analysing how the government policies could impact relationship and family formation.

Clearly, as women are different in their characteristics and therefore in their entitlements to the financial assistance from the welfare benefit system, the decision to get married with their partners will vary depending on each woman and her circumstances such as hours of work, numbers and ages of children, wage rates received, marital status, accommodation needs as well as receipt of other assistance. Therefore, EMTRs (effective marginal tax rates) faced by different low-income women

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[22] See Nolan, 2003, p. 3
[23] See Nolan, 2005.
[24] See The New Zealand Families Commission, 2006, p. 17.
[25] See Nolan, 2003, p. 8

will be different[26]. Thus, given all these reasons above, the impact of government policies on the family and relationship formation decisions[27] cannot, and should not be examined separately because these policies, especially the welfare and tax policies, could either mitigate or exacerbate each other's effect on people's incentives. As a result, it is important for economists to realise this and take both the welfare and tax credit policies into account when examining the determinants of family formation decision, as we need to emphasise the combined impact of these two policies. Paying attention only to one or the other separately could result in a misleading conclusion by either overstating or understating the true impact of the government policies on the family and relationship formation issues[28].

2.3: The target population of this study

The target population group in this thesis research is single parent family, especially those with low income. As previously shown that the majority of the single parent family population is mother only families, and the rate of changes in the mother only families have been significantly more dramatic than father only families[29]*, thus, the main focus will be on single mother rather than single father families*. Moreover, this target group will be the most directly impacted by the welfare and tax policies because they are the populations that the policies are originally intended to provide assistance to. They also compose the highest proportion towards the overall welfare recipient populations[30]. Moreover, it was previously stated that both mothers and children of the female-headed families are believed to have comparatively worse social and economic performances than the traditional two-parent families. Thus, if this thesis can provide more evidence whether the welfare and tax credit policies have been a partial contributor to the problem, it will provide more guidance on how the policies could be improved. Therefore, these increases in the numbers of single mothers over the past few decades have triggered an alarm to investigate whether or not the welfare and tax policies are appropriately blamed as being responsible.

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[26] See Nolan, 2005, p. 140

[27] Recall that the decision regarding family formation can be divided into 3 sub decisions, which are the decisions on partnership formation, dissolution and reconstitution decisions.

[28] See Dickert-Conlin and Houser, 1998, p. 175

[30] see Hoynes, 1996, p. 2-5; Rozzelle, 2003, p. 3; Scott, 1993, p. 172

Chart 2.1: Pathways of how the welfare and tax systems could impact family formation decisions

Welfare/tax policies

Employment services

Financial incentives and penalties

Other services

Employment

Welfare benefits

Family income

1

2

3

Proximate influences
-Cultural/ Psychological factors
　-norms and values
　-interpersonal communication
　-stress
　-self-esteem
　-depression

-Opportunities
　-time available
　-exposure to potential partners
　-sexual activity
　-access to family planning

Marriage, cohabitation

Child bearin

Moderating Characteristics
Gender, age, marital history, education, family and community

Source: Whiteford, 1997.

Chart 2.2: Model of reproductive decisions: proximate determinants and policy measures

Decision to have children

Benefits of having children

Lower fertility when:
-parents do not rely on the tangible support and care provided by children (in family business or old age)

-children provide lower psychological benefits relative to other goods

Costs of having children
Lower fertility when:
-costs for rearing children relative to other goods increase.
-housing costs, especially in urban areas, are high.
-opportunity costs (as shaped by women's employment) are high.

Broader economic factors
Lower fertility when:
- Women's new economic roles lead to willingness to adjust family aspirations to pursue professional goals
- Income and career prospects decline
-uncertainty about the future increase
-higher skill demand leads to longer periods in education
-the transition from school to work is long and difficult

Individual lifestyle factors
Lower fertility when:
-values towards children change (post materialist values)
-difficulties in forming lasting partnership increase
- Preference for form of relationship shift (from marriages to co-habitation)
-partnership instability increases

Societal norms
Lower fertility when:
-home task within the family are unequally distributed
-gender equality in earnings and careers is low
-welfare systems are based on a male-breadwinner model and become incoherent with women's new economic roles
-social attitudes towards families and new women's roles are negative.

Determinants

Financial incentives
-specific cast transfer
-loans on preferential terms
-tax deductions granted to families with children
-specific subsidies (ie housing)

Child care
-availability of quality and affordable child care

Child leave
-legal provisions regulating work leave related to children

policies

Direct policies

Indirect policies

Derived from Sleebos, 2003, cited in The New Zealand Family Commission, 2006, p. 4.

Chapter Three: Literature Review of how the welfare benefit and tax policies could impact on relationship and family formation decisions of single mothers with no/low income and relatively uneducated.

The review is divided into three main sections (i) literature of impact of welfare and tax systems on marriage/union formation and child bearing decisions in New Zealand, (ii) literature of impact of welfare and tax systems on marriage/union formation and found overseas and (iii) literature of impact of welfare and tax systems on childbearing decisions found overseas.

3.1 Impact of welfare and tax systems on marriage/relationship formation and childbearing decision in New Zealand

While there is quite extensive research and studies in this area overseas, there has been very little research conducted in New Zealand. There have only been a few studies conducted on the Domestic Purpose Benefit and its impact on sole parenthood. One of most recent studies on the subject is by Goodger (1998). However, while the details of the changes in the incidence of sole parenthood, benefits changes and their use as a tool to assist sole parents to gain employment are well documented, the casual links between the DPB and sole parenthood and child birth outside marriages are not established. She suggests that it is considerably complicated to find the actual welfare effect since the benefit changes were frequently accompanied by other factors including legislative changes, social, economic and technological changes. Prior to her study, the Department of Social Welfare endeavoured to conduct a study on the DPB in 1988. They reported that the DPB may increase women's incentive to not sustain a union with their partner, to have and keep their babies especially for younger women, and to not re-establish old relationships or to form new ones. Nevertheless, there was no comprehensive study of the effects of the DPB on relationship formation available at the time of this report. A qualitative study of the DPB's effects on child rearing behaviours conducted by Wylie (1980) interviewed sole parents and reported that while these sole parents were on the DPB, they did not have any intentions to become pregnant, and if they did, they were already in a stable relationship with their partner. Consequently, due to insufficient evidence the Department of Social Welfare suggested in the report that the welfare effect could not be discounted simply because there was no rigorous evidence at the

time. They noted that given the demographic trends regarding family and relationship formations, welfare benefits might have considerable influences on partnership formation but not on child rearing decisions. However, without further investigation, no judgement could not be made.

However, there are also other two papers by Maloney (1999), (2000) which are worth mentioning. These papers relate to some of the welfare reforms in early 1990s that are the subject of this study. Even though these two papers main focus is on the welfare effect on labour supply and unemployment and not on the effect on the family and fertility decisions, they are still worth reading in order to get a better understanding of the welfare reforms and how the reforms could impact behavioural changes. Maloney (1999) states that the structure of the benefit system and the nature of welfare reforms in early 1990s do provide a unique opportunity to examine the labour supply behavioural responses. He conducts this study followed the theory that due to the lower benefits and tighten eligibility rules, these would result in higher labour supply of potential and existing beneficiaries. He states that this area of study conducted overseas normally encounters two major problems: (1) the complexity of those countries' welfare systems results in a difficulty in condensing the features of these benefit programmes into a controllable set of regressors that explain the complex work disincentives and (2) the requirement of some exogenous variation in the explanatory variables in the regression, which sometimes can be a difficult task. But because (1) New Zealand's welfare system is relatively easy to identify the elements of the programmes that could affect labour supply and (2) the reductions in the nominal benefit rates were not uniform across demographic groups resulted in a variation in both the magnitude and timing of the benefit changes and this variation is close enough to be the exogenous variation needed in the regression study needed to isolate associated labour supply responses; therefore, the author could reduce the seriousness of the aforementioned problems. The author employs the data from Household Labour Force Participation Survey consisting of non-disabled individuals aged between 16 and 64 years. The author then calculated the un-uniform reductions in the benefit rates in order to investigate how the changes in the benefits impacted those different affected groups of people. He uses the labour force participation rate as a determinant of labour supply. The time series of the trend in the labour force participation rate and the changes in the mean real maximum benefit rates do not show the evidence that the benefit cut positively influenced labour supply.

However, due to the recession during the reforms, this could have understated the reforms effect on the labour supply. Hence, the author runs a regression analysis controlling for other factors such as economic condition and therefore isolate the effect of this specific welfare reforms on labour supply could be isolated from those factors. The author writes the labour supply (measured by labour force participation rate, weekly hours of labour supplied and proportion of individuals in a cell who were either working or studying when they were out of the labour force) as a function of quarterly dummies, demographic characteristics such as age and education, natural logarithm of weekly benefit and changes in eligible ages of three main welfare programs. The results show benefit cuts would increase labour force participation as well as weekly hours supplied.

Moloney (2000) re-examines the welfare effect on labour supply in New Zealand labour market using a regression analysis to isolate the welfare effect resulting from the welfare reform in 1990s. However, this paper pays more attention to the unemployment rate. The author attempts to answer the question of whether or not the generosity in the welfare system could lead to the increases in the unemployment and whether or not the benefit cut in 1991 could lead to lower unemployment rate. He uses the same logic, methodology and data source as his 1999's paper in essence he takes advantage of the fact that the structure of New Zealand's welfare system is not very complicated which helps reduce the problem of measurement errors and the reforms were not uniform across demographic groups. The author creates dummy variables for each quarter over the sample period to hold constant time specific, group-invariant factors in his regression analysis. The author states that this regression specification is only feasible in panel nature of New Zealand's data. These help reduce the problems of omitted-variable bias in essence it helps reduce the possibility that the benefits variables might proxy for other factors such as economic condition. Three measures of "economic inactivity" that could be affected by the reforms the author is interested in finding are the unemployment rate, the joblessness and non-participation rate. Like his paper in 1999, the time series of these three economic inactivity and changes in the benefit system do not show irrefutable evidence that the reforms reduced economic inactivity. Hence, the regression analysis is needed. The author finds no evidence that the reforms reduced unemployment rate but the reforms actually increased the unemployment rate by 0.25 percent. He also finds that the reforms decreased other two aspects of economic

inactivity, which are joblessness rate and non-participation rate by one-tenth of a percentage point and 3.2 percentage points respectively.

3.2: Impact of welfare and tax systems on marriage and relationship formation decision found overseas.

There has been a significant amount of research on the disincentive effect of welfare benefits on labour force participation[31]. In contrast, the research on the impact of the welfare and tax credit policies on family formation and childbearing issues are more of a new breed, and thus, there has been a smaller volume of literature on the effect of the welfare and tax credit policies on the family formation.

Although there has been quite a large body of research that has examined the *"welfare effect" hypothesis* of whether or not welfare and transfer policies have any impact on family formation and family structure for the past couple of decades, there is still no consensus on the issue[32]. Thus, the general finding is that welfare and transfer policies have some impact on the family formation and fertility issues; however, the directions and magnitudes of the impact are relatively varied[33].

Prior to the 1970s the results were confusingly mixed and thus they could not yield a consensus of both the direction and magnitude of the impact of the welfare and transfer policies on family formation[34]. However, many studies conducted during the 1980s tend to provide much less confusing and much more consistent evidence that the welfare and transfer policies are believed to have a small but positive and significant effect on female headship decision among low income women with children[35]. This is because data sets have gotten better over time in terms of the richness of information collected and also, there has been an improvement in the econometric methodology and techniques used in the analysis. This literature review will only examine those studies from the 1980s onward.

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[31] See Hoynes, 1996, p. 21-25, Moffit, 1992, p. 2
[32] See Hoynes, 1995, p. 6; Hoynes, 1999, p. 11; Murray, 1993, p. s225; Moehling, 2005, p. 1.
[33] See Moffitt, op. cit.
[34] See Ibid, p. 30-31
[35] See Moffitt, op. cit. p. 27-31 and Hoynes, 1996, p. 11

Also, some studies suggest that the more variables such as ethnicity, employment opportunities, race and age are controlled for in the study, the more the estimated welfare effect becomes weaker, and in some cases the effect is insignificant[36]. There are a number of studies that found some welfare effect on the marital decision of women. Moffitt (1944) illustrates the importance of the inclusion of area/geographic effects in the estimation of welfare effects on female headship decision in America. In essence when the area/geographic effects are included, the signs of benefit coefficients found in cross-sections are reversed, or the significance of the coefficients is greatly reduced. The author introduces the state-specific (area) effect, which in this case is the presence of the AFDC-UP which is not available in every state as well as five labour market factors including unemployment rates, percents of employment in manufacturing, wholesale and retail trade, services and government, into similar reduced-form equations found in other studies in this area and conducts a regression analysis. These reduced-form equations control four main economic and demographic factors impacting the welfare effect including age, wage, opportunity and so forth. The author uses data from March Current Population Survey from the year 1968 to 1989 because it is the only data set that provides sufficient sample size with state-specific effects. He narrows down the target population to women who are either a house or subfamily head with children aged below 18 years old, whose spouse is absent. The main sample includes black and white women aged between 20-44 years old with less than 12 years of education so that the analysis can focus on those who are the most likely to have the higher AFDC participation rates. The test sample includes women aged between 16-59 years old of all educational levels. Hence, if the effects are true, the magnitude should be larger in the main sample than the test sample. The benefit variable is the sum of AFDC, Food stamps and Medicaid benefits. The results are different between white and black women. For white women, the findings show positive welfare effect in cross-section analysis and negative welfare effect in time-series analysis, which was expected. After some additional state-specific variables are included, the significance of the effect is dramatically reduced, but still significant. These coefficients are much smaller in magnitude in the test sample. Interestingly, when state fixed effect is included in the regression the coefficients of the welfare effect have their signs reversed; changing from positive to negative. However, note that this finding assumes no state variance. This could be due to unmeasured and uncontrollable social norms and values, which differ

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[36] See Haaga and Moffitt, 1998, p. 7

among states. For black women, even though the results show a positive welfare effect, they show weaker and less significant correlations in the cross-section analysis compared to white women. This is not expected since black women form a larger proportion of beneficiaries than white women. Moreover, after state-specific variables are included, the significance of the welfare effect coefficients is retained. However, the positive welfare effect vanishes once the contemporary benefit levels are replaced by lagged benefits. Moffit (1998) reviews more recent studies on the subject, which use cross-sectional data, and concludes that while there are some correlations between higher levels of welfare and lower marriage rates, the magnitude of the impact is considerably smaller and arguable. Additionally, the impact of specific programmes may vary depending on the group being studied.

