ALBERTA WELFARE REFORM AND EMPLOYMENT OUTCOMES OF WELFARE RECIPIENTS AND SINGLE-MOTHERS

by

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Dedicated to Jesus Christ —

my Saviour

my Provider

my Comforter

and my LORD.

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Abstract

Though the economic literature generally agrees on the positive labour supply effects of welfare reforms in the 1990s; there have been few studies that evaluate how these reforms might have affected employment outcomes of former and potential welfare recipients. This study fills this gap by using the 1993 Alberta welfare reform as a natural experiment. The 1993 and 1994 data from Survey of Labour and Income Dynamics show that welfare recipients and single mothers in Alberta were more likely to participate in the labour force and worked full-time for employers with multiple offices across Canada. Moreover, single mothers received lower wage rates if their employment started after the reform. After controlling for individual heterogeneity; however, single mothers were found to receive higher wage rates and less likely to work full-time. These findings suggest unobservable characteristics are also significant in determining employment outcomes of those affected by welfare reforms.

List of Abbreviations Used

CAP	Canada Assistance Plan
EITC	Earned Income Tax Credit
LF	Labour Force
LFS	Labour Force Survey
LMAS	Labour Market Activity Survey
NDYP	New Deal for Young People
SLID	Survey of Labour and Income Dynamics
SSP	Self-Sufficiency Project
TANF	Temporary Assistance for Needy Families

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Chapter 1

Introduction

The recession in the early 1990s led to soaring unemployment rates and welfare expenditures in Alberta. In response to the growing government deficit, the Alberta government introduced a structural reform to its welfare program in the spring of 1993. Based on the philosophy of "any job is a good job," the Alberta government implemented tightened eligibility, higher financial work incentives, reduced benefits, and mandatory employability program in the reformed welfare system. These changes jointly led to immediate declines in welfare caseloads as employable individuals were moved from welfare to work (National Council of Welfare, 1997). However, is it true that "any job is a good job"? In other words, did the welfare reform in Alberta improve employment outcomes — as measured by job characteristics and employer attributes — of current and potential welfare recipients?

Even though many Canadian and American studies evaluated the labour supply impacts of similar reforms, few studies analyzed welfare reform from the perspective of job characteristics and employer attributes. Some studies found more temporary employment and frequent unemployment spells among former welfare recipients and single-mothers after welfare reform; but these studies provided no information on

other job characteristics, such as pension plan and union coverage, nor employer attributes, such as company size and multiple office locations. In order to evaluate whether the welfare reform has achieved its objective of encouraging economic independence through employment among current and potential welfare recipients, it is important to understand how the reform affects job characteristics and employer attributes among this group.

To demonstrate the importance of job characteristics, unionized workers tend to earn more and have better non-monetary benefits than non–unionized workers (Drolet, 2011). Although wage differences between these two groups can be measured by wage variables that are widely available in labour–related surveys, the higher level of job security that unionized workers enjoy may not be readily observable. In fact, union protection is so strong that sometimes union actions that aim to protect existing wage earners prevent unemployed individuals from obtaining employment (Grover and Stewart, 1999). In addition, union membership and employer attributes can affect incidence and duration of employer-sponsored training. Though consistent relationship between union membership and employer-sponsored training is yet to be found, studies show that workers in larger firms participated more in training (Xu and Lin, 2010). Thus, knowing how the reform might have affected job characteristics and employer attributes can indirectly evaluate the effectiveness of the reform in promoting long-term economic independence among welfare recipients through employment.

Pension plan coverage is also important in determining long-term economic independence. Employer pension plan is the primary non-marketable asset of employees and their survivors. In most eastern provinces, pension plan coverage accounts for

72 percent of wealth inequality (Chawla, 2004). Bäckman (2005) argued that design of pension schemes is significant in poverty alleviation; even though the impacts were concentrated among retirement aged individuals. Schirle (2009) also found that higher pension coverage had increased incomes across the income distribution with marginal disequalizing effects among women between 1996 and 2006. In addition to the direct impacts on income and wealth, design and availability of pension benefits can affect skills formation, retirement decisions, and saving decisions (Jacobs, 2008; Bernheim and Scholz, 1993). Therefore, studying pension plan coverage can provide more insight into the effectiveness of welfare reform.

1.1 Why Study the Alberta Welfare Reform?

Few would disagree about the detrimental impacts of long-term unemployment on the national economy through high social welfare expenditures and absence of restraint on wage inflation. Furthermore, long-term unemployed individuals can become discouraged workers; and hence, redundant human capital (Sunley et al., 2001). Accordingly, government interventions to promote employment were seen as necessary in Alberta after the 1990 recession.

In addition, labour markets changes demanded reform in welfare structure. Job opportunities for the less-skilled were declining. Entry-level jobs requiring low qualifications were increasingly dominated by service sector work. Part-time and casual jobs were replacing full-time employment. The female labour force was growing dramatically. In Alberta, the female labour force grew twice as fast as the male labour

force between 1976 and 1993.[1] Many studies suggested that traditional social assistance, which provided income support passively, could no longer sustain the evolving labour market (Dawkins, 2001; Hoynes et al., 2006; Ray et al., 2009).

As a result, the Alberta government began to cut welfare caseloads and encourage welfare recipients to work in the spring of 1993. These changes were possible despite restrictions from the Canada Assistance Plan (CAP). Although CAP embraced the philosophy of universality and emphasized needs-based eligibility; it was limited in preventing provinces from exercising administrative practices that denied benefits to recipients who refused job offers. For instance, CAP did not prevent British Columbia, Quebec, and Saskatchewan from experimenting with punitive social assistance programs throughout the 1980s (MacDonald, 1999; Graefe, 2006). Similarly, Alberta was able to induce its welfare recipients to the labour force through reducing social assistance benefits by $26 a month per adult and limiting benefits to those ready to work. Between 1992 and 1996, benefits declined by 18.8 percent for single employable and 13.4 percent for single parent with one child. Coverage for prescription drugs, dental and vision care, and funeral services also decreased. In addition, the earnings exemption increased by $58 per month for single persons working full time at minimum wage. Intake interview, employment session, and an employment plan — a binding agreement that outlines how the recipients may obtain employment — became mandatory. Welfare recipients who were deemed employable, which amounted to 70 percent of total recipients at the time of the reform, were expected to secure employment within a reasonable time period. Noncompliance could result

[1]The male labour force grew 42 percent while the female labour force grew 90 percent during this period. Author's calculation from Labour Force Survey estimates. Retrieved from CANSIM Table 2820002, Series V2466978 and V2467188.

in denial or termination of social assistance.

Moreover, the reform introduced employability programs to provide training on basic literacy and numeracy skills, as well as job-search skills, such as resume and interview preparation. Job placement programs, including the Alberta Community Employment Program, the Alberta Job Corps, and the Employment Skills Program, placed employable welfare recipients in jobs that paid minimum wage (Klein, 1996, pp. 134–135; Elton, Sieppert, Azmier, and Roach, 1997, pp. 23; Boessenkool, 1997, pp. 16; Quaid, pp. 150–153). The combination of reduced benefits, increased financial work incentives, sanctions for non-compliance, and employability programs was expected to motivate welfare recipients in Alberta to become self-sufficient through participation in the labour force.

Indeed, the Canada West Foundation interviewed 769 individuals from a random sample of 172,176 cases who left the caseload between September 1993 and October 1996 and found that 53.3 percent of the respondents found a job. Among those who were not on welfare at the time of survey, 48.1 percent worked full-time; but only 12.8 percent of those who returned to welfare had full-time jobs. Even though 33.2 percent of the respondents participated in job training through the Alberta welfare system, less than half of them reported this training to be helpful for them in finding a job. In fact, 34 percent of these respondents rated 1 out of 10 – with 1 being not helpful at all – when asked whether welfare had helped them to achieve independence. It was apparent that welfare leavers faced a bleak financial situation when 68.2 percent of those who were off assistance reported not having enough money to meet basic needs. This proportion was even larger among those who returned to welfare (83.9

percent). For those who were not working at the time of survey (323 individuals), 49 percent of them attributed their unemployment to either lay-off or job loss. This finding shed light on the job insecurity faced by many former welfare recipients (Elton et al., 1997).

Although the above mentioned survey provided an excellent overview of employment profiles among former welfare recipients in Alberta; my study can complement this survey in various ways. First, the survey focuses on former welfare recipients. Since tightened eligibility after the welfare reform in 1993 closed the door of social assistance to many vulnerable individuals, such as single-mothers, former welfare recipients were not the only group being affected. The welfare reform might also compel other vulnerable individuals to join the labour force. In particular, Finnley et al. (2004) showed that the social assistance rates among single-mothers fell more rapidly in Alberta than in the rest of Canada since 1993. For that reason, I study employment outcomes of both former welfare recipients and single-mothers. Second, the survey does not provide information on current or former welfare recipients prior to the reform. As such, one cannot identify from the survey how the Alberta welfare reform has affected employment outcomes. I fill this gap by using data from both before and after the reform, as well as comparing Alberta with other provinces. Therefore, my study would contribute to understanding the impact of the Alberta welfare reform on both former and potential welfare recipients.

An important advantage of studying the Alberta welfare reform is the absence of other policy changes during the study period. Studies of Temporary Assistance for Needy Families (TANF), an American program similar to the 1993 Alberta welfare

program, could not disentangle the program effect from impacts of Earned Income Tax Credit (EITC), a refundable income tax credits available to low-income households with at least one worker, and a strong economy (Moffitt, 2002; Cebula and Coombs, 2007; Shannon, 2009). In comparison, the 1993 Alberta welfare reform occurred before the Employment Insurance reform and the introduction of the National Child Benefit Supplement.[2][3] Also, there were no other comparable provincial welfare reforms between 1993 and 1994 (National Council of Welfare, 1997). This study can identify the impact of the Alberta welfare reform on employment outcomes among former and potential welfare recipients by comparing Alberta with other provinces. Hence, this study fills a gap in the literature.