On the other hands, there are also numerous studies that found insignificant welfare effect on marital decision. For example, Dickert-Conlin and Houser (1999) examine the impact of Aid to Families with Dependent Children (AFDC) on female headship decision in the U.S. The AFDC provides cash assistance to low-income families with dependent children. Historically, AFDC[37] has been approachable toward single-parent families than traditional two-parent families. In essence, it requires that the child has to be deprived of support from a parent due to death, incapacity and divorce/separation. However, for two-parent families to be eligible for AFDC, they must satisfy a work history requirement and are not allowed to exceed 100 hours of work per month while receiving the benefits. This eligibility to two-parent families was in place in 1988 and the programme is referred to as AFDC-UP (AFDC Unemployed Parent). The authors employ data from the Survey of Income and Programme Participation (SIPP). They find an insignificant impact of AFDC on female headship. Consequently, Moffitt (2001) reexamines the time series of changes in female headship and variation in real benefits with more attention paid to the role of wages as trends in headship explanation. The author includes male and female wages as the correct specification. The motivation behind this study arises from the inconsistency of the signs of the welfare effect on

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[37] AFDC assistance was funded by the federal funds to match each state's expenditures on the programme and the eligibility criteria are set by the federal government. AFDC was replaced by the Temporary Assistance to Needy Families (TANF) on the 1st July 1997 which provides states much greater latitude in determining eligibility and benefit levels through the block grant system (Haaga and Moffitt, 1998). For more information on AFDC and TANF see
[http://en.wikipedia.org/wiki/Aid_to_Families_with_Dependent_Children] and
[http://en.wikipedia.org/wiki/TANF] respectively.

female headship between cross-sectional and time-series studies. He uses data from March Current Population Survey (CPS) from 1986 to 1996. Only men and women aged between 18-65 years with less than high school qualification are chosen. The author stratifies the sample in each year by birth cohort and race (only black and white are included). For each birth cohort and race in each year, a mean male and female wage rate and a female headship rate are calculated. Hence, the author derives a time series data of female headship, male and female mean wage rate and welfare benefits for less educated males and females for 1986-1996. The author plots the graphs of the changes in trends of female headship and benefits to show the changes in time-series form, the graphs reveal that prior to 1976 the two variables showed a crude positive correlation. In essence both variables were on a rise; however, the correlation disappeared thereafter. After running a regression analysis, with AFDC and Food stamp included, the welfare coefficient is positive prior to 1976 and turns negative thereafter. When Medicaid is included in the regression, the coefficient is positive before and after 1976 but is very weak and insignificant after 1976. Then, the author add female wages into a time-series headship equation and finds that it reverses the AFDC coefficient from negative to positive after 1976 and makes the positive coefficient prior to 1976 more positive. Moreover, after adding the male wage, the benefit coefficient becomes more positive. Therefore, the author concludes that male and female wages could explain the inconsistency between cross-sectional and time-series correlations. Additionally, his results show that the decline in the male wage for less-educated men has impacted female headship rates than an overall upward trend in female wages, therefore, male wages might play a crucial role in explaining the changes in headship trends in time-series, this characteristic applies to both black and white samples.

Additionally, Hoynes (1995) claims that early studies could not reach a consensus on the welfare effect on partnership formation for three possible reasons: (i) the largely unobservable social norms, cultural effects and religious influences in different states, (ii) endogeneity of state policy and (iii) the omission of individual effects. In her view, state effects include the policy endogeneity and individual effects through the different composition of the population across states that in turn influence the generosity of welfare benefits in each state. Therefore, by not controlling for state fixed effects, the results of how welfare impacts female headship decision can be biased. In her study, she finds that once the model is correctly specified to include individual effects, the welfare

programme does not explain the increasing incidence of female-headed households for either blacks or whites. Hu's study (1998) also provides new evidence for the AFDC effect on marital decision of poor women. He conducts a different experiment to test the welfare effect. He does not rely on women's responses to year-to-year change in benefits across states like other studies. He conducts a randomised experiment in California that creates exogenous variation in welfare benefits. He recognises certain circumstances that would allow women to receive the benefits and is able to distinguish between the transitions into and out of marriage. His findings suggest that incentives created by the AFDC influence women's marriage decisions, especially among poor women; higher AFDC benefits significantly increase divorce rates for poor two-parent families. The effects are larger if a woman is in a higher-benefit regime for longer periods of time. However, he finds no evidence that higher AFDC levels either encourage or discourage marriage among single-parent families.

There have not been as many studies of the impact of the tax system only on family formation decisions in comparison to that of the welfare system. One interesting paper is by Ellwood (2000) who examines how the expansion of the Earned Income Tax Credit (EITC)[38] might impact relationship formation as well as work incentives. The author conducts the "difference-in-difference" by exploiting the fact that changes in the EITCs would impact different groups of people differently. He claims that EITC negative impacts working single parents while positive impacts low-wage non working single parents. Theoretically, EITC could either positively or negatively impact marital decision depending on individuals. He suggests that if forming a union, results in the household's income falling in the phase out range, this obviously reduces the incentive to get married. However, for some people, especially low-income earners EITC would result in additional household's income which in turn could influence the second earner in a family to alter their working behaviour. For instance, if EITC increases total earning of a husband, a low-income wife might consider working fewer hours or in

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[38] EITC is a refundable tax credit which is designed to reduce or in extreme case eliminate taxes that low-income people pay. Also, in some cases, EITC acts as a wage subsidy to some low-income earners. EITC has undergone a couple of expansions in 1986, 1990, 1993 and 2001. EITC is believe to be today's one of the largest anti-poverty tools in the U.S. The credit is separated into three phrases (i) phrase-in range where the credits increases as the earning increases, (ii) plateau range where the maximum credit is earned and any additional income does not affect it and (iii) phrase-out range where the credit decreases as the earning increases. Note that the credit rates depend on numbers of children as well (Wikipedia: EITC)

some extreme cases quitting her job, this could help reduce stress in a family in various ways. Therefore, in this context, EITC could result in higher incentive to get married.

The author uses data from Panel Study of Income Dynamics (PSID) to observe 1,671 marriages between 1983 and 1991. This time frame was chosen in order to avoid behavioural changes of people in the sample due to the changes in EITC introduced in 1996, the crucial fact of which could have caused misinterpretation of the real EITC effect on marital decision (this method helps avoid the endogeneity of marriage cost measure with marriage decision which was ignored in Eissa and Hoynes, 1999 above). The author conducts a natural experiment based on the fact that in 1990s American social and tax policies went under major reforms with EITC expansion and tightened welfare programs. Hence, very low-income non working women who are on benefits would have higher incentive to get married than ever since benefits are less available and EITC rewards marriage of working childless individual and non-working parent. On the other hand, skilled women with relatively well paid jobs are more likely to receive marriage penalty caused by EITC. The author finds that after controlling for year effects the marriage rate of low educated women is not relatively higher than high educated women as expected. However, he suggests that the EITC expansion should encourage cohabiting couples to have higher incentive to marry. After the observation, the author finds that in the data cohabiting couples show higher rate of marriage, suggesting the EITC effect on marriage. However, the author suggests an analysis using longitudinal data needs to be conducted in order to provide more convincing test of the impact of EITC on marriage decision.

Dickert-Conlin and Houser (1998) use the sample of low-income families with children from the Survey of Income and Programme Participation to calculate the marriage subsidy/penalty in association with the AFDC (the predecessor to TANF), Food stamps, Supplemental Security Income and federal and state income taxes. They found that marriage results in marriage penalty for some groups of people such as low-income women. Although the calculations in these two papers are factual, there was no empirical evidence on whether or not these marriage subsidies result in changes in marital behaviour of low income families. Also Dickert-Conlin and Houser's study (1999) attempts to investigate the impact of Earned Income Tax Credit (EITC) on female headship decisions by employing data from the Survey of Income and

Programme Participation (SIPP). Before controlling for individual effects, the EITC's impact on female headship was ambiguous. However, after the individual effects are controlled for, they find that ETIC's impact varies depending on the ethnicity of women in the sample; higher EITC results in higher female headship rates for white women and lower female headship rates for black women. Then Dickert-Conlin and Hauser (2002) re-attempt to find the existence and magnitude of the welfare effect. They parameterise the financial incentive caused by AFDC and EITC and establish a connection between these changes and changes in female headship in America. The authors use 1990, 1991, 1992 and 1993 panels of SIPP which provides longitudinal data controlling for individual fixed effects as suggested by Ellwood (2000). They use aggregate measure of AFDC and EITC generosity to run a regression analysis and find a little impact of EITC on female headship. The authors narrow down the sample to women aged between 18-50 years dropping those who are widows and have their marital status changed from married to not married to avoid bias and confusion. Also, they exclude women who report an increase of more than 2 years of education in a one year period or a decrease in years of education. The authors state that families with children are chosen in their study because they receive the largest EITC and hence should be mostly affected by changes in EITC. In order to control of endogeneity of marriage decision as a result of changes in EITC, the authors assume that the state and federal laws are exogenous to individual behaviour and hold constant each woman's family, demographic and income characteristics from the first year a woman is in the sample and calculate what would her EITC has been in later years if all the characteristics are maintained. The authors employ the two-stage least square approach for their estimation. They find a very small negative EITC effect on marriage decision for the overall women with children sample. However, after controlling for individual fixed effects and endogeneity, the authors find that EITC has no effect on the decision. Hence, they run the same regression on other two samples, which are women with children who were married and women with children who were unmarried in the first period in SIPP panel. For the sample of women with children who were married in the first period in SIPP panel, after controlling for individual fixed effect and endogeneity, an increase in EITC encourages married women to remain married but the economic effect is small. For the sample of women with children who were unmarried in the first period of SIPP panel, the results are similar to those married women with children but the coefficient of the EITC effect is

statistically insignificant at standard levels. However, this analysis uses a reduced form specification, which seems to influence the results to an extent.

Eissa and Hoynes (1999) attempt to examine the impacts of tax and transfer programs, mainly EITC, on marital decision of females in America using the 1985-1998 March Current Population Survey (CPS). They state that because EITC is based on family income and has the same schedule applied to all taxpayers with children regardless of their marital status, hence EITC is non-marriage neutral. The authors estimate a discrete choice model of propensity to be married taken into account the changes in EITC and transfer system. Basically, this study employs the changes in marriage tax consequences and changes in propensity of marriage over time to reveal whether EITC could impact marital decision of American women. Hence, the authors model a marriage decision as a function of tax-transfer cost of marriage, individual and marriage market characteristics. They use variation in taxes from tax Acts between 1984 and 1997 to identify tax-transfer consequences of marriage. The authors include the state-fixed effects in their regression analysis since it has been testified in earlier studies that the effects could bias the findings of welfare effects. They employ the stock rather flow concept of marriage due to some limits in the data panel; in essence it is very small and offers a few transitions crossing states. The authors calculate the marriage subsidy/penalty and find that over time the subsidy and penalty has changed differently depending on the income and composition of each family but overall the likelihood of facing marriage subsidy has declined. And after examining marriage trend over the study periods, the authors notice a dramatic decline in the marriage rates among less educated men and women. They find a very modest tax-transfer effect on the decision. In essence, if excluding transfer program mainly AFDC in the analysis, a reduction in EITC marriage penalty by $1,000 would increase the marriage propensity by 1.3 percent. However, if including transfer in the analysis, a reduction in EITC marriage penalty would raise the marriage propensity by 2.4-3.3 percent. Also, the authors find that on average EITC seems to promote marriage among couples with annual income less than $25,000 and seems to discourage marriage among couples with annual income greater than $25,000. Similar to most studies in this area, the results are different between black and white females in essence that tax seems to be more important to

white women while transfer payments are more important to black women. However, this study ignores the endogeneity of tax costs measure with marriage decision.

Alm, Dickert-Conlin and Whittington (1999), offer a theoretical framework for how both tax and welfare systems could impact marriage through either the marriage subsidy or penalty[39]. Moreover, they also suggest which population groups are more likely to be impacted by these marriage subsidies and penalties. They provide the hypothetical couples with different levels of earnings, and analyse how changes in earnings would impact relationship formation decisions of individuals due to the marriage penalties and subsidies arising from the EITC and Temporary Aid to Needy Families (TANF). They conclude that, theoretically, marriage penalty seems to be incurred by people with similar earnings because their combined income is more likely to push them into a higher tax bracket and face the phase-out range of the EITC than when they are single, and they also pay more income taxes as a married couple. In contrast, any two people with dissimilar levels of earning will receive marriage subsidy, especially if one has no earnings or receives a very low wage. This is because the spouse with higher income will automatically be moved into a lower marginal tax bracket applicable for both the EITC and the income tax. Thus, the combined tax burdens of the two partners can be substantially reduced. For TANF programme, its eligibility is not based on legal marital status but on living relationships. TANF assumes that unrelated individuals do not provide financial assistance to the TANF unit even if they are cohabiting. In contrast, it assumes that related parents do contribute financially to the household. Thus, they conclude that when low income sole mothers marry either the natural father of their child or an unrelated male with dissimilar incomes, it can result in large penalties in the transfer system. This also happens in conjunction with large subsidies in the income tax system. Alm and Whittington's study (1999) employs individual longitudinal data from the Panel Study of Income Dynamics and find that probability of marriage is reduced as the marriage penalty increases, with a 10 percent increase in the marriage penalty resulting in a 12.5 percent fall in the probability of the first marriage.

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[39] A negative change in income after marriage is referred to as marriage penalty, whereas, a positive change in income after marriage is marriage subsidy.

The Temporary Assistance for Needy Families (TANF) was established to replace the AFDC in 1997 as well as a launch of the Job Opportunities and Basic Skills Training (JOBS) programmes. It was a respond to much criticism and concern of the unintentional impact of the welfare system including disincentives to work, welfare dependency and the implicit disincentives effect on family formation and fertility decision. Thus, the government enacted the new federal law called Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), which was designed to minimise these problems if not eliminate them. Additionally, prior to the PRWORA, in early 1990s many states were granted waivers so that they could have some authority to amend their AFDC programmes. Half the states adopted some sort of waiver between 1993 and 1995. The main features of both PRWORA and state waivers include work requirements, financial sanctions, time limits, liberalised earning disregard (in essence that lower tax rates on earned income was implemented while people were on benefits so that they had more incentive to work), increased limits on assets and expanded eligibility for two-parent families. Consequently, the PRWORA and state waivers resulted in numerous fundamental changes in most welfare programmes' eligibility requirements and their payments mechanism[40].

There have been numerous studies conducted to examine whether or not the reform had any influence on marital and childbearing behaviours[41]and the findings have been mixed depending on various factors, including which programmes established after the reform were being examined and the ethnicity of the individuals in the sample. The following section summarises the empirical evidence of how the welfare system might impact marital decisions, especially of women. Fitzgerald and Ribar (2001) examine how welfare reform waivers impact female headship decisions of mothers. Their study controls for confounding local economic and social contextual conditions. They use data from 1990, 1992 and 1993 panels of the Survey of Income and Programme Participation (SIPP) and employ proportional hazard models to measure the entry and exit from female headship and they also estimate models for levels of female headship to find that work encouraging waivers are associated with lower levels of female headship. However, the evidence is rather limited. Additionally, they find that other

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[40] See PRWORA [online]; Bitler et al, 2004, p. 216; Gennetian, 2003, p. 3
[41] Explicitly measuring the welfare effect by either examining the reform as a whol, or specific programme implemented after the reform.

waivers including family caps, teenage co-residence requirements and termination limits have insignificant effect on lowering the number of single-parent families.

Bitler et al (2004) specifically analyse whether or not the welfare reform increased people's incentives to marry. They use data on marriages and divorces during 1989-2000 periods to study the influence of welfare reform including state waivers and the TANF and other state-level variables, on flows into and out of marriage. The results indicate that both state waivers from the AFDC programme and the PRWORA results in fewer new marriages and fewer new divorces. However, the results on marriage are quite sensitive to the choice of specification. They suggest that this can be a result of the greater financial dependency of low income women channelling through the new emphasis on work. Consequently, this could discourage women to seek a partner to get married to. Similarly, Acs and Nelson (2001) use data from the National Survey of America's Families (NSAF) to examine whether or not changes in living arrangements in American families could be explained by the PRWORA, which has explicit goals of encouraging marriage and maintenance of the traditional two-parent families. They find that a reduction in sole parent families is more apparent among those who are more likely to be affected by the act. Moreover, their study shows that there is an increase in the proportion of children living with parents who are cohabitating and a less apparent increase in those living with married parents. They claim that these changes are more pronounced mainly in the years following the introduction of the PRWORA. However, these results are not definitive since there could have been other unmeasured factors behind the changes such as changes in parenting attitudes and economic growth. These two authors subsequently conduct another thorough study in the same area. Acs and Nelson (2004) conduct a multivariate difference-in-difference using 1997 and 1998 NSAF, which provides information regarding household composition and the living arrangements of children in 13 states. They mainly focus on low-income families who are more likely to be affected by the welfare system. They find that more effective collections of child support and family cap policies have some correlations with lower sole parent families and higher two-parent families. However, the authors suggest that these results need to be interpreted with caution because the data used in their study is only a short time after the 1996 welfare reform. Therefore, longer term impact of the reform is still in question.

There are some other studies that find no impact of the reforms on the family decision. Kaestner and Kaushal (2001) design a quasi-experiment to analyse the impact of the welfare reform on marriage rates. They use the US Current Population Survey from the year 1994 and 1999 specifically choosing three groups of low-educated women aged between 18 and 44 years who are foreign-born citizens, foreign-born non-citizens and native-born citizens from. Their findings suggest that the TANF reforms and the AFDC waivers have no effect on marriage decision of native and foreign-born citizens. However, Schoeni and Blank (2001) conduct a study of the impact of the waivers and the 1996 welfare reform on sole parenthood and marriage rates and find that both the waivers and the 1996 welfare reform are associated with higher marriage rates and reductions in the levels of sole parents. They control for the differences between waiver and non-waiver states (in essence that waiver states show a worse economic performance) and education, unemployment rates and employment growth rates which could bias the welfare reform effect. They nevertheless note that the mechanism by which these impacts take place is not clear. It could be a result of changes in attitude and social norms, which are not controlled for in the study and thus interpretation of the welfare reform effect requires us to take these into consideration.

Gennetian (2003) provides a systematic review of various studies on the effect of welfare reform policies on marital behaviours and cohabitation decisions among single parent families. Different studies offer different findings and even though some subtle effects of the reform on marriage and cohabitation among single parents can be found, some of the best evidence from the studies in her analysis suggests that the effect is rather small and insignificant. Consequently, if policy makers desire to increase the marriage rates, they will need to design new policies beyond what was established in the 1990s reform. After the analysis, she concludes that the incremental differences in welfare and employment policies are not the primary determinant of single parents' marital decision-making. Moreover, the reform was intentionally designed to affect employment, income and receipt of public assistance and the economic incentives provided by the reforms are not sufficient enough to influence marital behaviours.

3.3 Impact of welfare and tax systems on childbearing (fertility) decision

Note that as it is previously mentioned in the introduction chapter that child bearing decision that could be influenced by the welfare and tax systems is not the main focus in this study.

In the context of how welfare can impact women's decisions regarding fertility and childbearing, the findings have been generally inconclusive, with some studies finding that there is a small impact while others finding no impact at all. As with the impact on the marital decision, the findings of welfare effect on fertility decision vary depending on ethnicity. However, it is argued that many studies in this area leave open questions of causality and the directions of influence of welfare programmes of interest. Consequently, the findings are considered as indicative rather than definitive.

Robin and Fronstin (1993) attempt to investigate whether or not changes in AFDC benefit levels could impact the family size decision of non-married women. They employ Current Population Survey data for the years 1980 to 1988 to conduct a Poisson regression analysis controlling for other factors that could bias the effect of the AFDC. The authors find the AFDC benefits effect varies depending on the education levels and ethnicity of mothers. In essence, that basic AFDC benefits do positively impact the family size of low-income non-married white and Hispanic women but not for black women. However, they find that the additional AFDC payments do not have any impacts on family size decision and therefore suggest that eliminating or reducing the additional payments would not necessarily reduce the out-of-wedlock birth rates. moreover, the authors find that the basic AFDC benefits do positively impact the familiy size of high school dropouts whereas they do not impact high school graduate. Therefore, the authors suggest that the AFDC should be restructured in such a way that it encourages women to finish high school. They thus conclude that the results of welfare programmes on fertility and family size have been mixed, and there is no overall clear-cut direct relationship between AFDC (benefit levels or differentials) and family size.

Schultz (1994) investigates whether or not the increases in the out-of-wed-lock child birth could be caused by the generous welfare benefits. He examines this in conjunction

with the changes in the labour market which result in the variation in the market wage opportunity to both women and their partners. In essence, the wage variation of both women and partners are controlled in order that the welfare effect could be isolated. The author does not restrict his sample only among teens and he also studies the fertility behaviour of unmarried along side with married women. He claims that this could reduce unbiased estimation of the welfare effect. He includes the AFDC, food stamp, Mediaid and Unemployment Parent benefit (UP) in his study. He employs the data of black and while women from the 1980 US census. Both Tobit and OLS regression are tested. However both of them give out very similar results, therefore, the author only reports the OLS results which are easier to interpret. He finds that the AFDC effects are negative and statistically significant only among the women in the 15-24 age groups, while Medicaid has consistent negative effects on all age groups of women. Nevertheless, the author suggests that because the effects size are modest, therefore, the claimed unintended welfare effects on fertility of low-income women are not responsible for the alarmingly increases in the out-of-wedlock childbirths.

Acs (1994, 1996) investigates whether or not the baseline benefits and the incremental benefits paid to the second child would create an incentive for low income mothers to have more children. He conducts a discrete time hazard model using data from National Longitudinal Survey of Youth (NLSY). He uses the model to estimate the problability that a birth takes place at a specific time, conditioned on the fact that it has not already taken place. He finds that when the state fixed-effects are not controlled, there is no evidence that both the baseline benefits and the additional benefits paid to the subsequent child impacted women aged below 23 years old to have the second child. As a result, he suggests that the welfare reforms which would put some restrictions on benefits for young mothers who are already on the benefits might not be very effective.

Lundberg and Plotnick (1995) develop an empirical model of premarital childbearing for young women in which premarital pregnancy, pregnancy resolution and the occurrence of marriage are all decision variables. They include state welfare as well as abortion and family planning policies as independent variables since all these programmes can alter both the costs and benefits of the decisions. They employ data on young women from the National Longitudinal Survey of Youth (NLSY). They find that for young white women, all three variables: welfare, abortion and family planning

policies, do have significant effect on premarital pregnancy, pregnancy resolution and the occurrence of marriage before the birth. In contrast, they find no evidence that young black women respond to these variables when making decisions regarding fertility. Similarly, one of Plotnick's studies in 1990 finds that, after conducting a regression analysis, the AFDC programme could cause young white women to have an incentive to have out-of-wedlock childbirths. However, he does not find the same effect among young black women. But he notes that this could be because the young black women sample is smaller than that of the white. He uses the data from the National Longitudinal Survey of Youth from 1979 to 1984.

Fairlie and London (1997) investigate the relationship between incremental AFDC benefits and births of subsequent children, to reflect the increase in family size. They use micro data from the 1990 Panel of the Survey of Income and Programme Participation (SIPP) for the sample of their study. They include women aged between 15 and 44 years old who have at least one child. They employ a logit equation to estimate the probability of a higher-order childbirth among the sample. They firstly found a positive coefficient estimate on the additional AFDC payment to the second child. However, they could not tell whether or not this could be because the omission of important immeasurable state-level or family size-level characteristics. As a result, they need to compare their finding with a control group: a nonrecipient group. Their findings indicate a positive but statistically insignificant effect of the incremental benefit levels of the AFDC and fertility on NONRECIPIENT groups. The effect of the non-recipient groups is larger than the positive correlation for AFDC recipients. Consequently, they infer that the family caps, designed to eliminate the additional financial gains from subsequent children, should not have a large impact. An anonymous author[42] conducts a study using data from the National Longitudinal Survey of Women. The author attempts to examine the impact of both the level of AFDC benefits and the increment, conditional on subsequent births as well as the effect of benefit policy and childbearing on AFDC recipients. After using a single-equation probit to estimate the effects, the author finds that childbirths which do occur are positively correlated to the incremental AFDC benefits. However, AFDC female recipients are NO more likely to give birth compared to non-participants, over the five years of the study. Additionally, after a nested logit framework is employed so that birth and welfare participation decisions can

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[42] Clevelandfed.org/research/workpaper/index.cfm

be estimated sequentially, the evidence supports the claim that AFDC benefits are found to be an important factor determining the post-birth participation decision. This finding supports the hypothesis that AFDC encourages subsequent childbirths of AFDC recipients.

Gauthier and Hatzius (1997) conduct a regression analysis based on differences across countries in the levels of government financial assistance for families in 22 countries including New Zealand, from 1970 to 1990. They examine cash benefits such as family allowances and maternity leave, both the length and level, and their impact on the fertility decision simultaneously. However, they exclude benefits related to childcare, housing, education, health and low-income and single-parent benefits. They find that maternity pay has an insignificant impact on fertility levels while higher cash benefits are associated with a significant and positive impact on fertility. Moreover, the impact of cash benefits is greater for the first child compared to that of subsequent children. Nevertheless, the impact is relatively small. Rozzelle (2003) examines cross sectional data on out-of-wedlock childbearing from 50 states in the U.S. for the year 2000. He attempts to account for differences in the percentage of unwed mothers across the 50 states by using per capita income, percentage below the poverty level, race/ethnicity (percentage Asian, percentage African-American and percentage Hispanic), percentage of the population without high school degree and welfare payment levels as control variables. His findings suggest that while per capita income, race/ethnicity and poverty levels have quite a significant effect on out-of-wedlock child birth, surprisingly, the levels of government financial assistance have an insignificant effect.

Moreover, Robins and Fronstin (1993) investigate the correlation between welfare benefits and family-size decisions of never-married women. They examine whether or not AFDC benefit levels are systematically associated with a larger family size of never-married women. They apply a Poisson regression model to the Current Population Survey data from the years 1980 to 1988 and find that the welfare effect varies depending on ethnicity of never-married mothers. For white and Hispanic women, the findings suggest a positive welfare effect on family size, whereas there is no evidence of a relationship for black women. Nevertheless, the study finds virtually no effect of incremental AFDC levels on family-size decisions, implying that elimination

of these increments will not significantly reduce the number of illegitimate births. Moreover, the basic AFDC benefit levels do positively affect the family-size of high school dropouts but not of high school graduates suggesting that altering AFDC benefit structure in such a way that single mothers are encouraged to complete high school may discourage out-of-wedlock births. The authors caution that selection into education may be an important factor, in which case a targeted policy might not have an effect at all on out-of-wedlock childbirths.

The following summarises the evidence of the welfare reform and its impact on fertility decisions of low-income women. After the reform, the main programme established to impact on the fertility decision and adopted by numerous states was family caps, which was designed to reduce fertility among benefit recipients. It is believed to reduce fertility by means of financial penalties; if a mother on welfare has a subsequent child while on benefits, her benefits do not rise with the extra child. Consequently, the costs incurred from a bigger family size are not covered by family cap policy. Time limit policy was another government policy after the reform in 1996, which is believed to have some effects on fertility decisions. Time limits eliminate benefits as a means of long-term income for AFDC recipients and thus implicitly makes having children become rather expensive. Nevertheless, most studies either find no or insignificant effects of the reforms on the fertility.

Horvart and Peter (1999) investigate which welfare waivers are effective at reducing the out-of-wedlock childbirths and how it differs across races and age groups. Their study is based on state-level panel data for the year 1984 to 1996. They include two groups of women in their study: women aged between 15-19 years old and women aged between 20-49 years old. Three racial groups are included: all women (white, black, Asian and others), white (white Hispanic) and black (black Hispanic). Their regressions for each age group and race have the following as the independent variables: (1) sum of the AFDC and food stamp guarantees for a family of three; (2) state poverty rate; (3) number of AIDS cases reported in each state weighted by the state population; (4) ratio of whites to blacks in the state's population; (5) number of abortion providers in the state per 1000 women of childbearing age; (6) the proportion of the state's population that adheres to a religion defined as "fundamentalist" 10; (7) the high school completion rate among 18-24 year olds not currently enrolled in high school; (8) the proportion of

the population that lives in an urban area; (9) a binary variable which equals one when sexuality and sexually transmitted disease education is required in state public schools; and (10) state and year dummies to account for unobserved heterogeneity across states and time. After conducting the regression analysis, the authors find that some welfare waivers have a negative correlation with out-of-wedlock childbirth. They suggest that family cap may be effective at reducing the non-marital childbirths. Time limits do not seem to have a long term effectiveness in reducing the non-marital childbirth. They also find that the negative coefficient of the AFDC-UP is only limited among the 15-19 years old women.

Dyer and Fairlie (2003) find an opposite finding from that of the previous research. They employ Current Population Survey data from 1989 to 1999 to examine the impact of family caps on non-marital birth rates. The authors include five states in which family caps were implemented as "natural experiments" by comparing trends of non-marital birth rates in these five states to trends in states where family caps were not imposed, as well as other waivers prior to the PRWORA. They use a difference-in-difference estimation approach, by including multiple comparison groups and controlling for differential time trends. They find no evidence suggesting that family caps reduced out-of-wedlock childbirths among single and less educated women with children. Hoynes (1996) also supports this finding.

Joyce et al. (2004) use birth and abortion records from 24 states in the U.S. to examine the effect of family caps on fertility rates. They differentiate women who are at high risk of government financial assistance by using age, marital status and levels of schooling. They also use number of previous live births to identify those who are most directly impacted by the family cap. The authors find that both states with and without family caps have a similar pattern of births and abortions; birth rates fell more and abortion rose more among women with high risk who at least had one previous live birth compared to childless women. Thus, the authors conclude that while the effects of welfare reform are different between mothers and childless women, there is no convincing evidence of an independent effect of the family cap.

Muljo et al (2003) conduct a difference-in-differences estimation to investigate the relationships between time limits on out-of-wedlock childbirths. They get the sample

from the Current Population Survey March Supplement data. They use three different treatment/control groups: single/married, poor/rich and welfare-recipients/non-recipients. They find no evidence that time limits reduce out-of-wedlock childbirths among teenage girls. Consequently, they suggest that time limits may as well create more financial burden on low income women since they make it more difficult for these women to support themselves and their children.

Noticeably, there are quite a number of studies conducted on the influence of the income tax system alone and in conjunction with welfare systems on the decisions to form a family for low income individuals through the marriage subsidy and penalty. In contrast, research on how the combination of welfare and tax programmes can impact fertility and child rearing decision is significantly less thoroughly documented. One of the papers in this area is by Baughman and Dickert-Conlin (2003), who investigate whether or not the expansion of the EITC promotes motherhood. They hypothesise that since the EITC expansion in credit largely restricts eligibility to family with children, this may encourage childbearing especially among those with low income. They examine birth rates during 1990s, the first births of women from U.S. birth certificates between 1990 and 1999 maintained by the National Center for Health Statistics. The authors choose a sample of women with less than a college education since they are most likely to be affected by the EITC expansion. The authors control for state and demographic characteristics and employ variation in state EITC programmes over time to identify the EITC effect on fertility of women in the sample. Their findings suggest that EITC is positively and statistically significant, and affects the first birth rates among non-white, married women which is contradictory to most of the welfare literature that finds larger effects of transfer on fertility for white women. The authors suggest that the different findings could be because of the fact that the EITC works through the labour market and white and non-white families may be different in terms of their earnings and labour force participation.