One of the limitations of this study is the small sample size of welfare recipients and single mothers. With 32 observations for welfare recipients and 79 observations for single mothers in Alberta, statistical inference can become unreliable. Moreover, resource constraints and time limits prevent the use of methodologies specified by Statistics Canada. Though this study incorporates sample weight in descriptive statistics and regressions, hypothesis tests may still subject to error. For the purpose of this study, using sample weight in the conventional way can still provide valuable insight and additional evidence on how welfare reforms might affect employment outcomes among welfare recipients and single mothers. Furthermore, this study can motivate future research when more data become available.

[2]The first phase of reform – the introduction of the Employment Insurance Act – was implemented in July 1996, two years after the studied period (Kerr, 1998).

[3]The National Child Benefit Supplement, a program similar to Earned Income Tax Credit in the United States, was introduced in 1998 (Shannon, 2009).

There are 6 chapters in this study. Chapter 2 reviews the existing literature on employment impacts of financial incentives and employability programs. Chapter 3 evaluates the Alberta welfare reform using a static labour supply model and data from the Survey of Labour and Income Dynamics (SLID). Taking advantages of the longitudinal data, Chapter 4 analyzes employment outcomes using individual fixed effects models. Lastly, Chapter 5 concludes this study with discussions on policy implications and further research.

Chapter 2

Literature Review

As mentioned in Chapter 1, the Alberta welfare reform implemented both financial work incentives and employability programs. Financial incentives can be in the form of reduced benefits, wage subsidies, or a combination of both. Employability programs include resume writing and interview skills workshops, basic literacy skills training, and job placement with or without pay. The literature has evaluated the roles of these two components separately and jointly. My discussion begins with the impact of financial incentives.

2.1 Financial Incentives Increase Labour Supply

Financial incentives generally increase employment among welfare recipients in Canada and the United States. An evaluation of the Quebec wage subsidy program that targeted single parents found a slight increase in duration of off-welfare spells and decreased duration of on-welfare spells; even though response to the program varied considerably with unobserved individual heterogeneity (Lacroix, 2009). Assessments of the Self-Sufficiency Project (SSP) in New Brunswick and British Columbia, a program that randomly provided wage subsidies to single-mothers who received welfare

for at least one year, found that the treatment group was twice as likely as the control group to be working full-time. However, the labour supply effect diminished rapidly after the expiration of wage subsidies. Moreover, participants in the treatment group tended to accept low-wage jobs that were inherently unstable. Full-time employments among those in the treatment group exhibited no wage growth over the 54-month study period. Moreover, the treatment group and the control group were equally likely to receive income assistance by the middle of the first year after the wage subsidy expired. This assessment concluded that financial incentives could motivate employment among welfare recipients in the short run but had no effect on long-term employment outcomes (Michalopoulos et al., 2002).

American studies of financial work incentives find similar positive labour supply effect; but only a few studies evaluated types of employment induced by financial incentives. For instance, research found that the EITC expansion in 1993 had induced more single-mothers to the labour market (Cebula and Coombs, 2007). Similarly, Beamer (2005) found that the expanded EITC effectively reversed work disincentives and increased family incomes for working poor families. Wage subsidies also increased probability of employment but not hours of work among single-mothers and married men (Moffitt, 2002). However, there is little American evidence on how financial incentives alone may affect employment outcomes.

2.2 Employability Programs Improve Employment Outcomes in the Short-Run

As for the effectiveness of employability programs, there is mixed evidence. In general, the literature found training programs to be ineffective, unless the programs were targeted to specific groups (Lacroix, 2009). An evaluation of SSP Plus, a special program of SSP in New Brunswick and British Columbia that provided employment services in addition to wage subsidies, found that these services enhanced the take-up of wage subsidies. Nevertheless, participants tended to lose their jobs quickly, supporting the common finding that former welfare recipients were likely to work in insecure jobs. One reason might be that users of employment services were more focused on finding employment immediately rather than on developing human capital through education and training, which could enhance future opportunities for career advancement. These results are consistent with the argument by Morris, Santhiveeran, and Lam (2007) that work-first approach in welfare reform could discourage higher education; thus limiting opportunities for promotions or switching from manual-based to knowledge-based occupations. Nonetheless, SSP Plus participants had $104 more in monthly earnings than SSP participants even six months after the wage subsidy expired (Robins et al., 2008). This finding shows the positive longer-term impact of employability programs on earnings as compared to financial incentives.

But interviews with Ontario Works recipients suggested otherwise. Despite mandatory participation in employability programs, Ontario Works recipients found themselves being trapped in low-pay and unstable jobs:

> I've never worked this hard in my life.... But I've got no choice. I've got to stay there for now. It's sink or swim.... It won't lead to other jobs... I feel trapped. If I take a day off to try and find something else, they'll fire me... I'm just doing this to stay alive... I'm making an effort but I don't know how long I can keep it up. It's no better than welfare. (Lightman et al., 2005, 15)

In fact, between 20 and 25 percent of welfare leavers in Ontario returned to welfare within one year of exit after the introduction of Ontario Works (Stewart and Dooley, 1999; Frenette and Picot, 2003).

Welfare recipients in the United States had similar experiences as the above quoted Ontario Works recipient. Although an assessment of the Job Opportunity and Basic Skills program, a federal program that provided funds for welfare-to-work program services, found work requirements combined with sanction for noncompliance increased employment and earnings by $1400 to $2500 among the treatment group as compared to the control group; these findings were concentrated in the early years of the program. Eventually, between 66 and 88 percent of the control group was employed during the five-year study period, suggesting the treatment effect resulted from earlier entrance to the labour market rather than better labour market performance. Employment rates and earnings of both groups also became more equivalent over time. In addition, even those who became employed remained poor or near-poor (Morris et al., 2007; Slack et al., 2007; Needles Fletcher et al., 2008). This evidence indicates that employability programs only encouraged employment in the short run without significantly improving employment outcomes in the long run.

The literature proposed four reasons to explain the ineffectiveness of employability programs in improving employment outcomes of former welfare recipients. First, welfare recipients may possess invariant characteristics that hinder them in the labour market, such as visible minority status, gender, and work-limiting disabilities. Second, many welfare recipients may be constrained from desirable employment opportunities by exogenous circumstances, including lone parenthood, domestic violence, and lack of transportation. Third, skills training offered by employability programs are generally inadequate. Those who completed training that was equivalent to a high school diploma still had relatively low human capital in the labour market (McQuaid and Lindsay, 2005; Lightman et al., 2009). Fourth, employability programs fail to acknowledge the important role of labour demand in determining the employment conditions of job seekers.

To elaborate on the fourth reason mentioned above, employability programs primarily focus on improving individual capabilities rather than influencing labour demand for low-skilled labours; but local labour market conditions have considerable implications for work entry, retention, and progression opportunities. In particular, there is increasing uncertainty and insecurity in the labour market for those with few skills and low qualifications because of the growing prominence of short-term, seasonal, and casual employment that offers few promotion opportunities (Sunley et al., 2001; McQuaid and Lindsay, 2005; Lightman et al., 2008; Baum et al., 2009; Ray et al., 2009). On the other hand, employer recruitment and orientation processes are typically unfavourable or inaccessible to long-term welfare recipients. Interviews with employers in the United Kingdom revealed that many of them communicated job vacancies through channels such as word-of-mouth and internal job posting, which

might not reach the long-term unemployed. The United Kingdom Jobcentre, a key facilitator of job opportunities for the unemployed, was dismissed by employers as a means of communication. Furthermore, a majority of these employers suggested limited initiative to help previously unemployed employees in adjusting to the workplace. On-the-job training was also limited. This lack of initiative from employers might prevent welfare recipients from improving their employment outcomes despite positive impacts from employability programs (Devins and Hogarth, 2005; Ray et al., 2009).

2.3 Mixed Evidence on Joint Impacts

While having considered the individual effects of financial incentives and employability program; I have noted that the Alberta welfare reform combined these two elements to encourage self-sufficiency among welfare recipients through employment. This section reviews similar programs that had been implemented in the United States and the United Kingdom.

Temporary Assistance to Needy Families (TANF) replaced Aid to Families with Dependent Children in the United States in 1996. TANF requires recipients to participate in job search activities and to accept any available employment. The program also provides financial work incentives. Moffitt (2002) concluded from a literature review that estimates of the effects of TANF were generally positive on employment and earnings.[1] Lim, Coulton, and Lalich (2009) found that a combination of generous

[1]But these findings must be interpreted with cautions; for the effects of TANF could not be separated from other simultaneous policy changes. Ellwood (2000) estimated that 50 percent of the rise in labour supply among single-mothers could be attributed to TANF. The remaining 30 percent

financial incentives and lenient work requirements was associated with higher hourly wages. Labour supply unambiguously increased among low-skilled single-mothers after the introduction of TANF; even though there was only modest wage growth. These recipients also faced frequent unemployment spells (Ellwood, 2000). Likewise, Chen and Corcoran (2010) reported 40 percent of female TANF recipients held temporary jobs over a six-year period following the 1996 welfare reform. Morris et al. (2007) also found that steady full-time job was uncommon among former female TANF recipients. This group typically worked in service and sales occupations or in occupations with low wages. Ellwood (2000) argued that this was likely due to the difficult choice faced by many single-parents between providing for and nurturing of children.