Baughman and Dickert-Conlin (2003) conduct the study to answer the question of whether or not EITC actually increases fertility due to its generosity to families with children. They suggest that due to the EITC expansions in 1990s, the incentives to have children for certain recipient groups increase. However, due to the complexity of the EITC's effects on subsequent children seems to be quite complicated, the authors only

focus their study on the first birth. The authors use the birth rate data over 1990s from the US birth certificates from 1990 to 1999, controlling for state and demographic characteristics. Then the authors exploit the variation in EITC over time to identify and compare the changes in the birthrates and the changes in EITC to capture the connection between these two variables. The authors narrow down the sample to only low educated mothers with one child. In order to control for population differences across different states in the study, the authors divide the sample in to different cells and normalize them by a measure of "at-risk" population results in a total of approximate 20,000 cell observations. Similar to most studies in this area, the trends in fertility rates differ among races. For white women, the first birth rates in states with EITC are lower than those without EITC throughout 1990s and both trends have stayed relatively unchanged. In contrast, for non-white women, the first birth rates are higher in states with EITC than those without and the trend in states with EITC has grown noticeably faster than states without EITC. The results found in non-white women sample suggest some effects of EITC on the first birth decision. Then the authors turn to a regression analysis to properly estimate the EITC effect on fertility. They include other policy variables which could influence fertility decision such as AFDC/TANF. All policy variables are lagged by one year. The authors split the sample by races since most of earlier studies show that results vary by races. Also, they split the sample by marital status since EITC applies to different status differently. They find that for white unmarried women, EITC has a small negative impact on the first birth rate whereas it has an expected negative impact on the first birth rates of non-white unmarried women. Both groups, however, show a very small economic significance. For married women, EITC positively impacts both non-white and white women's first birth rates. This study's findings are different from others study of EITC's impacts on family and fertility in essence the EITC effects are larger among non-white rather than white families.

Another study is by Milligan (2005) who examines the impact of a non-taxable 'baby-bonus' introduced by the Quebec Government in Canada in 1988. Parents would receive certain amounts of government payments for their first and subsequent child(ren) paid as an advance on income tax credits. They would be paid until the child began school. However, the programme was suspended in 1997. The author uses statistics and micro-data from the census for the years 1980 to 1997. The author conducts a regression

analysis controlling for state and individual characteristics and finds that the introduction of the new tax policy results in higher fertility rates. Moreover, the author also finds that young single mothers are unresponsive to the baby-bonus policy, whereas higher income earners are most responsive to the bonuses. However, he notes that due to the time period of the policy introduction, he cannot establish whether the policy leads to a temporary shift or a real increase in total fertility. Whittington (1993) investigates whether the changing tax value of state and federal exemptions for dependents has any impact on fertility decisions of 229 married couples. The results suggest that the federal exemptions positively and significantly affect fertility, while the state exemptions do not. The author then concludes that income tax exemptions do impact on fertility decisions of married couples depending on the size of the exemption. Moreover, the generosity of these exemptions is quite important to determine the level of impact.

Conclusions

The up-to-date empirical evidence of economic incentives of low income women to become sole parents and choose specific living arrangements with their partner arising from welfare programmes and tax policies suggests that the government policies do have some impact on single parenthood and fertility. However, the more variables are controlled for, the more welfare and tax effects become weaker and rather insignificant. Moreover, the findings vary depending on method used, sample of observations, programmes studied and other crucial factors. Even though the more recent studies suggest that welfare and tax effects are small, this does not mean that the effects should be ignored or abandoned.

Moroever, it is also worth noting that there are some similarities between New Zealand policy context and that of the U.S. In New Zealand the marriage penalty and subsidy operate via the welfare benefit system, not through the income tax system[43]. This major difference of the government policies' impact on families arises from the differences in the units of assessment between the welfare benefits and income tax systems. Consequently, the pattern of the impact found in the U.S. may not be entirely applicable to what might have been the impact of the welfare benefits and income tax systems

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[43] See The New Zealand Families Commission, 2006, p. 17

found in New Zealand (the structure of the welfare and tax systems in New Zealand will be elaborated in more detail in chapter five). This literature review section is just the guideline of what have been done in this area of study overseas.

As a result, this study will particularly useful to New Zealand since, firstly, there has not been many studies in this area in New Zealand and, due to some dissimilarities between New Zealand's welfare and tax systems and overseas where most studies in the area are conducted, some of the findings aforementioned may not be applicable to New Zealand. Secondly, New Zealand's welfare system has undergone a number of major changes since the latest study in this area conducted in the country.

Chapter Four: Background of the demographic changes in New Zealand for the past few decades.

This chapter provides some background of the changes in demographic characteristics pertaining to family formation and other related areas, such as childbearing and marital decisions in New Zealand for the past few decades[44]. It has been acknowledged that during the past 50 years, there have been significant demographic changes especially changes in structures of family formation in New Zealand. The underlying changes include the noteworthy shifts in family formation norms, nuptiality patterns and reproductive behaviour, the increase in de facto or common law unions and a large increase in the divorce rate, which will be elaborated in more detail subsequently[45]. These changes have focused attention on the possible role of government policies in bringing about these changes. Additionally, as previously mentioned in chapter one the target population groups in this study are certain groups of females, the following sections will extensively focus on marital behaviour and childbearing changes involving New Zealand women in past decades.

Note that, admittedly, there are a number of different types of sole motherhood such as being unmarried (those who choose it from the outset), being separated/divorced (those who choose to leave the two person relationship) and being widowed (those who are left with children), however, this study is concerned with incentives for partnering given current single status. Accordingly, we do not distinguish between the different paths to their current single status. Nevertheless, these different paths might suggest different propensities for re-marrying (women who have been married before are more likely to marry (again) compared to women who have never married), but our focus is on financial incentives, which are the same for all these different types of single women. Therefore, we are not going to make the distinction about the different paths to sole parenthood.

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[44] See The New Zealand Family Commission, 2006, p. 14
[45] See Key Statistics, 2001, p. 7

4.1 Changes in marital behaviour

One dramatic demographic change regarding family context that New Zealand has witnessed during the last couple of decades is the changes in marital behaviour. The most significant marital behaviour change includes the relative consistent fall in marriage rates and the continuous growth of divorce rates of New Zealand women[46]. The same pattern of both the decline in marriage rates and the rise in divorce rates is also demonstrated elsewhere such as the U.S and Europe[47]. Graph 4.1 clearly exemplifies the aforementioned trends of marriage and divorce statistics of New Zealand women during the past 30 years.

Graph 4.1 clearly shows the continuous rapid fall in the proportion of New Zealand women whom are married from nearly 65 percent in 1971 to quite a bit below 50 percent in 2001. In contrast, the proportions of New Zealand women whom are never married, separated and divorced have steadily been on a rise, while those whom are widowed have been relatively stable. Graph 4.2 specifically demonstrates the changes in partnering up rates[48] of women only, the data of which is contained in the Household Labour Force Participation (HLFS). The HLFS is discussed in more detail in section 8.2. Noticeably, graph 4.2 demonstrates a decline in partnering up rates of New Zealand women over time. This is consistent with the overall decline in the general marriage rate of New Zealand female population prior shown in graph 4.1.

Moreover, it is also well documented that a larger proportion of the female population, especially younger females, marry at an older age[49]. One of the reasons behind this underlying marital behaviour change is that cohabitation or de facto relationships is believed to have become more of a common form of first union, and are preferred over marriages. As a result, the proportion of the population who are cohabiting or in de factor relationships has been on the rise, especially among the population in their thirties[50]. Although, it has been acknowledged that some cohabiting couples are more likely to consider marriage at a later stage of their relationship, the possibility of for

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[46] See Focusing on Women, 2005, p. 3
[47] See Zhan and Pandey, 2004, p. 661; Morissens, 1999, p. 4
[48] Recall chapter one explaining in New Zealand marriage and cohabitation are treated equally. Thus, in the HLFS, marriage and cohabitation are in the same category. Partnering up therefore includes both general marriage, which is legally registered, and cohabitation.
[49] See The New Zealand Family Commission, 2006, p. 14; Statistics New Zealand, 2005, p. 58
[50] Recall that in New Zealand, the law has the same recognition for both legal marriages and cohabiting/de facto couples. See Key Statistics, 2001, p. 8

these couples to be ultimately married has reduced[51]. The following tables are the statistical figures testifying these changes in marital behaviours of New Zealand women over the past decades.

When looking at women of all age groups, table 4.1 clearly illustrates the upward trend of proportions of women who are unmarried at younger ages. When breaking down into different age groups, this upward trend is significantly apparent among younger age groups. It can be seen that women among 16-19, 20-24, 25-29, 30-34 age groups have experienced the continuous increasing upward trend. On the other hand, although women among 35-39, 40-44, 45-49, 50-54, and 55-59 age groups have evidenced the overall increase in the proportion of never-married women from 1961 to 2001, the increases were not continuous. Due to some factors, the proportions of unmarried women of these age groups experienced a downward trend during 1966 to 1991. However, the downward trend has shifted to an upward trend. It is quite interesting to observe that older women aged 60 years and over have shown no sign of increase in proportion of never-married women throughout from 1961 to 2001. In contrast, proportions of never-married women among these older age groups have been declining. Table 4.2 represents the median age at marriage of women, by marital status when married.

Table 4.2 clearly shows that New Zealand women have delayed marriage until quite substantially later on in their lives, regardless of their previous marital status. However, the delay in marriage is the most significant among those never married women (the first column). It can be seen that among single women who married for the first time, the median age has been considerably extended from 21.9 to 28.1 years old in 1981 to 2004 respectively. While widows and divorcees have also experienced the delay in re-marriage, the increases in median age of these two groups are not as drastic as spinsters. Considering that most marriages are of those who were previously single, it is not surprising to observe the median age of all brides (last column) to encounter comparatively the same increases in the median age as spinsters.

Furthermore, the number of unions each woman experiences has been increasing. At the same time, the rate of dissolution of unions which increased throughout the 1960s until

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[51] See Key Statistics, 2001, p. 8

the 1990s stabilised thereafter[52]. As a result of these frequent breakdowns in unions, larger proportions of the population who were previously partnered are re-partnered (a third of the female population in New Zealand re-partners within 2 years after the breakdown of their previous relationship)[53]. The table 4.3 demonstrates the changes in divorce rates of females in New Zealand since 1995.

It can be seen in table 4.3 that when breaking down the divorce (dissolution) rates into different age groups; women of all age groups have noticeably illustrated the same slight upward trend in the divorce rates since 1995. Women aged between 16-19 years have shown the most volatile changes in the divorce trends. Moreover, women aged between 20-24 years have experienced the most significant increases in the divorce rates from 17.4 to 23.9 divorces in 1995 and 2004 respectively. However, when looking at divorces of all age groups of New Zealand women, the divorce rates have been reasonably stable during 1995 to 2004.

4.2 Changes in childbearing behaviour

The following is the background of the changes in the childbearing pattern of New Zealand women, and how family related issues have changed over the past decades. In general, there has been a decrease in the fertility rate[54] in New Zealand due to women having their first child at an older age compared to previous cohorts[55]. Moreover, it is also because New Zealand women now prefer to have fewer children and some women may entirely forgo motherhood[56]. Consequently, the family size has transited from relatively large to relatively small families. Note that although the fertility rate overall has been declining, it does not necessarily mean that the fertility rate of certain female population groups has been following this pattern. Graph 4.3 and table 4.4 illustrate the changes in the fertility rates during the past decades.

From graph 4.3 and table 4.4 it can be seen that since 1961 New Zealand has started experiencing a decline in the total fertility rates with a noteworthy drop from

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[52] See The New Zealand Family Commission, 2006, p. 14
[53] See Ibid, p. 14
[54] Fertility rate refers to the average number of births a woman would have during her life if she experienced the age-specific fertility rates of a given period (usually a year) (Statistics, 2005, p. 32)
[55] See The New Zealand Family Commission, op. cit., p. 14
[56] See Statistics [Demographic Trend 2005], 2005, p. 32

approximately 4.0 to just below 2.0 births per woman in 1961 and 2004 respectively. The drastic drop in both of the fertility rates were between 1961 and 1981. Although there was a slight increase in the total fertility rates from 1987 to just before 1994, there has been no change in the direction of the trend rates thereafter. The rates have been continuously declining for the last 50 years. Additionally, the declining completed fertility rates also suggest that each year following 1961 each New Zealand woman has borne a fewer number of children on average.

The next underlying demographic change is that, while both the total and completed fertility rates have been experiencing a downward trend, the rate of childbirth outside marriage[57] (ex-nuptial or out-of-wedlock childbirth) was noticeably on a rise up until 1996 and has declined thereafter[58]. This increase in the rate of out of wedlock childbirth, as well as the increasing rate in the breakdown of unions including divorce, have been claimed to might have contributed to an increasing incidence of sole parent families. The incidence of sole parenthood in New Zealand firstly started being publicly noticed in the 1980s and the rates have been continuously increasing since then. By 1991, the incidence of the sole parenthood in New Zealand was comparatively the same as that in the U.S., and had been increasing at a faster rate[59]. The increasing ex-nuptial fertility rates in New Zealand are also demonstrated in the table consisting of different types of fertility rates presented above. From the table 4.4, it appears that while the actual statistical figures of the ex-nuptial fertility rates have slightly altered each year, New Zealand has been witnessing the upward trend of the ex-nuptial fertility rates since 1962. The most apparent increases were during the year 1986 and 1995. Moreover, the variations of the changes in the ex-nuptial rates have been more vulnerable than the rates of total fertility rates.

Moreover, according to Goodger and Larose (1998, p. 7), the number of single mothers increased by 135 percent from 1976 to 1991. Also the number of traditional, basic two-parent family units, which is normally referred to as the "nuclear family", has been declining[60] (refer back to graph 1 and table 1). The trend of changes in family formation and structure are illustrated in graph 4.4 and table 4.5.

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[57] Note that this only includes general marriage not cohabitation.
[58] See Statistics [Demographic Trend 2005], 2005, p. 14
[59] See Whiteford, 1997, p. 16
[60] See Nolan, 2003, p. 3

As it can be seen from graph 4.4 and table 4.5, the number of sole parent families rose up from just above 10 percent in 1976 to nearly 30 percent in 2001. Moreover, it can also be seen that the majority of sole parent families are mother only families, and this proportion of the population has been increasing significantly compared to the growth of male single parent families. In contrast, the proportion of couples with children has been gradually declining since 1986.

However, one crucial factor which has to be taken into account when analysing sole parenthood trend in New Zealand is that, although some of these women with dependent children might not be legally married with their partners, they could share custody of their child with the child's birth father. Moreover, if a woman's current partner is not a biological father of her child, but is in a relationship with her, she is not considered to be a sole parent family. Consequently, we have to be more careful when interpreting and using the term 'sole parent' because for some children, the parenting arrangement in reality may not fit with the definition of sole parenthood[61].These demographic changes in family related areas that New Zealand has been experiencing are, to some extent, similar to the changes in other Western OECD countries[62].

Another factor which may have impacted on family and relationship formation and child bearing decision-making aside from the government policy is the recent changes in male patterns of education and employment[63]. It is argued that men's educational achievement relative to women's has fallen over time[64]. Accordingly, men with low or no qualifications are believed to face difficulty in acquiring employment and therefore sustainable income to support a family. This has led such men to become "unattractive" in the marriage market. Also, women have become more financially independent over the past years. Callister (2001), for example, argues that the falling partnership rates, especially of men with low income and low or no qualifications, are mainly a consequence of the declining rate of educational achievement of New Zealand men

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[61] See The New Zealand Family Commission, 2006, p. 14; Callister and Hill, 2000
[62] See The New Zealand Family Commission, op. cit., p. 15
[63] See Ibid, p. 14

[64] See Ibid, p. 14

rather than any other cause[65]. Nevertheless, this does not rule out the impact of the government policy on relationship and family formation decisions.