Similar to TANF in the United States, the United Kingdom also introduced the New Deal in the 1990s to encourage employment among different groups of employable welfare recipients. Shannon (2009) summarized two studies on the impacts of this program on lone mothers and concluded that there was a substantial rise in lone-mother employment during that time period. On the other hand, an evaluation of the New Deal for Young People (NDYP), which targeted employable welfare recipients under age 25, found that unsustainable employment remained as high as 40 percent among this group. In addition, over 20 percent of all current NDYP participants were re-entrants (Sunley et al., 2001). Ray et al. (2009) proposed that the consistent high rate of unsustainable employment and re-entrance to welfare among young welfare recipients might be due to their attitudes towards employability programs. From interviews with long-term unemployed males in the United Kingdom, Ray et al. (2009) found that younger, single recipients were less likely to make plans or employ any

was from the expansions of EITC and 20 percent from a strong economy.

strategies to improve their employment situations. They left schools at their earliest opportunities and regularly cycled between work and benefits. The lack of initiative in improving their situations might result from the absence of financial responsibilities among this group. This description corresponds to the high rate of re-entrance among NDYP participations mentioned above.

In summary, the existing literature remains inconclusive as to whether a combination of financial incentives and employability program could improve employment outcomes of welfare recipients and single-mothers. Therefore, I can contribute to the literature by providing additional evidence from the Alberta welfare reform.

Chapter 3

Pooled Cross-Section Analysis

3.1 A Static Labour Supply Model

To analyze the Alberta welfare reform, I first consider the impacts of a combination of financial incentives and employability program on labour supply among welfare recipients and single-mothers. I then discuss changes in job characteristics and employer attributes after the reform.

In the static neo-classical labour supply model, individuals alter their labour supply in response to changes in non-labour income and wage rates. Individuals would not enter the labour force if the market wage rate is below their reservation wage. Available welfare benefits constitute part of non-labour income; whereas dollar-for-dollar reduction in benefits from employment earnings is effectively a 100 percent tax rate on wages. For those who are not in the labour force, Gottschalk (1988) hypothesized that a decrease in guaranteed benefits would reduce reservation wages for individuals who would become ineligible for benefits after obtaining employment; hence making employment more likely among this group. On the other hand, higher earning exemptions reduce the marginal tax rate and increase the effective wage rate

(Danziger et al., 1981). In the context of the Alberta welfare reform, reducing benefits and increasing earning exemptions are predicted to jointly increase the probability of being in the labour force among eligible welfare recipients. Since this model does not allow prediction on employment outcomes in terms of job characteristics and employer attributes; however, other models are needed.

Grover and Stewart (1999) proposed a static labour market model to explain the consequences of workfare. In their market workfare model, compulsory work requirements effectively lowered market wages. Since welfare recipients are required to work in the first job available regardless of their reservation wages, more workers would enter the labour market. This exogenous increase in labour supply would lower the price of labour, ceteris paribus. Hence, even though financial incentives increased the effective wage rates among welfare recipients, market wage rates would decrease.

In addition, the welfare reform is not expected to improve job characteristics among welfare recipients. Ray et al. (2009) identified old age, limited education and trainings, previous work experiences in a single field, and family circumstances as explanatory factors for the unsatisfactory employment outcomes among long-term unemployed males who participated in the United Kingdom Employment Retention and Advancement Demonstration, a program that offered them support and financial incentives to stay in work and advance in their career. The fact that most of these long-term unemployed males re-entered the labour force through temporary employment also prevented them from upgrading their skills. Irregular work schedules prohibited these male workers from attending classes; and family responsibilities would not allow them to forego present employment in exchange for full-time education. In addition, they

only received on-the-job training that was relevant to their current workplace. Hence, the skills they acquired were non-transferable. It was apparent in the study that temporary jobs acted as a barrier, rather than a stepping stone, for long-term unemployed males to become self-sufficient through employment.

As described in the previous Chapter, less than half of welfare leavers who left welfare following the Alberta welfare reform were employed full-time. Many of them remained unemployed or worked part-time at the time of survey (Elton et al., 1997). Consequently, the model predicts that even though the reform increased labour force participation among former and potential welfare recipients, it would have negative impacts on employment outcomes as measured by job characteristics and employer attributes.

In order to test the hypothesis, reduced-form estimations are used to control for other relevant variables. Studies show that these other factors include age, education, previous work experience, presence of young children, family composition, and regional economic indicators, such as female and male unemployment rates and average wage rates in goods and services sectors (Moffitt, 2002; Hoynes et al., 2006; Cebula and Coombs, 2007). Hence, by controlling these variables and using cross-province variation, as well as variations between eligible and ineligible populations, I can identify the net policy effects on labour supply and employment outcomes.

3.2 Survey of Labour and Income Dynamics

This study uses the public micro longitudinal data from the Survey of Labour and Income Dynamics (SLID) for the period of 1993 and 1994.[1] It is representative of the population in the 10 Canadian provinces, excluding those living in institutions, in the military, or on reserves, with its initial sample drawn from the Labour Force Survey (LFS). LFS uses an area frame and a stratified, multi-stage design with probability sampling. The SLID sample consists of 15,000 households that includes about 31,000 persons (Statistics Canada, 1997).

SLID is designed to obtain precise income and labour force statistics of working-age individuals. It provides more measures of labour supply and better measures of hours worked and earnings, as well as a rich collection of individual characteristics that allows control for factors that may influence labour supply (Lefebvre and Merrigan, 2008). By linking the person and job files, detailed information on job and employer characteristics are also available for the purpose of this study.

Despite the advantages of using SLID, studies have identified systematic under-reporting of social assistance cases in this survey. SLID also provides relatively little information on welfare recipients, such as their historic income information and reasons of applying for welfare. Although other data sources, such as administrative data and special surveys, would provide more such information; they typically do not provide data on potential welfare recipients or those who left the caseload (Kneebone and White, 2009). Hence, this study uses SLID as the primary data source. Data for

[1] I limit the study to these two years because this is the only survey period for which longitudinal data are publicly available. Moreover, two years of data are sufficient to study the short-run impact of the Alberta welfare reform on employment outcome as the reform took place in early 1993.

regional economic indicators are retrieved from LFS Estimates.[2]

I restrict the sample to those aged between 16 and 64 in 1994, living in the same province throughout 1992 to 1994, and without self-reported work-limiting disabilities. These restrictions can focus my analysis on those who are likely to be active in the labour force during the study period and exclude individuals who might have moved in anticipation of the welfare reform. In addition, observations for individuals aged 19 or under, who were not living as an unattached individual, not married, or never had a child, are dropped. Since there is no indication whether the surveyed individual is the head of household, excluding these observations can avoid including labour supply information of dependants, which are not directly affected by welfare reforms.

Since individuals may hold more than one job during the year, I need an algorithm to appropriately measure employment outcomes. For continuous variables that span throughout the year and can be averaged, such as wages and hours worked, I use the weighted measures provided by Statistics Canada.[3] As for other outcomes, such as employer attributes, full-time status, collective agreement protection, and pension plan coverage, I use the job that is last held by the individual during the year. If an individual holds more than one job at the same time, the first job that started is used.[4]

[2]Retrieved from CANSIM. Table 2820002 for unemployment rates among males and females aged between 15 and 64 years. Table 2810004 for good-producing and service-producing industries hourly wage rates, excluding overtime and seasonally unadjusted

[3]One example is composite wage rate (coded cmphw28), which is calculated based on the implicit hourly wage (including overtime, commissions, and tips) for all jobs using total hours worked for each as weight.

[4]For instance, if an individual started a job in January 1993 and started another job in April 1993 without leaving the first job, employers attributes and job characteristics of the first job would

Before analysing the impacts of welfare reform on welfare recipients, it is helpful to look at whether there are any significant differences between welfare recipients and non-welfare recipients in Alberta. There are two ways to distinguish between welfare recipients and non-welfare recipients for the purpose of this study. First, I can classify all those who received social assistance in any given month before the reform as welfare recipients and the rest as non-recipients, even though some "non-recipients" might collect social assistance after the reform. Such a classification would better capture the effect of welfare reform on welfare recipients. Since the reform severely tightened eligibility, those who became recipients after the reform might be systematically different from recipients prior to the reform. However, such a classification would limit the number of Albertan recipients to 32, which could undermine the reliability of the regression results. The second option is to classify all who received social assistance in any given month in 1993 as "recipients" and the rest as "non-recipients". This classification would increase the size of the treatment group to 60 but might dampen the treatment effect. For this reason, this study uses the first classification to better capture the treatment effect. Shortcomings of the small treatment group is complemented by studying single-mothers in Alberta, one of the most vulnerable groups needing social assistance.[5]

be used in this study. However, if the individual left the first job after starting another job in April 1993, information of the second job is used.

[5]Descriptive statistics are weighted using sample weight provided by Statistics Canada (coded ELGW26C) with the iweight command in STATA.

3.2.1 Welfare Recipients in Alberta were Less Educated, Spent More Time Unemployed, and were More Likely to Work in Jobs with No Non-monetary Benefits than Average Albertans

Table 3.1 shows that in Alberta, welfare recipients were in general younger than non-welfare recipients in 1993. Welfare recipients were more likely to be visible minority (36 percent versus 10 percent), Aboriginal (6 percent versus 3 percent), and immigrants (40 percent versus 19 percent). Although both groups were equally likely to have had or raised a child (80 percent among welfare recipients versus 74 percent among non-recipients), more than half of welfare recipients had one or more child aged 0 to 4; whereas only 18 percent non-welfare recipients had such a young child. However, non-welfare recipients were more likely to have one or more child aged 10 to 14 (23 percent) than welfare recipients (15 percent). Non-recipients were in slightly larger families (3.16 people versus 3.01 people). Their families also had more people employed (1.69 versus 0.93) and fewer people unemployed (0.31 versus 0.93). In particular, non-welfare recipients had 1.12 full-year full-time workers; whereas recipients only had 0.16. Such differences could result from both fewer family members being employed and smaller likelihood to work full-time among recipients.