Take into consideration that these demographic changes have also been accompanied by other social, economic and cultural changes. According to Prasad[66]:

> "…in the 1960s and 1970s, the introduction and easy availability of the contraceptive pill combined with the legalisation of abortion gave sexually active couples, particularly women, far more control over family planning. At the same time, the expansion of higher education and training, changing expectations regarding relationships and roles within families, and greater social and financial independence for women had a significant impact on subsequent fertility decisions…" (Prasad, 2005, p 4)

As a result, when analysing whether or not New Zealand's welfare benefits and income tax policies and their changes over time may have impacted on family formation and living arrangement decisions of the target group population in this study, we must take into account the possibility that these social, economic and cultural changes could have also impacted these demographic changes. In my descriptive analysis of the issue, therefore, I try to examine all these trends in detail in order to separate, to the extent possible, the impact of welfare and tax policies from these other factors, on these demographic changes.

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[65] See The New Zealand Family Commission, 2006, p. 14

[66] See Ibid, p, 14

Graph 4.1: Changes in marriage and divorce rates of New Zealand women from 1971 to 2001
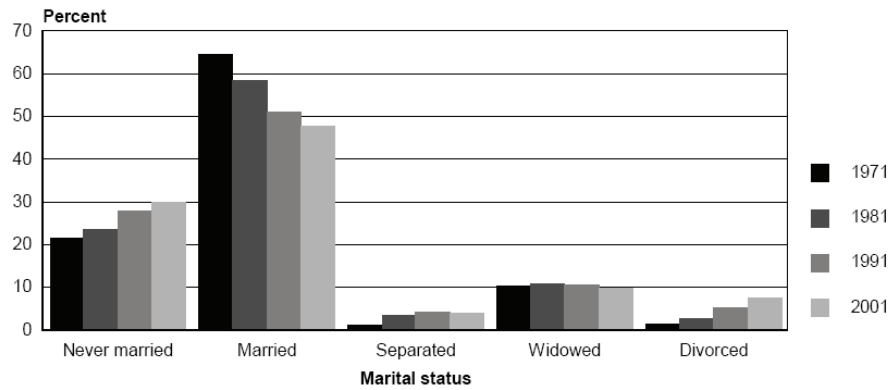
Source: Focusing on Women, 2005, p. 3.

Graph 4.2: Changes in partnering up rates of women in the HLFS from 1986 to 2004
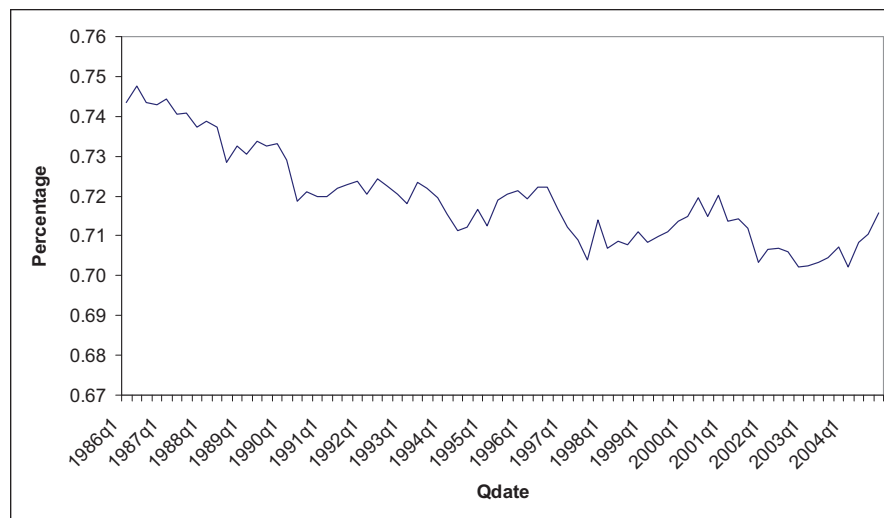
Source: HLFS data set provided by the Department of Labour.

Graph 4.3 : Changes in pattern of fertility rates over the past decades in New Zealand
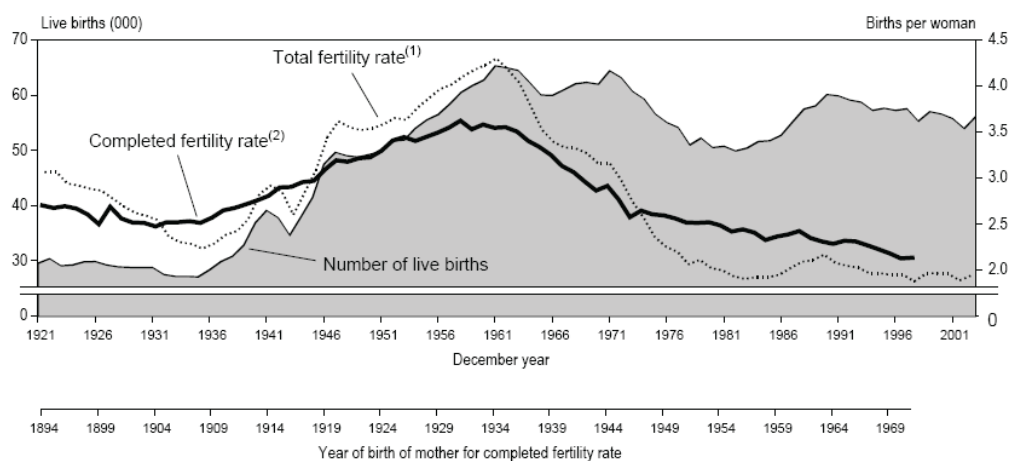
Note:

(1) Total fertility rate refers to the average number of births a woman would have during her life if she experienced the age-specific fertility rates of that year. It excludes the effects of mortality.

(2) Completed fertility rate refers to the average number of children a woman born in a particular year has had during her lifte. The figures for 1956-1971 birth cohorts are estimates only.

Source: Statistics New Zealand, 2005, p. 31

Graph 4.4: Trend in changes in family formation and structure in New Zealand
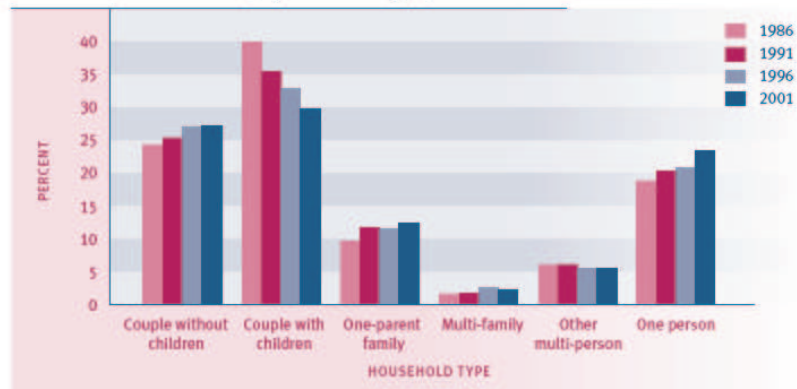
Source: Statistics New Zealand

Derived from http://www.socialreport.msd.govt.nz/documents/2005/sr05-people.pdf

Table 4.1: Changes in percentage of females who are never married, by age groups, since 1961, in New Zealand

Age group (years)	1961	1966	1971	1976	1981	1986	1991	1996	2001
16-19	91.7	90.3	89.1	89.9	95.4	97.7	98.6	99.1	99
20-24	40.5	38.9	35.3	37.1	52.3	65.7	77.6	85.3	88.7
25-29	12.5	11.8	10.7	11.6	16.9	28.4	39.2	51.4	60.3
30-34	8.1	6.9	5.9	6.1	7.8	12.4	19.6	27.7	35.8
35-39	7.3	6	5	4.6	5.2	6.7	10.1	15.9	22
40-44	7.5	6.2	5	4.4	4.4	5	6.1	9.2	13.9
45-49	8.3	6.7	5.5	4.7	4.3	4.3	4.8	5.9	8.6
50-54	9.7	7.7	6.2	5.2	4.6	4.3	4.3	4.7	5.6
55-59	10.7	9.3	7.3	5.9	5.2	4.6	4.3	4.1	4.5
60-64	11.2	10.3	8.9	7.1	5.9	5.2	4.6	4.3	3.9
65 and over	12.4	11.8	10.7	9.9	8.7	7.5	6.5	5.8	4.8
All ages	20.1	20.8	19.6	19.8	21.8	24.3	26.7	28.2	29

Note: Figures for 1961 and 1966 are based on the census night population counts. Figures from 1971 onwards are based on the census usually resident population counts.

Source: (modified) Statistics New Zealand, 2005, p. 6

Table 4.2 : Median Age at Marriage of women, by marital status when married in New Zealand.

December year	Never married	Widow	Divorcee	All Brides
1981	21.9	53.2	34	23
1982	22.2	53.3	34.4	23.6
1983	22.6	53.1	34.5	23.9
1984	22.8	53.8	34.7	24.2
1985	23.1	53.7	34.9	24.4
1986	23.4	53.8	35.5	24.8
1987	23.7	52.7	36	25.2
1988	24.0	53.4	35.9	25.5
1989	24.2	53.3	36.5	25.8
1990	24.5	53.1	36.5	26.2
1991	24.6	52.6	36.7	26.5
1992	24.9	52.8	37.1	26.7
1993	25.2	53.8	37.9	27
1994	25.5	54.4	37.9	27.3
1995	25.8	53.1	38.3	27.7
1996	26.1	52.8	38.2	28
1997	26.5	54.6	39.1	28.4
1998	26.7	53.0	38.9	28.6
1999	27.0	54.6	39.4	28.8
2000	27.4	53.9	39.8	29.3
2001	27.5	53.8	40.2	29.5
2002	27.6	53.8	40.3	29.7
2003	27.7	54.7	40.9	29.8
2004	28.1	54.5	41.7	30.2

Note:
(a) Marriages registered in New Zealand. Before 1999, marriage data were extracted on the basis of 'date of marriage' (ie occurrence). From 1999 onwards, marriage data have been extracted using 'date of registration'.
(b) Marriages from 1991 onwards are based on marriages registered in New Zealand of bridegrooms resident in New Zealand. Before 1991, marriages are based on marriages registered in New Zealand of bridegrooms resident in New Zealand and bridegrooms visiting from overseas.
(c) Marriages before 1952, where both parties were Mäori, are excluded.

Source: Statistics New Zealand, 2005, p. 65.

Table 4.3: Divorce rates [1] of New Zealand women since 1995

Age groups	1995	1996	1997	December year 1998	1999	2000	2001	2002	2003	2004
16-19	6.2	4.3	9.8	4.3	6.6	9.9	6.5	7.4	6.3	4.1
20-24	17.4	18.3	19.3	19.7	20.1	17.7	19.6	20.6	22	23.9
25-29	22	22	21.6	22.9	22.4	22.2	22	23	24.3	23.2
30-34	19.9	20.6	20	21.5	20.6	20.4	20.5	21.9	22.3	22.1
35-39	17.1	17.2	17.1	17.9	18.1	17.4	18.3	19.2	19.5	20.5
40-44	15.7	16.1	14.8	14.7	15.3	15.6	15.2	17.1	17.2	17.6
45-49	11.4	13.1	12.9	13.4	12.9	12.9	12.7	14.5	14.9	14.9
50-54	7.9	8.4	8.3	8.5	8.9	9.3	9.3	9.9	10	11
55-59	4.6	5.2	5.7	5.3	5.6	5.3	6.2	6	6.9	6.8
60-64	2.7	3	3	3.3	3.1	3.3	3.6	3	3.2	3.5
65 and over	1	1.3	1	1.2	1.2	1.1	1.1	1.5	1.3	1.4
All Ages	12.2	12.6	12.2	12.6	12.4	12.1	12.1	12.8	13	13.1

Note:

(1) Orders for dissolution of marriage granted in New Zealand per 1,000 mean married estimated resident population in each age group.

Source: Statistics New Zealand, 2005, p. 71

Table 4.4: Changes in different types of fertility rates including Ex-nuptial (childbirth outside marriage) birth rate

December year	Crude Birth Rate[1]	Total Fertility Rate[2]	Gross Reproduction Rate[3]	Net Reproduction Rate[4]	Ex-nuptial Birth Rate[5]
De Facto Population Concept					
1962	26.16	4.19	2.04	1.97	31.16
1966	22.37	3.41	1.66	1.61	36.92
1971	22.51	3.18	1.55	1.51	44.39
1972	21.68	3.00	1.47	1.43	44.26
1973	20.40	2.76	1.35	1.31	41.06
1974	19.51	2.58	1.25	1.22	39.48
1975	18.27	2.37	1.16	1.13	37.71
1976	17.60	2.27	1.09	1.07	36.86
1977	17.24	2.21	1.08	1.05	38.09
1978	16.23	2.07	1.01	0.99	36.97
1979	16.66	2.12	1.04	1.01	38.67
1980	16.08	2.03	0.99	0.97	37.53
1981	16.09	2.01	0.98	0.96	38.81
1982	15.70	1.95	0.94	0.92	37.03
1983	15.67	1.92	0.93	0.91	37.17
1984	15.87	1.93	0.94	0.92	37.32
1985	15.83	1.93	0.94	0.92	37.10
1986	16.12	1.96	0.96	0.94	39.80
1987	16.73	2.03	0.98	0.96	42.44
1988	17.35	2.10	1.02	1.00	45.85
1989	17.44	2.12	1.04	1.01	48.83
1990	17.89	2.18	1.07	1.05	50.95
Resident Population Concept					
1991	17.14	2.09	1.01	1.00	50.17
1992	16.75	2.06	0.99	0.97	49.90
1993	16.45	2.04	0.99	0.97	50.16
1994	15.83	1.98	0.96	0.95	48.53
1995	15.69	1.98	0.96	0.94	50.07
1996	15.34	1.96	0.95	0.93	49.60
1997	15.23	1.96	0.96	0.94	48.97
1998	14.51	1.89	0.92	0.90	47.02
1999	14.87	1.97	0.96	0.95	48.21
2000	14.66	1.98	0.96	0.95	47.50
2001	14.36	1.97	0.97	0.95	46.41
2002	13.70	1.90	0.93	0.92	43.40
2003	14.00	1.95	0.95	0.94	43.85
2004	14.29	2.01	0.98	0.97	44.77

Note: (1) Per 1,000 estimated mean population.
(2) The average number of live births that a woman would have during her life if she experienced the age-specific fertility rates of a given period (usually a year). It excludes the effect of mortality.
(3) The average number of daughters that a woman would have during her life if she experienced the age-specific fertility rates of that year. It excludes the effect of mortality.
(4) The average number of daughters that a woman would have during her life if she experienced the age-specific fertility and mortality rates of that year. A NRR of one means that a woman would exactly replace herself.
(5) Ex-nuptial births per 1,000 estimated mean not-married women aged 15–49 years.
(6) The total fertility rate and reproduction rates for the Mäori population are based on the ethnicity of the child for the de facto population and on the ethnicity of the mother for the resident population.
(7) From 1 September 1995, a new ethnicity question was asked on the birth registration form. This new question (based on the concept of self-identification) collects more Mäori births than the previous degree-of-blood question. As a result, any change in patterns may reflect definitional changes rather than an actual change in fertility.
(a) Rates from 1991 onwards are based on live births registered in New Zealand to mothers resident in New Zealand by date of registration and the mean estimated resident population. Before 1991, rates are based on live births registered in New Zealand to mothers resident in New Zealand and mothers visiting from overseas by date of registration and the mean estimated de facto population.
(b) Rates for 1998 are lower than expected because of a small change to the rate at which births were registered during 1998.

Source: Statistics New Zealand, 2005, p. 45

Table 4.5: Changes in proportions of Families with dependent children, by family type, in New Zealand

Table P3   Families with dependent children, by family type, 1976–2001

	1976	1981	1986	1991	1996	2001
	Number					
Two-parent family	398,772	380,886	363,489	339,681	346,086	339,159
One-parent family	46,296	62,280	82,632	110,055	126,585	140,178
Mother only	*39,153*	*52,938*	*71,388*	*92,028*	*107,394*	*117,018*
Father only	*7,143*	*9,342*	*11,244*	*18,024*	*19,191*	*23,163*
Total families	445,068	443,166	446,121	449,736	472,671	479,337
	Percentage distribution					
Two-parent family	89.6	85.9	81.5	75.5	73.2	70.8
One-parent family	10.4	14.1	18.5	24.5	26.8	29.2
Mother only	*8.8*	*11.9*	*16.0*	*20.5*	*22.7*	*24.4*
Father only	*1.6*	*2.1*	*2.5*	*4.0*	*4.1*	*4.8*
Total families	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Statistics New Zealand, published and unpublished census data
Note: The census definition of child dependency has changed over time. From 1996, a dependent child is a person in a family aged less than 18 years who is not in full-time employment. For earlier years, a dependent child is a person in a family under 16 years or aged 16–18 and still at school

Source: Statistics   New   Zealand   Derived   from
http://www.socialreport.msd.govt.nz/documents/2005/sr05-people.pdf

Chapter Five: Background of the New Zealand's tax and welfare systems and how they have evolved.

5.1 New Zealand's Tax system

Personal income tax has three main objectives. The first objective is to raise the revenue for the government in conjunction with the other two main components of revenue raising tax bases which are GST and excise taxes[95]. The second objective is to alter people's behaviours as the tax incentive changes. Theoretically, as the tax structure, including tax rates and abatement regime change, people tend to behave accordingly in order to keep their financial payoff, and hence their utility, maximised. The third objective is to reduce income inequality in the society[96]. The income tax system in New Zealand used to be a progressive system with narrow bases and high rates, which is believed to underpin the development of the welfare system[97] as explained in chapter Two. However, for the past 35 years, the income tax policy has experienced a shift towards a "broad-base, low-rate" combination while the progressive system has been sustained[98]. The new broad-base and low-rate combination within the income tax system is believed to be the fairest[99] and most efficient[100] revenue-raising method in our current modern and open society[101]. Over these periods, government expenditure as a proportion of the national income has decreased which has helped lay off the pressure on the income tax system and has enabled the new broad-base and low-rates combination to be imposed[102].

However, in order to achieve this flat scale and broadening base combination in the income tax system, the government has had to impose some other changes; taxation of fringe benefits and superannuation were introduced. Moreover, there has been a

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[95] See Tax Review 2001 Final Report, 2001, p. iii

[96] See Tax Review 2001Issues Paper, 2001, p. 86

[97] See Nolan, 2005, p. 20

[98] See Tax Review 2001Issues Paper, op. cit., p. 86

[99] In essence that the tax payment is charged according to how much money people earn, therefore, people with higher disposable income pay higher tax than those with less income, and some of the tax revenue is distributed to the poor. This helps reduce the tax incidence of people with a lower ability-to-pay, since it shifts the incidence disproportionately to those with a higher ability-to-pay (Wikipedia, Progressive Tax, 2008).

[100] In essence the tax revenue can be raised while causing the least dead weight loss and the least loss of the production capacity of the economy.

[101] See Tax Review 2001Final Report, op. cits, p. i

[102] See Ibid, p. ii

greater use of withholding tax with the extension of the Pay-As-You-Earn (PAYE) system[103]. The PAYE is when employers collect an amount of employees' salary or wage on behalf of the taxation authority. The deducted salary/wage paid to the tax authority is, in effect, a provisional payment of tax on employees' income. The PAYE is designed to help reduce the amount of tax payable at the end of the year since the expected amount of tax that employees earn is collected during a year[104]. Furthermore, the resident withholding tax on interest payments and unimputed dividends was introduced[105]. Additionally, the complex system of personal income tax deductions and rebates for single-households and households with dependent children were either removed or consolidated[106].

Apart from the dramatic shift from narrow bases with high rates to broad bases with low rates, during the past 25 years more attention has also been focused on the composition of the tax-mix. The emphasis has been moved towards consumption taxes and away from the income tax[107]. In the early 1980s, New Zealand's tax system relied heavily upon personal income as the main source of government's revenues. However, since 1984 the personal income tax scale has been gradually made flatter with smaller rates and less variation between the rates. Moreover, the tax base has been made broader as well[108]. Graph 5.1 illustrates the shift from an excessive reliance on individual taxes towards other tax bases such as sale taxes, which was introduced in 1986[109].

The main reason for this change is the government's realisation that New Zealand's tax system was excessively dependent on income tax, especially through the PAYE system[110]. Moreover, it was believed that low and middle income workers were impacted the most by the old income tax system. The original "narrow-rate, high-rate" income tax system resulted in the tax burden being shifted to middle-income workers since they were pushed into a higher tax bracket for the same given amount of

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[103] See Tax Review 2001 Issues Paper, op. cit., p. 11, 86
[104] See Wikipedia, 2007.
[105] See Review 2001 Issues Paper, 2001, p. 86
[106] See Nolan, 2005, 30
[107] See Ibid, p. 4-5, 29-30
[108] See Tax Review 2001, 2001, p. 85
[109] See Ibid, p. 8
[110] See Tax Review 2001 Final Report, 2001, p. 8

income[111]. Moreover, in combination with the welfare system's abatement rules, this heavily affected those with low and middle income working families. Consequently, these families were struggling to make an appropriate living out of their labour earnings. Therefore, some of these people might have had little incentive to enter the labour force or consider working fulltime[112]. Although, after these changes over time, the upper tax rates have been reduced quite heavily, the amount of the tax revenue collected has been roughly sustained[113]. Basically, as it can be seen above, the reforms of the income tax policy in New Zealand have been motivated by the labour supply incentive concern[114], not by the family formation and structure issues.

The unit of assessment for the income tax system has always been the individual and not the household (except for the period between 1939 and 1960[115])[116]. The intuition behind the individual tax base has originated from the Land and Income Tax Act 1891 which stated that "every person" shall be liable to be taxed upon their income'. Consequently, the individual has remained as the basis of assessment[117]. Table 5.1 elaborates on the changes in the tax rates and income threshold brackets since 1986. Note that the income figures are in nominal, not real terms.

It can be seen from table 5.1 that the taxable income brackets have been broadened and the tax rates have been lowered. These income tax reductions have been claimed to broadly benefit low and middle income earners[118]. However, some of the higher income earners will have benefited from these tax reductions from two channels. Firstly, some of their earnings would fall in the lower brackets and as a result it would be taxed at lower rates[119]. It can be seen that although the lowest income bracket ($0-$9500) as well as the tax rate (15 percent) for this bracket have not been changed since 1986, other income brackets and their tax rates have been changed constantly. Given the fact that most earners get more than $9,500[120], which would put them in at

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[111] See Tax Review 2001 Final Report, 2001, p. 8
[112] See Nolan, 2005; Birch, 1996, p. 9
[113] See Tax Review 2001, 2001, p. 85
[114] See Nolan and Fairbrother, 2005, p. 14
[115] See Nolan, op. cit., p. 20
[116] See Tax Review 2001, op. cit., p. 96
[117] See Scott, 1993, p. 61
[118] See Birch, op. cit., p. 22
[119] See Ibid, p. 26
[120] See Ibid, p. 22

least the second income bracket, and given the significant changes of the tax rates in this bracket since 1986, we can clearly expect some impact on decisions regarding family formation and structure, especially by single mothers with low-income.

5.2 New Zealand's Welfare system

New Zealand's welfare benefit system was originally designed to counteract poverty and hardship due to temporary unemployment spells. The system was designed based on the economic and social environment of low and temporary unemployment and where the common family type consisted of couples with children and the males were the main bread-winners[121]. Consequently, the welfare system provided the assistance to a husband and a wife as a single income sharing unit[122].

Originally, the income support through the welfare benefits system in New Zealand was deemed to reflect an emphasis upon two principles which were residual and right-based principles. The residual principles have been maintained through other policies designed alongside the welfare system, to ensure full employment and to provide adequate market earnings for breadwinners in families. The residual principles emphasise self-reliance and responsibility of individuals[123]. The right-based principles imply that the right to be entitled to the benefits is based on people's status as citizens and thus the assistance is not delivered based on people's previous financial contributions[124]. Thus, New Zealand's system of income support through the welfare benefit system can be categorised as social assistance, rather than a social insurance[125]. Basically, the dominant goal of the welfare system has been to provide and maintain adequate levels of employment and therefore sufficient market incomes so that New Zealand families can avoid poverty and hardship[126]. Although the goal has not been primarily made to focus on family formation and other related issues, the assistance was provided in such a way that different levels of public support were influenced by the situation of different female population groups. Consequently, this

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[121] See Nolan, 2003, p. 2-3; Nolan, 2005, p. 16-17
[122] See Nolan, 2003, p. 18
[123] See Nolan, 2005, p. 19
[124] See Nolan, 2003, p. 3
[125] See Ibid, p. 3
[126] See Ibid, 2-3

affected the nature and timing of their support. Female widows were made the first priority group to receive financial assistance from the government, before deserted wives who came before single mothers. Deserted wives are those women have been deserted by their husband and are treated equivalently as widows[127]. The intuition behind this system was that household dissolution could be avoided and discouraged if different levels of assistance were given to these three female population groups[128].

The evolution of New Zealand's welfare system is characterised by periods of continuous change and periods of no change at all[129]. According to Mackay (2001), there are three dramatically rapid evolutions of the welfare system. The first dramatic change was _during the last years of the 19th_ century. The next evolution was during the _1930s_ and the _latest one has been manifesting itself during the past couple of decades_. The forces behind these three rapid reforms of the welfare system have been mainly due to the social and economic circumstances and the different goals and ideologies of different political parties who were governing the country at these times[130]. The social and economic circumstances could range from the concerns about the well-being of the states of the economy, unemployment rates, rising fiscal costs (large fiscal deficits), rising inflation rates, prolonged periods of being on the benefits for some groups of populations to the concern about the dependency of beneficiaries on the government's support[131].

For the past couples of decades, there have been a couple of major reforms of the welfare system. The main changes involve the reallocations of funds and resources with the main emphasis behind the reforms being to strengthen participation in the labour market, reduce the scope for moral hazard[132] and to constrain the fiscal costs[133]. Consequently, most welfare programmes were shifted toward targeted welfare programmes[134]. The targeted assistance is preferable compared to universal

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[127] See Social Security in New Zealand, 1972, p. 242-243
[128] See Nolan, 2005, p. 18
[129] See Mackay, 2001, p. 3.
[130] See Ibid, p. 3-4;
[131] See Mackay, Op. cit., p. 3-6; Nolan, op. cit., p. 12, 22-23; Nolan, 2003, p. 3
[132] Recall that the terminology of moral hazard theorises that economic agents do have incentives to behave in such a manner that is not expected of them prior to the contracts, especially when they are not monitored (Schotter, 2001, 295)
[133] See Mackay, 2001, p. 6; Nolan, 2005, p. 23
[134] See Mackay, op. cit., p. 6; Nolan, op. cit., p. 40-41

assistance because the well-being of those who are really in need of the government's support can be efficiently delivered. Moreover, the fiscal costs of the government can be reduced due to greater targeting efficiency of the assistance[135]. And with more targeted assistance the residual principles can be further emphasised[136].

Moreover, most main welfare programmes were reduced in their real benefit rates in 1991[137]. However, the supplementary benefits (tier two) and discretionary benefits (tier three) were made more generous after 1995[138]. Some examples of this increase in generosity of the tier two and three benefits include the increases in accommodation supplement (AS) and special benefits rates[139]. In 1996, the abatement regimes for most benefit programmes were also adjusted.

The followings elaborate snap shots describe how the welfare system reforms have taken place since 1986. Note that the more in-depth evolutions, including the changes in benefit rates, income threshold rates as well as abatement rates of DPB, UB, Family Support and Accommodation Supplement, will be discussed after these summary descriptions.

Changes introduced in 1991

The reform took place in order for the welfare system to achieve the following objective: "to encourage self-reliance by providing people with sufficient motivation to move from state dependence to independence"[140]. The major forces behind the reform were motivated by the increasing numbers of people on a main welfare benefit such as DPBs and UB as well as the belief of the Treasury that benefit levels in New Zealand were comparatively high by international levels[141]. Additionally, there was also a problem of work disincentive due to high effective marginal tax rates

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[135] See Nolan, 2005, p. 24
[136] See Ibid, p. 19
[137] See Cox, 1998, p. vii, 20-24
[138] See Ibid, p. 20
[139] See Ibid, p. 20
[140] See Goodger and Larose, 1998, p. 18; Nolan, op. cit., p. 16
[141] See Nolan, op. cit., p. 26

(EMTRs)[142], which for some workers could be as high as 100 percent[143]. Moreover, the increased budget deficit further strengthened the desire to have the welfare system reformed[144].

The following illustrates the major changes in 1991 in more detail.

1. Generally, from April 1991 most benefit rates were cut quite stringently. Nevertheless, the cuts were not uniform; they varied according to the benefit types[145]. Sole parents whose main income was from the benefit system were impacted the most significantly as compared to other groups of beneficiaries[146]. Basically, those sole parents with one child and those with two or more children, who were on DPB and widows benefit, had their net weekly rates cut by 12.8 percent and 11.4 percent respectively. However, if these sole parents were also eligible for the family assistance programmes such as Family Support and Family Benefit, their reductions of benefit payments were 10.7 percent and 8.9 percent if they had one child and two or more children respectively[147]. Note that due to the exclusion of the inflation adjustment after the reform, the reduction in the benefit rates in **REAL** terms was 14.5 percent for those with one child and 12.8 percent for those with two children[148]. However, single unemployed beneficiaries aged between 20-24 years without children were affected the most by these benefit cuts[149]. Table 5.2 simply illustrates the changes in the benefit rates before and after the reform, for the three components of the main benefits.

It can be seen from table 5.2 that for all benefits, the average cut was about 10 percent after the reform in 1991. In contrast, the maximum benefit available for married couple without children only fell by three percent. Moreover, single unemployed beneficiary aged between 18-24 years faced 24.70 percent cut which was the biggest

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[142] EMTR refer to the combined loss from tax and abatement when an extra dollar is earned in the labour market (St. John and Rankin, 1998, p. 2). EMTR will be discussed in more details in chapter six.
[143] See St. John, 1993, p. 2
[144] See Mackay, 2001, p. 11
[145] See Ibid, p. 12
[146] See Goodger and Larose, 1998, p. 19; Nolan, op. cit., p. 26
[147] See Goodger and Larose, op. cit., p. 19
[148] See Ibid. p. 19
[149] See Mackay, op. cit., p. 12

cut. This was due to, firstly the benefit rates were reduced as a result of the reform in 1991. Secondly, the age band for the youth rate was increased from 18 to 24 years. Consequently, those young and single people aged between 20 to 24 years were moved to the youth rate which was paid 20 percent less than the adult rate[150] and the youth rate was also reduced by 5.8%. Consequently, the benefit cuts put most beneficiaries under additional financial pressure[151].

2. One of the Family Assistance programmes which was the universal Family Benefit was abolished from 1 April 1991 as well. This abolition resulted in the addition of the extra $6 per week per child, which was originally the universal Family Benefit payment paid to families with children, onto the targeted Family Support programme[152].

3. The minimum age to be qualified for the DPB increased from 16 to 18 years of age from 1 April 1991[153].

4. The stand-down provisions for higher earners which originally applied only to the Unemployment Benefit were extended to apply to sole parents applying for DPB from 1 August 1999.