On the other hand, even though welfare recipients only had 0.18 year less education than non-recipients; 37 percent of recipients had not graduated high school compared with less than one-third of non-recipients. More recipients were current students in 1993, and they were more likely to be full-time students. Moreover, recipients only

had one-third of full-year full-time equivalent past work experience as non-recipients.[6] Although recipients spent around 16 weeks not in the labour force while non-recipients spent 9 weeks; recipients were only employed for less than 20 weeks compared with 42 weeks among non-recipients. Furthermore, 70 percent of recipients worked full-time when 87 percent of non-recipients were employed full-time. All welfare recipients who worked part-time reported those were the only jobs available. In comparison, 21 percent of non-recipients who worked part-time reported such constraint. The major reason of working part-time among non-recipients was because they did not want full-time job (27 percent). The average total paid hours among recipients were only one-third of non-recipients (396 hours compared with 1626 hours). They also earned $8.30 per hour on average as compared to $15.11 among non-recipients. Less than half of welfare recipients worked regular daytime schedule compared to 73 percent of non-recipients. Also, more recipients worked in the evening and irregular schedule and more non-recipients worked shifts.

As for occupation, all recipients worked in either semi-skilled (32 percent) or unskilled jobs (68 percent), whereas it was quite evenly distributed among non-recipients (between 17 percent and 25 percent, ranging from professional to unskilled occupations). On the other hand, recipients were half as likely as non-recipients to work for employers that had multiple offices across Canada. 67 percent of recipients worked for employers who had less than 100 employees and none of them worked for employers that employed more than 1000 employees. Furthermore, none of the welfare

[6]The full-year full-time equivalent past work experience variable is available in SLID, which sums years worked full-year or part-year and full-time or part-time work schedules starting from the respondent's first full-time job, excluding summer job while in school, into one single measure (Statistics Canada, 1997).

recipients were covered by collectively agreement, worked in the public sector, or had employer-sponsored pension plan. These data were consistent with other studies that show employment among welfare recipients were in general insecure and provided few non-monetary benefits.

Because of fewer paid hours and lower hourly wage rate, welfare recipients had less than half of after-tax equivalent income ($9,096) than average non-recipients in Alberta ($20,592).[7] However, each individual recipients contributed more to family earnings (56 percent) and family income (76 percent) when compared with non-recipients (51 percent and 52 percent respectively), suggesting that households with welfare recipients experienced low-income through both lower individual income and fewer earners in the family. Unsurprisingly, 71 percent of welfare recipients relied on government transfer as their largest income source. They were also more limited in terms of income source diversity than non-recipients.

3.2.2 Welfare Recipients in Alberta Enjoyed Less Generous Benefits and Stricter Eligibility than Recipients in Other Provinces

The characteristics of welfare recipients in the rest of Canada were different than those in Alberta. Canadian welfare recipients were two years older, and fewer of them were visible minorities or immigrants. In fact, the proportion of these two groups were similar among recipients and non-recipients in the rest of Canada. But Albertan and other Canadian welfare recipients were similar in their family characteristics, with

[7]Equivalent income calculated using OECD scale supplied by Statistics Camada.

comparable number of children at corresponding ages.

Though Albertan welfare recipients were less educated than average Albertans, they had on average 1.7 years more schooling than recipients in the rest of Canada. Moreover, only 43 percent of Canadian welfare recipients graduated high school compared with 63 percent of Albertan recipients. But this was offset by 1.8 years more full-year full-time equivalent work experience among welfare recipients in the rest of Canada. Nonetheless, Canadian welfare recipients spent more time not in labour force and less time being employed, suggesting they were less active in the labour market. Also, more Albertan recipients worked full-time (70 percent) in comparison to those in other provinces (57 percent).[8] Among Canadian welfare recipients who worked part-time, though a majority of them reported that there were only part-time jobs available, others also reported working part-time because of not wanting a full-time job or family responsibilities. Albertan welfare recipients worked more hours (396 hours) than recipients in other provinces (249 hours); whereas the average composite wage rate among Albertan welfare recipients was 21 cents lower than other Canadian welfare recipients. As opposed to concentration in semi-skilled and low-skilled jobs among Albertan welfare recipients, some of the Canadian recipients worked in jobs that were classified as professional or supervisor.

The employment outcomes of Canadian welfare recipients were more diverse, including nearly 40 percent of them worked for employers with multiple offices across Canada, 7 percent worked in the public sector, 12 percent had employer-sponsored pension plan, and 12 percent was protected by union—collective agreement. Albertan

[8]It should be noted that the unemployment rates in Alberta were 9.53 and 9.7 for females and males respectively in 1993, which were lower than the average in the rest of Canada (12.02 and 13.55 for females and males).

welfare recipients were also financially worse—off than their Canadian counterparts by almost $100 less after-tax equivalent income. Even though Canadian welfare recipients only contribute 21 percent of their family earnings, they made up of 70 percent of family income on average, suggesting they received a large proportion of their income from sources other than earnings and salaries. Indeed, 87 percent of Canadian welfare recipients relied on government transfers as their largest source of income compared with 69 percent of Albertan welfare recipients. These data suggest that though Albertan welfare recipients had been more active in the labour market, they faced relatively unfavourable financial situations even before the welfare reform.

Table 3.1: Characteristics of Welfare Recipients in Alberta and the Rest of Canada in 1993

	1993			
	Canada		Alberta	
	Non-Recipients	Recipients	Non-Recipients	Recipients
N	17295	491	1813	32
Demographic Characteristics				
Age	37.55	34.61	37.16	34.11
	(12.76)	(10.61)	(12.50)	(9.94)
Visible Minority Status	8.3%	13.96%	9.99%	36.17%
Aboriginal Status	2.48%	6.75%	3.18%	6.42%
Immigrants	16.42%	18.7%	19.15%	40.37%
No. of Children Born or Raised	1.71	1.82	1.85	1.93
	(1.45)	(1.22)	(1.50)	(1.55)
Ever Had or Raised a Child	72.03%	87.4%	74.7%	80.26%
Child 0 to 4	16.75%	29.86%	18.31%	53.25%
Child 5 to 9	16.87%	31.67%	18.99%	32.35%
Child 10 to 14	19.41%	25.87%	22.96%	15.39%
Family Labour Force Characteristics				
Family Size	3.16	3.01	3.16	3.01
	(1.38)	(1.41)	(1.50)	(1.12)
No. of Employed	1.71	0.48	1.69	0.93
	(0.84)	(0.71)	(0.78)	(0.44)
No. of Unemployed	0.35	0.52	0.31	0.93
	(0.60)	(0.62)	(0.53)	(0.26)

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Characteristics of Welfare Recipients in Alberta and the Rest of Canada in 1993
Continued

	1993			
	Canada		Alberta	
	Non-Recipients	Recipients	Non-Recipients	Recipients
FYFT Workers	1.13	0.15	1.12	0.16
	(0.78)	(0.39)	(0.68)	(0.47)
Labour Force Characteristics				
Education (Years)	12.86	11.15	13.06	12.88
	(3.27)	(3.09)	(2.80)	(3.10)
Graduated from High School	67.33%	42.92%	70.34%	63.34%
Current Student	21.52%	28.97%	18.75%	26.15%
Current FT Student	66.37%	75.87%	64.31%	95.19%
FYFTE experience	13.01	6.27	13.16	4.43
	(11.60)	(8.02)	(11.25)	(5.46)
Annual Labour Force Status				
Employed	85.2%	28.22%	88.01%	69.53%
Unemployed	3.34%	29.32%	1.45%	19%
Not in Labour Force	11.46%	42.46%	10.54%	11.47%
Employed (weeks)	40.23	9.40	41.92	16.99
	(20.31)	(17.86)	(19.08)	(18.84)
Unemployed (weeks)	3.27	15.74	2.41	20.12
	(9.75)	(21.94)	(7.74)	(19.52)
Not in Labour Force (weeks)	9.50	27.86	8.67	15.89
	(18.59)	(24.73)	(17.99)	(19.98)
Job Characteristics				
Full-Time	84.96%	57.47%	86.93%	69.63%
Part-Time	15.04%	42.53%	13.07%	30.37%
Reason for Part-Time				
Own Illness	0.42%	0%	0%	0%
Childcare	8.18%	10.83%	13.84%	0%
Elder Care	0.09%	0%	0.51%	0%
Family Responsibilities	3.33%	5.13%	10.39%	0%
Going to School	12.7%	0%	11.09%	0%
Only PT Available	31.17%	57.18%	20.66%	100%
Did not want FT work	27.22%	17.74%	27.1%	0%
FT under 30 hours	11.49%	4.72%	11.85%	0%
Other	5.41%	4.41%	4.56%	0%
Total Paid Hours	1449.05	249.61	1626.14	396.42
	(968.70)	(557.76)	(1,048.13)	(550.21)
Composite Hourly Wage	15.21	8.51	15.11	8.30
	(7.85)	(3.58)	(7.94)	(4.66)
Schedule				
Regular Daytime	73.93%	65.66%	73.38%	48.49%

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Characteristics of Welfare Recipients in Alberta and the Rest of Canada in 1993
Continued

	1993			
	Canada		Alberta	
	Non-Recipients	Recipients	Non-Recipients	Recipients
Regular Evening	5.59%	19.3%	5.48%	33.79%
Shift	11.6%	7.68%	10.12%	0%
Irregular	8.87%	7.36%	11.01%	17.72%
Occupation				
Professional	27.91%	21.2%	25.47%	0%
Supervisor	17.06%	7.15%	21.32%	0%
Skilled	18.99%	11.81%	17.02%	0%
Semi-Skilled	19.45%	19.89%	17.55%	32.13%
Unskilled	16.6%	39.95%	18.64%	67.87%
Employer				
Multilocations	47.81%	38.93%	49.11%	32.13%
Less than 20 employees	29.76%	54.67%	33.34%	7.12%
20-99 employees	13.33%	7.54%	11.38%	60.74%
100-499 employees	13.34%	6.14%	13.14%	16.07%
500-999 employees	8.62%	4.94%	7.31%	16.07%
More than 1000 employees	34.96%	26.71%	34.83%	0%
Public Sector	22.15%	7.27%	20.35%	0%
Private Sector	77.85%	92.73%	79.65%	100%
Pension Plan	53.74%	12%	46.25%	0%
Collective Agreement	39.98%	12.12%	27.4%	0%
Income Levels				
After-tax Equivalent Income	20,545	9,128	20,592	9,069
	(10,954)	(3,888)	(11,999)	(3,419)
Individual % of Family Earnings	49%	21%	51%	56%
Individual % of Family Income	49%	70%	52%	76%
Largest Source of Income				
No Income	3.72%	0%	3.73%	0%
Wages	72.23%	9.3%	73.02%	19.26%
Self-Employment	5.98%	1.21%	7.51%	9.45%
Government Transfers	12.76%	86.94%	8.59%	71.29%
Investment	2.35%	0%	3.15%	0%
Retirement Pensions	1.16%	0.03%	1.28%	0%
Other	1.81%	2.52%	2.71%	0%

Data Source: Statistics Canada. Survey of Labour and Income Dynamics, 1992-1994.
Standard deviations reported in parentheses

As mentioned before, the small treatment group of welfare recipients made another categorization of control and treatment groups necessary. The literature generally agrees that single-mothers are one of the most vulnerable groups needing social assistance. Hence, I use single-mother in Alberta as a treatment group of the welfare reform, with females from other family compositions in Alberta and all females in the rest of Canada as control group. I also look at characteristics of males by family composition. Similar to single-mothers, single-fathers are more likely than married men and males in other family compositions to receive social assistance. Because of the small sample size; however, regression analysis may not provide reliable estimates. Therefore, I would limit my analysis to single-mothers.[9]

Table 3.2 describes the characteristics of females in Alberta and the rest of Canada by family composition. I would first compare single-mothers with those from other family compositions in Alberta. Then, I would contrast females in Alberta with those in the rest of Canada. This study uses all observations aged between 16 and 64 in 1994. But Table 3.2 shows that single mothers are in general younger than females in other family compositions. Due to biological factors, as well as significant changes in female labour force participations during the last few decades, females within such a wide age range may not be comparable. A closer comparison would be females between 16 and 45; yet limiting the sample would further decrease the sample size. Thus, this study includes all females aged between 16 and 64 in 1994.

[9]Please note that observations with unknown family composition were dropped from this analysis. In total, 31 observations were dropped for Alberta and 243 observations were dropped for the rest of Canada.

Table 3.2: Characteristics of Single Mothers in Alberta and the Rest of Canada in 1993

	1993							
	Canada				Alberta			
	Unattached	Married	Lone-Mothers	Other	Unattached	Married	Lone-Mothers	Other
N	804	6093	608	1154	103	606	79	89
Demographic Characteristics								
Age	39.36	37.97	34.70	39.59	36.26	37.68	33.53	40.80
	(13.61)	(12.04)	(11.07)	(14.28)	(12.08)	(12.15)	(10.39)	(13.58)
Visible Minority Status	4.49%	6.87%	7.59%	17.28%	5.17%	8.15%	10.32%	26.45%
Aboriginal Status	2.28%	2.4%	7.95%	2.82%	1.23%	3.59%	8.93%	2.93%
Immigrants	13.59%	14.76%	15.47%	28.3%	5.15%	18.37%	19.51%	36.1%
No. of Children Born or Raised	0.71	1.89	1.78	1.76	0.60	2.07	1.80	2.01
	(1.29)	(1.35)	(1.16)	(1.74)	(1.47)	(1.38)	(1.21)	(1.77)
Ever Had or Raised a Child	30.57%	80.34%	85.46%	65.78%	19.7%	83.45%	86.45%	74.25%
Child 0 to 4	0%	22.19%	19.24%	17.35%	0%	24.55%	18.41%	20.48%
Child 5 to 9	0%	22.05%	24.03%	13.71%	0%	26.42%	24.17%	13.19%
Child 10 to 14	0%	23.46%	31.8%	13.52%	0%	28.58%	37.58%	12.96%
Family Labour Force Characteristics								
Family Size	1.00	3.40	2.75	3.90	1.00	3.56	2.71	3.89
	(0.00)	(1.15)	(0.74)	(1.36)	(0.00)	(1.32)	(0.88)	(1.36)
No. of Employed	0.87	1.87	0.94	1.99	0.97	1.92	1.27	2.25
	(0.33)	(0.77)	(0.78)	(1.12)	(0.17)	(0.70)	(0.70)	(1.03)
No. of Unemployed	0.10	0.39	0.33	0.48	0.19	0.36	0.52	0.37
	(0.30)	(0.61)	(0.52)	(0.67)	(0.40)	(0.57)	(0.55)	(0.51)
FYFT Workers	0.62	1.15	0.51	1.30	0.69	1.15	0.59	1.57
	(0.49)	(0.75)	(0.56)	(0.99)	(0.46)	(0.64)	(0.49)	(0.87)
Labour Force Characteristics								
Education (Years)	13.79	12.79	12.53	12.15	14.01	12.74	12.80	12.60
	(3.18)	(3.11)	(3.01)	(3.35)	(2.64)	(2.59)	(2.60)	(3.00)

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Characteristics of Single Mothers in Alberta and the Rest of Canada in 1993
Continued

	1993							
	Canada				Alberta			
	Unattached	Married	Lone-Mothers	Other	Unattached	Married	Lone-Mothers	Other
Graduated from High School	81.83%	70.14%	65.43%	63.68%	81.92%	71.36%	70.36%	65.33%
Current Student	24.35%	18.94%	35.55%	21.42%	27.82%	14.14%	42.02%	16.17%
Current FT Student	46.7%	58.23%	68.48%	62.4%	33.73%	55.62%	68.97%	80.09%
FYFTE experience	14.32	10.00	8.44	9.35	11.92	9.45	8.65	10.61
	(11.25)	(9.06)	(8.80)	(9.99)	(10.04)	(8.92)	(7.88)	(10.85)
Annual Labour Force Status								
Employed	87.45%	76.06%	67.55%	73.12%	97.28%	75.1%	85.19%	82.33%
Unemployed	2.21%	4.09%	10.22%	3.36%	2.46%	1.72%	7.8%	1.19%
Not in Labour Force	10.34%	19.85%	22.23%	23.52%	0.26%	23.18%	7.01%	16.49%
Employed (weeks)	42.56	35.69	30.50	33.93	47.56	35.53	37.08	35.73
	(19.14)	(22.98)	(24.35)	(23.58)	(13.48)	(23.13)	(21.27)	(22.46)
Unemployed (weeks)	2.39	3.15	4.42	3.18	2.67	2.16	6.74	2.88
	(9.08)	(9.91)	(11.46)	(9.81)	(8.86)	(7.73)	(13.93)	(8.05)
Not in Labour Force (weeks)	8.04	14.16	18.08	15.88	2.77	15.31	9.19	14.39
	(17.55)	(21.90)	(23.03)	(22.80)	(9.49)	(22.77)	(17.23)	(21.32)
Job Characteristics								
Full-Time	88.31%	71.99%	82.24%	70.48%	92.78%	70.24%	93.79%	81.55%
Part-Time	11.69%	28.01%	17.76%	29.52%	7.22%	29.76%	6.21%	18.45%
Reason for Part-Time								
Own Illness	0%	0.13%	0%	0%	0%	0%	0%	0%
Childcare	0%	12.86%	5.06%	3.01%	0%	17.77%	37.53%	20.04%
Elder Care	0%	0.13%	0%	0.1%	0%	0.76%	0%	0%
Family Responsibilities	0%	4.58%	3.8%	3.85%	0%	12.35%	28.76%	10.59%
Going to School	11.36%	6.34%	31.13%	6.17%	39.3%	3.36%	0%	17.56%
Only PT Available	47.25%	30.8%	39.76%	33.21%	30.84%	21.29%	33.71%	23.38%
Did not want FT work	11.62%	32.1%	8.28%	38.46%	29.85%	30.12%	0%	26.08%
FT under 30 hours	22.84%	9.91%	7.39%	9.45%	0%	11.59%	0%	2.35%

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Characteristics of Single Mothers in Alberta and the Rest of Canada in 1993
Continued

	1993							
	Canada				Alberta			
	Unattached	Married	Lone-Mothers	Other	Unattached	Married	Lone-Mothers	Other
Other	6.93%	3.15%	4.58%	5.75%	0%	2.75%	0%	0%
Total Paid Hours	1518.08	1083.18	959.27	1120.15	1765.01	1098.96	1247.24	1260.67
	(893.54)	(897.58)	(966.77)	(953.35)	(735.84)	(931.05)	(898.07)	(949.53)
Composite Hourly Wage	15.41	13.60	13.19	12.64	13.98	13.13	10.84	12.40
	(7.26)	(7.16)	(7.29)	(6.70)	(7.17)	(6.66)	(5.39)	(8.23)
Schedule								
Regular Daytime	78.14%	76.77%	74.28%	72.66%	74.19%	73.48%	77.38%	68.98%
Regular Evening	4.85%	4.65%	9.74%	8.9%	9.62%	4.19%	2.09%	13.27%
Shift	8.85%	9.03%	9.38%	9.55%	6.43%	9.17%	10.2%	2.2%
Irregular	8.16%	9.55%	6.61%	8.89%	9.76%	13.16%	10.32%	15.55%
Occupation								
Professional	38.83%	32.05%	26.6%	24.35%	37.58%	27.75%	27.93%	22.7%
Supervisor	15.92%	11.99%	9.54%	11.47%	17.26%	14.26%	22.44%	14.39%
Skilled	15.51%	18.77%	20.9%	17.09%	18.3%	15.57%	10.33%	15.12%
Semi-Skilled	15.64%	21.76%	25.79%	25.46%	21.69%	19.23%	15.68%	29.43%
Unskilled	14.11%	15.43%	17.17%	21.63%	5.18%	23.19%	23.61%	18.36%
Employer								
Multilocations	49.88%	47.15%	43.46%	45.26%	43.51%	43.39%	56.62%	55.63%
Less than 20 employees	23.73%	28.82%	24.3%	31.62%	30.93%	37.86%	23.57%	24.08%
20-99 employees	11.7%	13.65%	11.41%	13.26%	13.01%	9.3%	19.71%	17.17%
100-499 employees	15.97%	13.54%	15.77%	14.58%	12.19%	15.19%	9.23%	16.64%
500-999 employees	10.18%	8.84%	9.71%	6.65%	7.48%	8.08%	14.7%	6.62%
More than 1000 employees	38.42%	35.15%	38.8%	33.89%	36.39%	29.56%	32.8%	35.48%
Public Sector	32.49%	24.73%	28.85%	19.51%	22.28%	26.02%	28.1%	24.67%
Private Sector	67.51%	75.27%	71.15%	80.49%	77.72%	73.98%	71.9%	75.33%
Pension Plan	62.92%	52.83%	65.31%	46.2%	45.76%	41.14%	60.77%	54.14%
Collective Agreement	44.6%	40.53%	52.21%	36.45%	27.98%	29.8%	32.89%	34.26%