5. The eligibility of the DPB was made a lot stricter in such ways that parents with shared or split custody would be facing different requirements and possibly some stood to lose the benefits[154]. From 1 October 1991, for the shared custody, only one parent was able to have the children taken into account in the eligibility assessment of the benefit. However, for those with

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[150] See Mackay, 2001, p. 12
[151] See Ibid, p. 12
[152] See Goodger and Larose, 1998, p. 19
[153] See Goodger and Larose, op. cit., p. 19
[154] See Goodger and Larose, op. cit., p. 19

split custody, only one parent was able to claim the DPB, while the other might be able to qualify for other benefits at the sole parent rates[155].

Changes introduced in 1996

The reform in 1996 was a subsequent reform in order to reinforce the possibility of achieving the goal of the 1991 reforms. Moreover, the abatement regime, especially for sole parent benefit recipients, prior to 1996 was designed to encourage people to move off benefit entirely and acquire full-time employment. As a result, this created disincentives for these people to take up small part-time work in such a way that they would have to choose from either being on the benefit or acquiring a full-time job and abandoning the benefit completely[156]. Consequently, the main feature of the 1996 reforms involved changes in the abatement regime[157].

1. The abatement schedule for the DPB and widow benefits recipients was altered[158]. The new abatement regime for these two benefits can be seen in table 5.3.

From table 5.3, the welfare system before the reform in 1996 was much more stringent in term of quite heavy abatement rates. Thus, the reform in 1996 resulted in a more generous welfare system through the increased income threshold levels and the broadened income abatement threshold ranges. This new abatement schedule was established in order to encourage certain beneficiary groups to consider employment and at least move into part-time work[159]. Theoretically, if economic agents believe that being in the work force will yield them a higher utility level than being unemployed and receiving benefits, they will have incentives to acquire a position, at least as a part timer, in a labour market. It can be seen that after the reform, workers would be able to earn twenty dollars more market earning before the abatement rule started applying ($80 compared to $60 prior to the reform). Moreover, they could earn

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[155] See Goodger and Larose, 1998, p. 19
[156] See Ibid, p. 19
[157] See Ibid, p. 19
[158] See Ibid, p. 19
[159] See St John, 1996, p. 9

an extra hundred dollars market earning before the benefit payments would start to get abated at 30 cents rate ($80-$180) compared to only an extra twenty dollars prior to the reform ($60-$80). Additionally, any extra market earning fallen in the $80-$180 income range would be abated at the rate of 70 cents in relative to the rate 30 cents prior to and after the reform respectively. This deduction of 40 cents was believed to encourage economic agents to acquire more hours of work in the labour market.

2. DPB recipients were required to have a work-test in 1996. Prior to 1996 the DPB recipients were only required to have the income-test. This requirement resulted from the philosophy employed by the Employment Task Force which was that each individual's right to benefit should be balanced by responsibility[160]. Moreover, this is also a response to the statistically low employment rates for sole parents and large difference between the employment rates of married and sole mothers. Therefore, in 1996 the work-test requirement of the DPBs was as shown in table 5.4.

3. The UB component had new abatement rates and income exemption levels. The changes were as shown in table 5.5[161].

Changes introduced in 1998

In 1998, there were a couple of changes made to the DPB and widows benefits which came into effect in 1 February 1999. These changes were also made in order to reinforce the goal of encouraging welfare recipients and those people who were looking into being on the benefits, to seek work. The changes attempted to increase the incentives for recipients to seek work rather than continue being on benefits[162]. The changes were also made in such a way that the barrier into employment could be reduced. Consequently, the main changes in the benefit system included:

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[160] See Goodger and Larose, 1998, p. 20
[161] See St John, 1996, p. 8
[162] See Goodger and Larose, op. cit., p. 17; Nolan, 2005, p. 29

1. Childcare assistance to help sole parents was increased in such a way that the costs of children were sufficiently met.

2. Employment assistance for lone parents seeking work was increased.

3. If sole parents were required to be temporarily away from work after moving off the benefits and moving into employment, they would be granted the interim income support in the first 6 months.

4. Easier benefit debt collection for 3 months after the benefits were cancelled.

5. Better information regarding child support was provided.

6. The work-test for the DPBs was altered as shown in table 5.6.

Note that for those who faced full-time work-test, the abatement regime was the same as those receiving Unemployment benefit, which was 70 cent abatement after $80 per week exemption[163]. Moreover, more child care assistance was made available to those parents with low or no income.

The following sections include the summary of each welfare benefit programme included in this study in more details.

5.2.1 The Domestic Purposes Benefit programme: Sole-parent (DPBs)

The DPB sole parent programme was introduced in 1973 to provide financial assistance to all categories of single parents including widowed and non-widowed sole mothers, separated or divorced sole fathers and widowed sole fathers. The justification behind the DPB was that due to the absence or the loss of the partner's support, the sole parent families could be at risk, especially of poverty. Thus, given this state's partial responsibility in providing some levels of financial assistance, the children of these single parent families are more likely to be less financially disadvantaged than otherwise[164].

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[163] See Goodger and Larose, 1998, p. 20
[164] See Goodger, op. cit., p. 135

Although there has been a number of major changes made to the DPB regarding its benefit rates and the abatement schedule since 1986, in general in order to be qualified for the DPBs, the following eligibility requirements have to be satisfied[165].

1. eligibility

- must have qualifying child, usually under 18 and born in (or parent ordinarily resident in) New Zealand
- must be sole parent
- must be 16 years or over (1986-1990) 18 years or over (from 1991) or 16 years or over and have been legally married
- must take reasonable action to obtain child support
- emergency maintenance allowance maybe available to sole parents who do not qualify for DPB

2. residential qualification

- New Zealand citizen or granted permanent residence in New Zealand

3. income test

- Full benefit payable up to $60 a week from 1986-1995 and up to $80 per week from 1996.
- benefit reductions up to 30 cents in the $60-$80 income range and 70 cents thereafter (1986-1996); benefit reductions up to 30 cents
- child support payments made to Crown for beneficiaries

Since 1986 the payment rates of the DPB have been shown in tables 5.7 and 5.8. Graph 5.2 illustrates the changes in the DPB's real weekly rates since 1986. As can be seen, when taken into account of inflation, the DPB benefits for most types of beneficiaries have been by and large stable after the major benefit cuts in 1991. Noticeably, the DPB rates including FB/FS for single beneficiaries with 2 children or more have decreased since after 1999.

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[165] See Cox, 1998, p. 118-120; Goodger and Larose, 1998, p. 17

In order to analyse whether the DPB can impact the decisions of potential beneficiaries regarding their family and relationship formation, another piece of needed information is the abatement schedule of the DPB. Table 5.3 illustrates how the schedule has changed since 1986.

5.2.2 The Unemployment Benefit (UB)

New Zealand has quite a significantly different unemployment benefit programme from that of other countries. The benefit is funded through the general revenue rather than through payroll taxes[166]. Moreover, it is not treated as an insurance scheme but it is essentially operated as a Negative Income Tax programme[167]. The UB programme is available to beneficiaries based on "need" which is defined by age, marital status, number and ages of children who are dependents[168]. Additionally, the benefits are automatically reduced or taxed away as the households' other income increases. However, the benefits are not automatically suspended entirely if the beneficiaries have gained employment in the workforce, as long as the beneficiaries' labour earning is still below the abatement thresholds[169]. Although, the UB has been through a couple of reforms since 1986 as previously stated, generally, the eligibility requirements which need to be satisfied in order to be qualified for the UB have reasonably remained stable for the last couple of decades. The following are by and large eligibility requirements for the UB.

1. Eligibility

   - unemployed, looking for work and ready to start a job or training course
   - over 18 (or over 16 and living with a partner and dependent children)
   - job search allowance is available to single, independent 16 and 17 year olds
   - payments may stop for up to 26 weeks for those who do not comply with the requirements of New Zealand Employment Service (NZES)

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[166] See Maloney, 1997, p. 4
[167] See Ibid, p. 4
[168] See Ibid, p. 4
[169] See Ibid, p. 4

- waiting period for those with substantial other resources rather than labour market income, or who left a job because of misconduct or without good reason
- not available to students or strikers

2. payments to spouses/partners
- payments made to both partners
- joint assessment of income
- partners are required to look for look for full-time work (30 hours a week or more) if you have no children at home or your youngest child is 14 or older *or*

    -look for part-time work (15 hours a week or more) if your youngest child is 6-13 *or*

    -come to annual planning meetings and perhaps do things to help prepare for work if your youngest child is under 6.

3. residential qualifications
- New Zealand citizen or permanent resident
- must have lived in New Zealand for two years or more

4. income test
- Full benefit payable up to $50 a week if a child is absent or $60 a week if a child is present. This rule applied from 1986-1996
- Full benefit payable up to $80 a week (including spouses' income) from 1996 to the present

Benefit reduced by 70cents per additional dollar thereafter

Source: Boston et al, 1999, 124-128

Since 1986, the UB programme has undergone a number of reforms. The benefit rates have been constantly adjusted to accord with the state of the economy at various times. Tables 5.8 and 5.9 elaborate how the unemployment benefit NET rates for recipient without and with children have changed since 1986 respectively. However, in order to examine whether or not the UB rates have been more generous, these

nominal net rates have to be adjusted for inflation. The base year for the Consumer Price Index (CPI) is the year 2004. Graphs 5.3 and 5.4 illustrate the changes in the real UB net rates at change dates for beneficiaries without and with children respectively.

From table 5.9, it can be seen that the rates do not specifically reflect the cost of having children. Unless Family Benefit/Support payments are taken into account, UB basic payments for married couples with children are the same regardless of how many children in the households. After looking at graphs 5.3 and 5.4, it can be seen that once inflation is taken into account, the UB payments for both beneficiaries with and without children are not as generous as they appear in tables 5.8 and 5.9. Noticeably, by and large most UB payments have been stable. However, once the FB/FS payments are included in the UB package, the amounts of real payments for single and married beneficiaries with 2 children or more seem to experience a reduction in the payments after 2000.

Only changes in the benefit rates are not sufficient to conduct an analysis of whether or not the welfare and tax systems could impact no/low income single mothers' decisions regarding their relationship and family formations. The other important piece of information required is how the abatement rates/rules of the UB have changed since 1986. Table 5.5 illustrates the changes in the abatement rates and rules of the UB since 1986 up to the present.

5.2.3: Family Assistance Tax Credits

Since the introduction of the Family Assistance Tax Credits in 1986, the assistance is now paid to the principal caregiver instead of the principal income earner[170]. The principal caregiver is defined as the person who is believed to have the responsibility to provide the day-to-day care of a dependent child on more than a temporary basis. A dependent child is defined as someone who is either aged 15 years or younger, 16 or 17 and not working full-time or receiving a main welfare benefit, student allowance or other government assistance, or aged 18 years and still at secondary school or a

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[170] See Nolan, 2005, p. 47

tertiary institution[171]. Additionally, the principal caregiver does not necessarily have to be the child's birth parent. In case of a shared custody arrangement, having more than one principal caregiver can be arranged[172]. For example, if the child's parents are living apart, and they are both qualifying persons by having met all the eligibility criteria and that they care for their child for at least one third of the time throughout the year, both parents qualify as a principal caregiver[173]. For more historical information of the programmes and how they proceed please refer to Nolan, 2005.

In order to be qualified for the Family Assistance programmes, the following criteria need to be met. The person has to;

      1. be aged 16 years or over

      2. be a principal caregiver of a dependent child

      3. satisfy residency requirements which can be met in two ways

         3.1 The person has been in New Zealand continuously for at least 12 months at any time, is a tax resident and is in New Zealand at the time of application for the Family Assistance Tax Credit programmes, OR

         3.2 The person has been caring for a dependent child who is both a tax resident and is in New Zealand[174].

There are a number of programmes included in the Family Assistance Tax Credits system. These programmes are Family Support, Family Tax Credit, Child Tax Credit/In-Work Payment and Parental Tax Credit[175], [176]. Note that for more information of Family Tax Credit, Child Tax Credit/In-Work Payment and Parental

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[171] See Noland, 2005, p. 47

[172] See Ibid, p. 47

[173] See Ibid, p. 47

[174] See Ibid, p. 47

[175] See Ibid, p. 47-57

[176] Note that the definition of income and periods of assessment (e.g., weekly, monthly, annual) applied in the Family Support programme's entitlement and abatement regime are different from those that apply to other social welfare benefit programmes' and to income tax liability (Nolan, 2005, p. 48, 127-130). This principle reflects the ability of the welfare and tax systems to provide effective target assistance. A comprehensive income definition applied for social assistance and income tax system can be difficult due to the government's conflictio between efficiency objectives, equity objectives and objectives for reducing administration and compliance costs. Consequently, and elaborating differences in different objectives and goals of each programme, income definitions are different for personal income taxes, entitlement to social welfare benefits, and entitlement to Family Assistance programmes (Nolan, 2005, p. 127-8). As a result, These differences in income definitions arise in connection with the unit of assessment and time period for assessment, the treatment of assets and other income outside the existing tax base and the treatment of assets and other income of the self-employed (Nolan, 2005, p. 128)

Tax Credit please refer to an appendix F. These family assistance programmes are not included in this study[177].

Recall that New Zealand's income tax system is assessed on the basis of individual income, whereas, social welfare benefits employs a household as the unit of assessment and a household-based social welfare definition of income, which includes wealth indicators (potential income indicator) and actual income received[178]. In contrast, Family Assistance programme employs the definition of income which compromises taxable income and the social welfare definition of income. It is based on an annual taxable income but using joint income of the caregivers rather than individual as the unit of assessment[179].

5.2.3.1: Family Support Programme

Family Support was introduced on 1st October 1986 in order to replace Family Care, the Family Rebate, the Principal Income Earner Rebate and the Family Maintenance Allowance[180]. It provides financial assistance to low-income households in the form of a refundable tax rebate, ***regardless of their work status***[181]. Consequently, Family Support assistance is available to most families with at least one child aged 18 years and below[182]. The level of the assistance depends on the level of earnings, the number of children in the household and their ages as well as the arrangements of any shared care[183].

The abatement rules apply differently to partnered and single parent households[184].

- Partnered households: the assistance is abated against **joint income** of the caregivers. The income has to be adjusted for the proportion of the income tax

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[177] This is because this study is only a descriptive analysis as aforementioned in chapter one, and therefore including all the programs the women might be eligible for is really complicated. Accordingly, we decided to just include the main benefits in this study.
[178] See Nolan, 2005, p. 128
[179] See Ibid, p. 128
[180] See Ibid, p. 47-48
[181] See Ibid, p. 48
[182] See Family Assistance, 2006
[183] See Nolan, op. cit., p. 48; Family Assistance, 2006
[184] See Nolan, op. cit., p. 48

year that the households are eligible for the Family Support, namely the eligible period.

- Single parent households: the assistance is abated against **income of the caregiver adjusted for the eligible period**[185].

It is acknowledged that since the introduction of the Family Support, it has provided greater assistance for the eldest child than for additional children[186]. After 1989, the assistance amounts also reflected the ages of children in such a way that the assistance was greater for older children than for younger children[187]. As can be seen from the table 5.12 which illustrates changes in levels of the assistance as well as abatement threshold levels since 1986, only between the years 1986 to 1989 did the ages of the children not impact the amounts of the entitlement. Note that the figures of the payments are based on annual payments. For the weekly payments, the figures are divided by 52.