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Characteristics of Single Mothers in Alberta and the Rest of Canada in 1993
Continued

	1993							
	Canada				Alberta			
	Unattached	Married	Lone-Mothers	Other	Unattached	Married	Lone-Mothers	Other
Income Levels								
After-tax Equivalent Income	20,563	20,615	14,100	19,341	22,015	20,215	15,684	20,519
	(11,961)	(10,953)	(9,271)	(9,997)	(12,481)	(10,142)	(11,428)	(9,975)
Individual % of Family Earnings	86%	30%	53%	32%	96%	26%	63%	27%
Individual % of Family Income	100%	31%	77%	30%	100%	28%	73%	29%
Largest Source of Income								
No Income	0.06%	5.59%	2.6%	3.79%	0%	7.23%	3.73%	3.1%
Wages	76.42%	64.77%	54.71%	62.09%	87.5%	61.06%	66.3%	65.13%
Self-Employment	3.49%	3.89%	1.19%	3.56%	4.88%	5.21%	0%	3.9%
Government Transfers	13.67%	20.26%	36.4%	22.45%	4.87%	17.25%	22.49%	15.99%
Investment	1.84%	3.71%	0.75%	4.15%	0.73%	5.07%	3.34%	8.67%
Retirement Pensions	2.2%	0.32%	0.68%	1.7%	2.02%	0.67%	0%	2.15%
Other	2.32%	1.46%	3.67%	2.26%	0%	3.51%	4.15%	1.05%
Received Social Assistance	2.95%	1.21%	20.96%	5.3%	1.3%	0.63%	13.93%	4.79%

Data Source: Statistics Canada. Survey of Labour and Income Dynamics, 1992-1994.
Standard deviations reported in parentheses

3.2.3 Single-mothers in Alberta were Educated but Received the Lowest Hourly Wage Rate among Albertan Females

In Alberta, around 14 percent of single-mothers received social assistance compared to less than 5 percent among females in other family compositions. In general, single-mothers were younger than other females. Single mothers and married females had similar number of children born and raised that were around the same age. There were similar proportions of visible minorities and immigrants in each group except those in other family composition, but almost 9 percent of lone-mothers in Alberta were Aboriginals compared with less than 5 percent in other family compositions.

The family size of lone-mothers (2.71 persons) was smaller than married females (3.56 persons), likely because of the absence of a spouse. Though the number of employed in the family was comparable between married females (1.90 persons) and single-mothers (1.15 persons), families of lone-mothers had the least full-year full-time workers (0.59 persons).

On average, single-mothers spent more years in school (12.80 years) than married females (12.74 years); but fewer of them graduated high school (70 percent compared with 82 percent among unattached individuals and 71 percent among married females). However, more than one-third of single-mothers were currently a student in 1993 compared with only 28 percent among unattached individuals and less than 20 percent among the other two groups. On the other hand, they had slightly less full-year full-time equivalent work experience (8.65 years compared with 9.45 years

for married females and more than 10 years among other family compositions).

Despite their relatively high level of education and longer period of time in the labour force, single-mothers spent 7.25 weeks unemployed as compared to less than five weeks among other females. Single-mothers also had the lowest composite wage rate ($10.84 versus more than $12 among other females). Even though relatively few single-mothers worked part-time (6 percent compared with 30 percent among married women), two-thirds of part-time single-mothers reported they did so because of family responsibilities. This can introduce self-selection bias when studying full-time status of single mothers. The remaining one-third could only find part-time employment. In comparison, other groups were more likely to work part-time because of either going to school or not wanting full-time job.

Other job characteristics, such as work schedule, occupation, and employer attributes, were similar across family compositions. The proportion of single-mothers who were covered by employer-sponsored pension plan or protected by collective agreement was the largest among Albertan females. However, single-mothers received the lowest after-tax equivalent income in Alberta. Moreover, they were contributing 63 percent of their family earnings and 73 percent of their family income, as compared with less than 30 percent for those who were married. Such conditions were similar to families of welfare recipients, who received the lowest hourly wage rate and yet bore relatively greater financial burden in their households.

It should also be noted that although single-mothers had the highest social assistance rates among females in Alberta, the proportion of single-mothers reporting that

they relied on wages as their largest source of income was similar to females in other family compositions, except for unattached individuals. In fact, only 5 percent more single-mothers reported government transfers as their largest income source than married females. These numbers suggest that social assistance was more of an income supplement rather than a major income source for single-mothers in Alberta.

3.2.4 Albertan Single-mothers Spent Less Time Not in Labour Force but Longer Time Unemployed than Other Canadian Females

Compare to those living in the rest of Canada, females across family compositions in Alberta were less likely to receive social assistance in 1993 except married females. In particular, 15 percent of single mothers in Alberta received social assistance compared with 21 percent in the rest of Canada.[10] Alberta females were slightly younger, but they had similar family characteristics as females in other provinces. There were more distinctions in visible minority status, Aboriginal status, and immigrant status among females in Alberta. Family job characteristics between Canadian females and Albertan females were comparable; although families with lone-mothers had more persons employed in Alberta (1.27) than in the rest of Canada (0.94).

Females in Alberta were more educated than the rest of Canada (averaged 12.74 years versus 12.53 years) and a larger proportion of them graduated high school (between 65 to 82 percent compared with 63 and 82 percent). A larger proportion of Albertan females were employed during the year (75 to 97 percent versus 67 to 87

[10]This might in part due to the lower female unemployment rate in Alberta (9.53) compared with the rest of Canada (12.02).

percent). They also spent more time being employed and less time out of the labour force. Single mothers in Alberta spent less than half of the number of weeks outside the labour force (9.19 weeks) compared with single-mothers in the rest of Canada (18.08 weeks).

Single-mothers in Alberta were more likely to work full-time (93 percent versus 82 percent in other provinces). Even though 40 percent of single-mothers in the rest of Canada worked part-time because those were the only jobs available, 8 percent reported that they did not want full-time work. Family responsibilities were reported as the major reason for part-time work by less than 10 percent of single-mothers outside Alberta; while 66 percent of single-mothers in Alberta cited this reason. However, the average composite hourly wage rates for lone-mothers in Alberta were almost $2 less than lone-mothers outside Alberta. Nonetheless, single-mothers in Alberta received higher after-tax equivalent income than those in other provinces, and fewer of them relied less on government transfer as their largest source of income. Other job characteristics and employer attributes were similar across provinces.

Thus, the data suggest that single-mothers in Alberta and other provinces were more similar than welfare recipients across provinces. Still, single-mothers in Alberta were more active in the labour market and were more advantageous in the labour force than single-mothers in the rest of Canada even before the welfare reform. The following section describes the econometric methodologies used to estimate the impact of the Alberta welfare reform on single-mothers in Alberta.

3.3 Econometric Methodologies

This study attempts to answer several questions regarding the impacts of the Alberta welfare reform on employment outcomes of welfare recipients and single-mothers. For this reason, different estimations are needed to answer each of those questions. This section discusses the methodologies and the limitations.

The first question is whether the Alberta welfare reform increased labour force participation among welfare recipients. A triple-difference specification is proposed for this purpose. The triple-difference specification compares welfare recipients in Alberta with other residents in Alberta, as well as residents in other provinces.[11]

$$y_{it} = \alpha + \beta_1 AB_i + \beta_2 SA93_i + \beta_3 yr94 + \beta_4 AB_i * SA93_i * yr94 + \gamma \mathbf{X}_{it} + \epsilon_{it} \quad (3.3.1)$$

where y_{it} represents employment outcomes for individual i in time t. The three employment outcomes considered are: 1) number of weeks not in labour force, 2) number of weeks employed, and 3) number of weeks unemployed. The dummy variable AB_i represents residence in Alberta. As mentioned before, this study only includes those who resided in the same provinces throughout 1992 to 1994. $SA93_i$ is an indicator of welfare receipt prior to March 1993, the month when the reform started; whereas $yr94$ is a dummy for year 1994. The interaction variable $AB_i * SA93_i * yr94$ compares the effect of Alberta welfare reform on welfare recipients in Alberta with the rest of the Canadian population between 1993 and 1994. $\mathbf{X}_{it}$ is a vector of control variables that consists of individual characteristics and regional economic indicators. Individual characteristics include age, years of education, dummy for graduated from

[11] All regressions use sample weight provided by Statistics Canada (coded ELGW26C) with the pweight command in STATA.

high school, presence of children aged 0 to 4, 5 to 9, and 10 to 14, full-year full-time equivalent past work experience, full-year full-time equivalent past work experience squared, visible minority status, Aboriginal status, and immigrant status. Regional economic indicators include unemployment rates of males and females, and average wage rate in goods and services industries. The two wages control for work-incentives for low-skilled workers (Lim et al., 2009).

Two of the dependent variables in the following equation are logged paid hours and logged composite wage rate. Since welfare recipients may be systematically less likely to be employed and receive wages, the two variables will be estimated using Heckman two-step procedure. Control variables in the first step include age, years of education, dummy for graduated from high school, presence of children aged 0 to 4, 5 to 9, and 10 to 14, full-year full-time equivalent past work experience, full-year full-time equivalent past work experience squared, visible minority status, Aboriginal status, immigrant status, unemployment rates of males and females, and average wage rate in goods and services industries. These variables control for individual characteristics that might affect the likelihood of being employed, as well as economic indicators that affect supply and demand in the labour market. The second step excludes number of children aged 0 to 4, 5 to 9, and 10 to 14 because after controlling for ever having or raising a child, presence of children should not affect the employment outcomes for those who have children and are employed.

Full-time status, union membership, entitlement to employer-sponsored pension plans, the likelihood of working in the public sector, and whether the employer has

offices in multiple locations in Canada are estimated using logit regressions.[12]

$$y_{it} = \alpha + \beta_1 AB_i + \beta_2 SA93_i + \beta_3 job94 + \beta_4 AB_i * SA93_i * job94 + \gamma \mathbf{X}_{it} + \epsilon_{it} \quad (3.3.2)$$

Equation 3.3.2 is similar to Equation 3.3.1. The only differences being the time period variable and an additional independent variable of ever having or raising a child. $job94$ equals to 1 if the individual started the employment spell after March 1993. Since this regression estimates differences in job characteristics, this time variable allows comparison between jobs obtained prior to and after the welfare reform. The independent variable of ever having or raising a child is included; because research shows that Canadian mothers have lower income than women who have never had children (Phipps, Burton, and Lethbridge, 2001). This variable controls for this effect on hourly wage rate and other non-monetary benefits.

Equation 3.3.3 compares single-mothers in Alberta with the rest of Canadian females:

$$y_{it} = \alpha + \beta_1 AB_i + \beta_2 Lone_{it} + \beta_3 yr94 + \beta_4 AB_i * Lone_{it} * yr94 + \gamma \mathbf{X}_{it} + \sigma_{it} \quad (3.3.3)$$

This equation uses the same dependent and independent variables as in Equations 3.3.1 and 3.3.2 except $Lone_{it}$, which is a dummy for single-mothers. Since single parents are more likely to receive social assistances, the interaction variable $AB_{it} * Lone_{it} * yr94$ is the variables of interest. There are also dummy variables to control for other family compositions except married, which is the base. As in Equation 3.3.2,

[12] Although it would be informative to look at occupation as measured by skill levels, work schedule, number of employees, and reasons for part-time work among part-time workers using multinomial logit regression, the small sample size may yield biased and inconsistent results. Hence, the multinomial logit regressions will be left to further research.

logged composite wage rates and logged paid hours will be estimated using Heckman two-step procedure to account for selection bias.

As discussed in the Section 3.2, SLID uses a stratified, multi-stage sample design. Statistics Canada specified that hypothesis tests provided automatically by statistical software packages might be subject to error. Thus, more sophisticated methods are required. Even though some statistical software packages can incorporate survey design in their estimations, information required by these packages were not available in public micro data due to confidentiality considerations. Because of these reasons and resource constraints, this study would proceed with using STATA to perform all regressions under the assumption of simple random sampling with the sample weight provided by Statistics Canada.

3.4 Results and Discussions

3.4.1 Welfare Recipients in Alberta were More Likely to Work Full-time for Employers with Multiple Offices after the 1993 Welfare Reform

Columns 1 to 3 in Table 3.3 indicate that welfare recipients in Alberta spent 12 weeks less outside the labour force after the welfare reform and 17 weeks more being employed. But there was no significant change in number of weeks being unemployed. Wages and paid hours were not statistically significant in the OLS regressions nor when selection bias was taken into consideration (Columns 9 to 12). These results

are consistent with the literature that a combination of financial incentives and employability programs induced labour force participation. Moreover, welfare recipients in Alberta were more likely to work full-time after the reform. Column 7 indicates that many of these employments were with employers that had multiple office locations across Canada. As for other dependent variables, including pension plan coverage, union membership, and public versus private sectors (Columns 4, 5, and 8), there were no statistically significant changes after the welfare reform.

Because of the small treatment group size, these results should be interpreted with caution. Next, I would discuss the regression results for single-mothers in Alberta, who are likely to be affected by tightened eligibility after the welfare reform.

Table 3.3: Labour Market Outcomes of Welfare Recipients, 1993 and 1994

OLS Regressions

	(1) Outside LF	(2) Employed	(3) Unemployed
$AB_i * SA93_i * yr94$	-12.66***	17.66***	-4.753
	(4.254)	(5.172)	(3.915)
N	28,300	28,955	28,955
adj. R^2	0.271	0.307	0.061

Logit Regressions

	(4) Union##	(5) Pension	(6) Full-Time	(7) Multiple Offices	(8) Public Sector
$AB_i * SA93_i * job94$	0	0.857	1.203**	0.858**	0.147
	(.)	(0.986)	(0.474)	(0.426)	(0.832)
N	29,626	29,666	29,539	29,666	29,539
pseudo R^2	0.105	0.226	0.267	0.0727	0.117

Heckman 2-Step#

	(9) ln(Wages)	(10) ln(Wages)	(11) ln(Hours)	(12) ln(Hours)
$AB_i * SA93_i * job94$	0.0417	0.110	-0.345	-0.365
	(0.117)	(0.1265)	(0.238)	(0.2700)
Selection	-	0.156***	-	-0.210***
		(0.0113)		(0.0211)
N	21,138	21,031	28,949	23,914
adj. R^2	0.449		0.185	

* Significant at 10 percent ** Significant at 5 percent *** Significant at 1 percent
# Selection variables include all variables from the 2^{nd} step and numbers of children aged 0 to 4, 5 to 9, and 10 to 14.
The 0 in this column indicates that there was not enough variation in the dependent variable for this estimation.
Wald $\chi^2(23)$=988.42 for log(hours) and 2074.33 for log(wages)

3.4.2 More Full-Time Employment among Single-mothers in Alberta after the 1993 Welfare Reform

Table 3.4 shows that single-mothers in Alberta (ABLoneyr94) spent 8 weeks less outside the labour force after the welfare reform, and the result is statistically significant. Moreover, these single-mothers were spending 9 weeks more being employed (Columns 1 to 3). For those single-mothers in Alberta who started working after the welfare reform (ABLonejob94), wages declined by 0.14 percent without addressing for selection bias; and the decline decreased to 0.09 percent and became less statistically significant after correcting for selection bias (Column 9 and 10). On the other hand, there was no significant change in paid hours (column 11 and 12). Furthermore, lone mothers were more likely to engage in full-time employment with employers that had multiple office locations across Canada (Columns 6 and 7).

Although full-time employment is regarded as the ideal employment outcome by the welfare reform, it may create special challenges for single-mothers in fulfilling their childcare responsibilities, especially when these full-time employments do not pay satisfactory wage rates. From semi-structured interviews with single-parents in Alberta who were transitioning from welfare to work, Breitkreuz, Williamson, and Raine (2010) found that those with full-time employment tended to report more family-work conflict and continued to face income insecurity. Grover and Stewart (1999) also reported the dilemma faced by lone-mothers who desired to be economically independent; but their identity as mothers held them responsible towards their children. When low-income lone-mothers worked long-hours in unsatisfying jobs, they could experience greater stress and decreased psychological well-being, which

were associated with less time and energy for household responsibilities (Jackson, Bentler, and Franke, 2007). In fact, the ideal employment among this group is part-time job that pays relatively well and offers non-monetary benefits (Breitkreuz et al., 2010; Ellwood, 2000). As such, more full-time employment among single-mothers with declining wage rates should not necessarily be considered as an improvement in employment outcomes.

Other employment outcomes, including the likelihood of obtaining a job with pension plan coverage, being protected by collective agreements, and working in the public sector, are not statistically significant (Columns 4, 5, and 8). These results are in general consistent with previous research that welfare reform is effective in motivating single-mothers to participate in the work force through low-paid employment. However, these results for Alberta single-mothers are also subject to the problems associated with small sample size; as there are only 79 observations in the sample.

Table 3.4: Labour Market Outcomes of Single Mothers, 1993 and 1994

	OLS Regressions			*Logit Regressions*		
	(1)	(2)	(3)	(4)	(5)	(6)
	Outside LF	Employed	Unemployed	Union	Pension	Full-Time
$AB_{it} * Lone_{it} * yr94$	-8.256***	9.223***	-0.734	-	-	-
	(2.504)	(2.614)	(1.298)			
$AB_{it} * Lone_{it} * job94$	-	-	-	0.107	0	0.708**
				(0.5940)	(0.6010)	(0.3180)
N	13,790	14,099	14,099	14,427	14,427	14,369
adj. R^2	0.281	0.288	0.018	-	-	-
pseudo R^2	-	-	-	0.163	0.285	0.226

	Logit Regressions			*Heckman 2-Step#*		
	(7)	(8)	(9)	(10)	(11)	(12)
	Multiple Offices	Public Sector	ln(Wages)	ln(Wages)	ln(Hours)	ln(Hours)
$AB_{it} * Lone_{it} * job94$	1.056***	-0.533	-0.143***	-0.094*	-0.0672	0.1323432
	(0.3240)	(0.5780)	(0.0485)	(0.0514)	(0.1720)	(0.1969)
Selection	-	-	-	0.152***	-	-0.141***
				(0.0197)		(0.0182)
N	14,427	14,369	9,712	9,667	13,305	10,612
adj. R^2	-	-	0.401	-	0.167	-
pseudo R^2	0.0864	0.153	-	-	-	-

* Significant at 10 percent ** Significant at 5 percent *** Significant at 1 percent
Include other family compositions fixed effects with married as base;
Selection variables include all variables from the 2^{nd} step and numbers of children aged 0 to 4, 5 to 9, and 10 to 14.
Wald $\chi^2(23)$=653.58 for log(hours) and 1518.06 for log(wages)

Chapter 4

Fixed Effects Analysis

The last chapter analyzes the SLID panel data as pooled cross-section. Although the analysis provides insight on how the Alberta welfare reform affected employment outcomes of welfare recipients and single-mothers, such methodology did not account for individual heterogeneity nor provide information on labour dynamics. Lacroix (2009) showed that impacts of employment programs could vary considerably with unobserved individual characteristics. Nyhus and Pons (2005) also concluded in their literature review that standard demographic and human capital variables could explain little of the variances in earnings. They continued to elaborate on the importance of "soft" skills, such as motivation and discipline, as well as degree of future orientation, personal efficacy, and the willingness of a person to put in effort at work. Thus, controlling for these personality traits might better isolate the impact of the Alberta welfare reform on welfare recipients and single-mothers.