From the table 5.12, it can be seen that Family Support provides a greater financial assistance for the eldest child than additional children, which reflects an assumption of economies of scale of having more children. This assumption states that each additional child incurs a lower marginal cost to the household[188]. Moreover, since April 1989 Family Support assistance has also reflects the recognisation of costs incurred as children age. It can be seen that the entitlement for older children is more generous than that for younger children[189]. In 1997, the third age group was introduced and children aged 16 to 18 received higher assistance than children aged 13 to 15[190].

There were a couple of major changes in the Family Support payment arrangement since 1986. The followings elaborate how and what changes had occurred.

Two-spouse households

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[185] See Nolan, 2005, p. 48
[186] See Ibid, p. 48
[187] See Ibid, p. 48
[188] See Ibid, p. 48
[189] See Ibid, p. 48
[190] See Ibid, p. 48

- 1 October 1986 to 1 April 1990

The Family Support payments were split between spouses equally if they were in a two-spouse household[191].

- 1 April 1990 onwards

The Family Support payment was arranged in such a way that only principal caregivers will be paid the assistance[192].

If spouses are separated

- prior to 1987

Only one spouse could receive the assistance which could include the Family Benefit.

- after 1987

The change was made in such a way that the assistance of both Family Benefit and Family Support would be split between spouses.

- In 1991

Due to the suspension of the Family Benefit in 1991, the government came up with a new system for the splitting of the Family Assistance Payments. Consequently, between 1 April 1991 and 1 April 1993, both spouses could be eligible for the family assistance payments if they were the principal caregiver for 4 out of every 12 weeks. However, after 1 April 1993, this was changed such that both spouses could only be eligible for the assistance only if they were the principal caregiver for 1/3 of the income-tax year[193].

5.2.4: Accommodation Supplement

The Accommodation Supplement (AS) programme was established in 1993 to replace the Accommodation Benefit (AB)[194] and the Housing Corporation's subsidized rents

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[191] See Nolan, 2005, p. 51
[192] See Ibid, p. 51
[193] See Ibid, p. 51
[194] See St John, 1993, p. 18

and mortgages[195]. The main purpose of the AS is to provide primary housing assistance to low-income renters, including both public and private housing, as well as home-owners. The AS benefit is available to both beneficiaries and non-beneficiaries[196]. The eligibility requirements of the recipients depend on whether or not the recipients' housing costs exceed the entry threshold. However, the actual supplement received varies according to the regions the recipients live in, the recipients' income and cash abatements[197]. For more information of the structure of the Accommodation Supplement since 1993, please refer to an appendix C.

5.2.5 Working for Families (WFF) Package

WFF is a government program announced in the 2004 budget, designed to provide financial assistance to low to middle income families with children that are in work and therefore making it easier for these families to work and raise the families at the same time, ensuring income adequacy for New Zealander families[198]. Although WFF effectively started operating on 1st April 2005, it will be fully implemented in 2007/08[199] and is predicted to benefit families with children[200]. The reason why the government focuses on families with children as the main assistant recipients is because it is believed that once tax benefit abatement and other work related-costs are taken into account, many low income families with children are either no or only a little better off in low paid jobs. In turn, this could result in child poverty and negatively impact the low living standards on children over time[201].

WFF helps increase the income of families with children through the following channels. Firstly, Family Support (FS) payments are substantially increased[202]. Also,

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[195] See Boston et al, 1999, p. 221

[196] See St John, 1993, p. 18; Nolan, 2005, p. 274

[197] See Boston, op cit., p. 221

[198] See Dwyer, 2005, p. 1-2; Working for Families, 2004. http://www.msd.govt.nz/documents/media-information/working-for-families/fact-sheet-1.pdf

[199] See Dwyer, op. cit., p. 4

[200] See Ibid, p. 7

[201] See Ibid, p. 2.

[202] Note that FS payments are available to both families with dependent child/ren that are both in work or on benefits. (Dwyer, 2005, p. 2)

some of these families will receive In-Work Payment (IWP), which replaces Child Tax Credit, entitling them to more benefits before they are abated, as long as they are in work. IWP is only available to parent couples who work for an aggregate of 30 hours a week or single parents who work 20 hours[203]. Secondly, housing will become more affordable through more generous Accommodation Supplement (AS) via three channels- entry thresholds reduced by 10-20 percent, maximum level of payments increased up to 50 percent depending on the area and household composition and abatement thresholds increased by 8-20 percent[204]. Thirdly, larger proportions of parents will receive aid with child care costs through more generous pre-school and out of school subsidies. Lastly, the introduction of WFF also comes with more simplification of the government financial assistance through the welfare and tax system. Basically, more information will be made available so people now can find out what they are entitled to and how to use that entitlement more easily[205].

Once fully implemented, it is believed that the WFF package will provide financial assistance to a large proportion of NZ families with children, and hence, improve the living standard of these New Zealanders.

However, WFF is not incorporated in this study, mainly because it was only introduced in 2004 and will not be fully implemented until 2007/08 and the data obtained from the HLFS at the time of this study is only up to the third quarter of 2005. Therefore, in order to properly examine whether or not this WFF package has any impact on the marital and fertility decisions of New Zealand women, especially those with low income, would require a longer time frame in order to create a more substantial data set. The brief background of the WFF package included in this thesis is informative only. More information can be attained by reading a paper by Maloney and Fitzgerald (2007), which examines some of the short run impacts of WFF on partnering and employment. The authors model, partnering up and employment decision of New Zealand women as they are affected by the government payments, take into account the changes in policy that took place in 2005 and 2006. They found

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[203] See Dwyer, 2005, p. 2
[204] See Ibid, p. 2
[205] See Working for Families, 2004.

no evidence of any large impact of the family assistance policy changes on partnering decision.

Chapter Summary

In summary, since 1986 the overall changes in the New Zealand's welfare benefit and tax systems are as the following:

- the income tax system has employed the progressive with a "broad-base, low-rate" combination system. Generally, the tax rate of the lowest income bracket has been the same at 15%. However, the rates have been adjusted at the higher income brackets.

- in the year 1991 most benefit rates were cut and the eligibility requirements were tightened. However, the abatement rates and the income exemption of these benefits programmes remained unchanged since the last adjustment in 1986.

- in the year 1996, most benefit programmes had changes to their abatement rates as well as the levels of the exempted income.

- the changes over time to the DPBs include (i) changes in the work-test requirement in 1986 and 1998 and (ii) changes in the abatement regime in 1996.

- although UB has been undergone a couple of reforms, the eligibility requirements have been by and large the same, however, the benefit rates were made more generous in 1991 and the abatement regime was adjusted in 1996 in such a way that a higher proportion of labour income can be kept before the entire level of UB benefits is ceased.
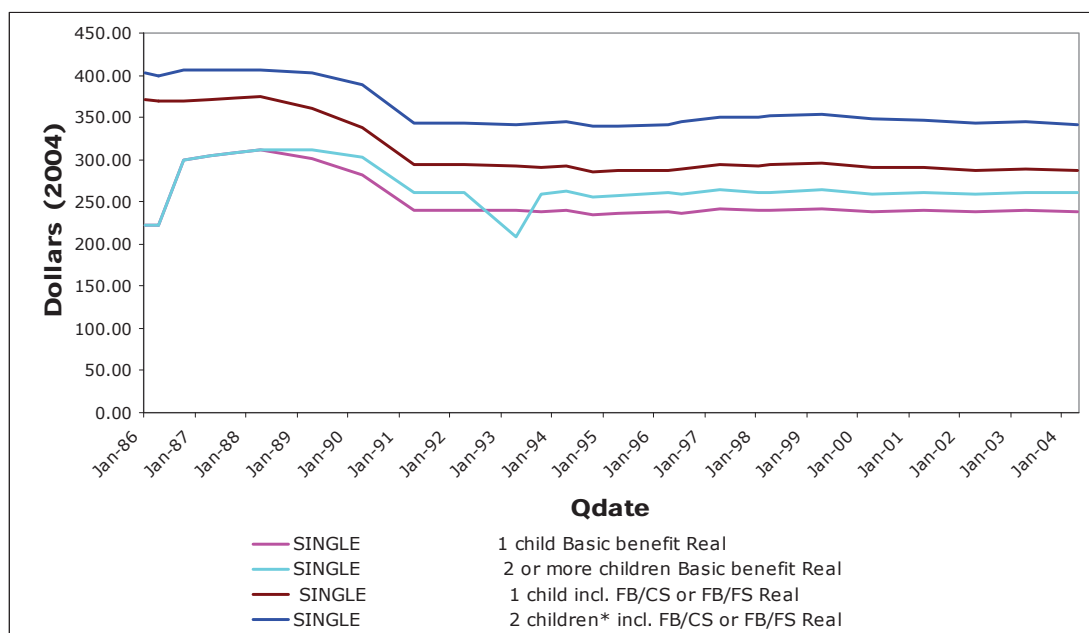
Graph 5.1: Composition of New Zealand's tax base from 1981-2001

Figure 1.2 – *Changing composition of New Zealand's tax base from 1981 to 2001*
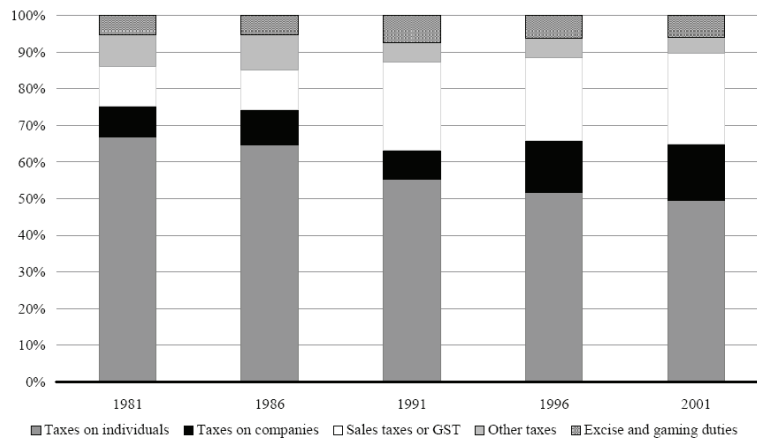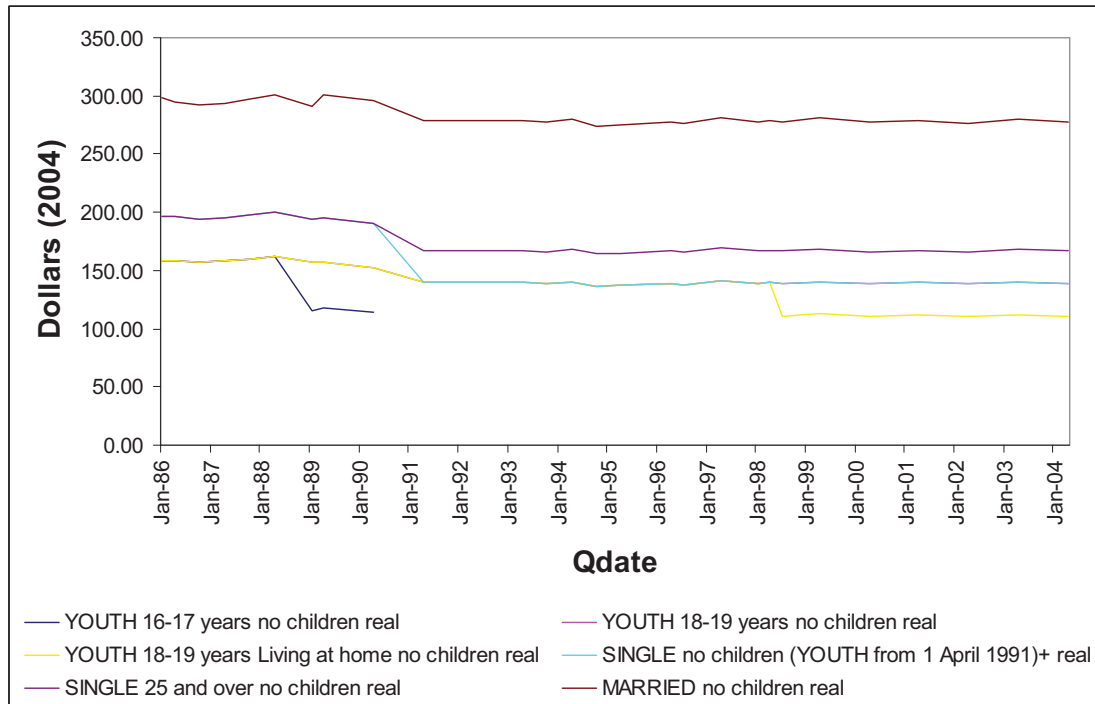

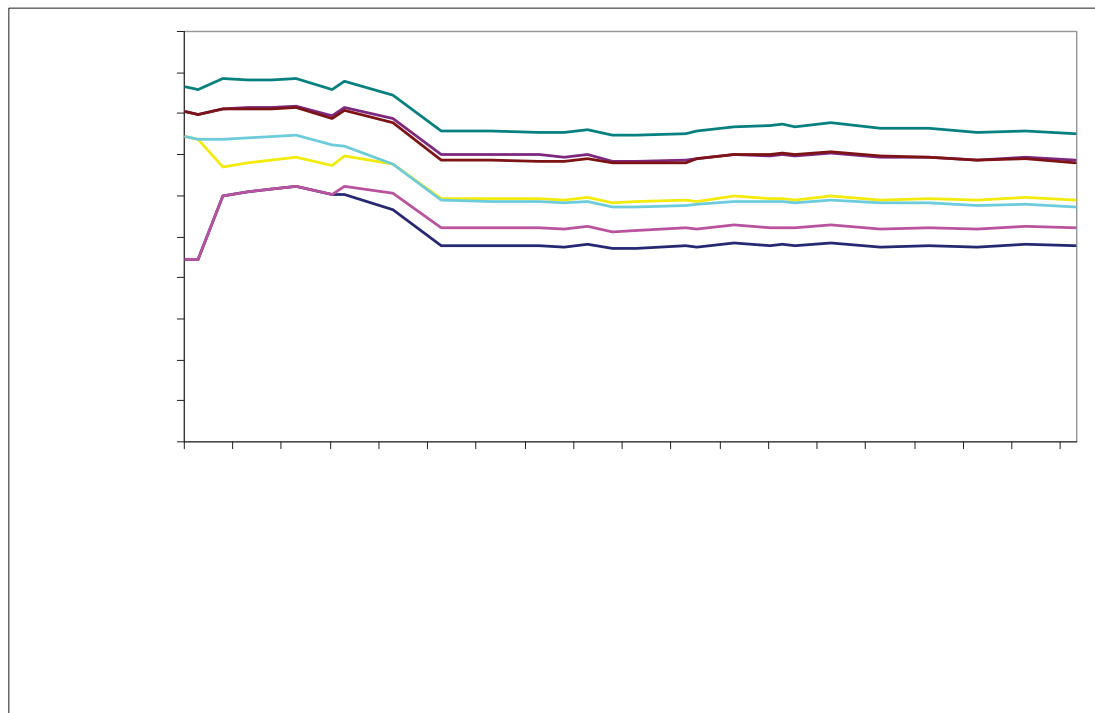Derived from Tax Review 2001 Final Report, 2001, p. 8

Graph 5.2: Changes in the DPB's Real Net Weekly Rates from 1986 to 2004

Graph 5.3: Changes in Real UB net rates for beneficiaries without children

Legend:
- YOUTH 16-17 years no children real
- YOUTH 18-19 years no children real
- YOUTH 18-19 years Living at home no children real
- SINGLE no children (YOUTH from 1 April 1991)+ real
- SINGLE 25 and over no children real
- MARRIED no children real

Graph 5.4: Changes in the REAL rates of the UB for beneficiaries with children since 1986

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