4.1 Econometric Methodologies

Although SLID does not provide information on individual personality traits, the panel structure allows the use of individual fixed effects models. Assuming many of

the personality traits were fixed throughout 1993 and 1994 but varied across individuals,[1] individual fixed effects can control for these personality traits. There are several approaches to individual fixed effects models that are commonly used in the economic literature. For instance, Lemieux and Milligan (2008) used a first difference model to control for individual heterogeneity when analyzing the impacts of the Quebec employability program on labour supply among single men. Oreopoulos (2006), because of the large sample size, used the cell means by census year, province, and birth cohort to avoid individual heteroscedasticity when evaluating the effect of compulsory schooling on educational attainments. Lastly, Owens and Baum (2009) made use of a least square dummy variable model to estimate whether housing assistance supported employment among welfare recipients in the United States. Due to the similarity in data structure between this study and the study by Owens and Baum (2009), I will use the least square dummy variable model to control for individual fixed effects.

The following equation re-estimates Equation 3.3.1 to compare social assistance recipients with non-recipients in Alberta:[2]

$$y_{it} = \alpha_i + \beta SA93_i * yr94 + \gamma \mathbf{X}_{it} + \epsilon_{it} \tag{4.1.1}$$

where y_{it} represents employment for individual i in time t, which includes number of weeks not in labour force, number of weeks employed, number of weeks unemployed, logged hourly wage rate, full-time status, and employers with multiple offices across Canada. The interaction variable $SA93_{it} * yr94$ compares the effect of Alberta welfare

[1] This assumption is highly plausible according to twin studies quoted by Nyhus and Pons (2005), which found that a large part of personality is genetically inherited.

[2] Only observations from Alberta are used for this estimation.

reform on welfare recipients between 1993 and 1994 with non-recipients in Alberta.

Although job characteristics were compared between jobs obtained prior to and after the reform in Chapter 3, doing so in this section was not feasible because of the rapid employment turnover among welfare recipients. Since the last single job obtained was used to measure employment outcome, and welfare recipients tended to obtain their last job after the reform; there was no variability in the variable of interest if the start date of the job was used as identification. Hence, job characteristics were compared between 1993 and 1994 for welfare recipients in this section.

Similar to Equation 3.3.1, $\mathbf{X}_{it}$ is a vector of control variables consists of time variant individual characteristics and regional economic indicators. Individual characteristics include marital status, presence of children aged 0 to 4, 5 to 9, and 10 to 14. Regional economic indicators include unemployment rates of males and females, and average wage rate in goods and services industries.

Lastly, since full-time status and the probability of working for an employer with multiple locations across Canada are dichotomous, they will be estimated using fixed effect linear probability and logit models. According to Owens and Baum (2009), the linear probability model includes observations that have no variation in the outcome variable; but the predicted outcome using this model may be negative or greater than 100 percent. On the other hand, the logit model constraints the predicted outcome between 0 and 100 percent; however, it would exclude all observations that have no variation in the outcome variable. For comparison, both models will be estimated.

Equation 4.1.2 compares labour supply among single-mothers with other females in Alberta; whereas Equation 4.1.3 compares employment outcomes:[3]

$$y_{it} = \alpha_i + \beta Lone_{it} * yr94 + \gamma \mathbf{X}_{it} + \epsilon_{it} \tag{4.1.2}$$

$$y_{it} = \alpha_i + \beta Lone_{it} * job94 + \gamma \mathbf{X}_{it} + \epsilon_{it} \tag{4.1.3}$$

Both equations are similar to Equation 4.1.1, except for the interaction variable $Lone_{it} * yr94$, which is the variable of interest for single-mothers. The variable $job94$ equals to one if the job started after the welfare reform. This provides a more precise comparison of labour market outcomes faced by single-mothers before and after the reform.

4.2 Results and Discussions

Table 4.1 shows the regression results for welfare recipients. Although individual heterogeneity is significant for all outcomes except for weeks unemployed, the impacts of the welfare reform remain significant on weeks employed, weeks unemployed, and full-time status (Columns 2, 3 and 5). In particular, the welfare reform increased weeks employed among welfare recipients by 12 weeks and decreased weeks unemployed by 8 weeks. In contrast to the pooled regression result, the reform was not significant in reducing weeks not in labour force among welfare recipients. As for full-time status, the reform was significant in increasing the probability of working full-time among welfare recipients in Alberta in the linear probability model but not the logit model.

[3]Similar to the previous estimation, only observations from Alberta are used.

Table 4.1: Labour Market Dynamics of Welfare Recipients in Alberta, 1993 and 1994

	OLS Regressions			
	(1)	(2)	(3)	(4)
	Outside LF	Employed	Unemployed	ln(Wages)
$SA93_{it} * yr94$	-1.182	12.66***	-8.586*	-0.0117
	(5.460)	(3.606)	(4.879)	(0.0555)
α_i	32.93***	41.51***	3.703	2.858***
	(4.758)	(3.658)	(2.645)	(0.0859)
N	3317	3397	3397	2467
adj. R^2	0.019	0.017	0.021	0.018

	Linear Probability Regressions		*Logit Regressions*	
	(5)	(6)	(7)	(8)
	Full-Time	Multiple Offices	Full-Time	Multiple Offices
$SA93_{it} * yr94$	0.209*	-0.00110	1.312	0.534
	(0.107)	(0.0866)	(0.827)	(0.748)
α_i	0.838***	0.500***		
	(0.117)	(0.121)		
N	3666	3666	664	690
adj. R^2	0.012	0.004		
Pseudo R^2			0.0151	0.0107
log-likelihood	386.3	383.9	-226.6	-236.6

* Significant at 10 percent ** Significant at 5 percent *** Significant at 1 percent

As for single-mothers ($Lone * yr94$), the welfare reform had no significant impact on labour supply once individual heterogeneity was held constant (Table 4.2 Columns 1 to 3). Moreover, wage rates for lone-mothers increased by 0.16 percent; and they were less likely to work full-time ($Lone * job94$, Columns 4 and 5). None of the logit regressions was significant. These results are opposite to those from the pooled cross-section models. This finding motivates more research on identifying individual characteristics of single-mothers that could affect their employment outcomes.

Table 4.2: Labour Market Dynamics of Single Mothers in Alberta, 1993 and 1994

	OLS Regressions			
	(1)	(2)	(3)	(4)
	Outside LF	Employed	Unemployed	ln(Wages)
$Lone_{it} * yr94$	5.358	0.318	-1.523	-
	(3.711)	(2.450)	(1.442)	
$Lone_{it} * job94$	-	-	-	0.163**
				(0.0743)
α_i	24.73***	39.65***	4.743	2.585***
	(7.259)	(6.420)	(4.731)	(0.113)
N	1643	1678	1678	1155
adj. R^2	0.030	0.006	0.011	0.034
	Linear Probability Regressions		*Logit Regressions*	
	(5)	(6)	(7)	(8)
	Full-Time	Multiple Offices	Full-Time	Multiple Offices
$Lone_{it} * job94$	-0.395**	-0.209	-13.84	-14.20
	(0.168)	(0.132)	(658.8)	(977.3)
α_i	0.700***	0.496***	-	-
	(0.166)	(0.167)		
N	1804	1804	366	330
adj. R^2	0.018	0.006	-	-
Pseudo R^2	-	-	0.0361	0.0159
log-likelihood	117.4	260.5	-122.3	-112.5

* Significant at 10 percent ** Significant at 5 percent *** Significant at 1 percent

Furthermore, Tables 4.3 and 4.4 provide estimation results from other Canadian provinces as robustness check. Table 4.3 compares welfare recipients with non-recipients in provinces other than Alberta. After controlling for individual heterogeneity, none of the variables were significant except number of weeks employed and full-time status (Columns 2, 5, and 7). Even so, increase in number of weeks employed for welfare recipients outside Alberta was only one-quarter of Albertan recipients (12.66 weeks in Alberta versus 3.99 weeks outside Alberta). Those living in other

provinces were also less likely to work full-time as opposed to Albertan recipients.

Table 4.4 reports the results for single-mothers outside Alberta. After controlling for individual heterogeneity, none of the variables were significant for lone mothers outside Alberta, whereas single mothers in Alberta were less likely to work full-time and earned higher wage rates. These results confirm that the Alberta welfare reform only affected those living in Alberta.[4]

[4]The validity of these analyses relies on the identifying assumption that welfare recipients and single-mothers in Alberta would have experienced the same trend in labour force participation and employment outcomes as others Canadians living outside Alberta in the absence of the 1993 Alberta welfare reform. A placebo experiment can be used to test this assumption. Ideally, SLID data from other years should be used to ensure consistency in sampling strategies, data collection methods, as well as other data characteristics. Since my study already uses the first few years of SLID data; however, data from previous years are not available for this purpose. Furthermore, because the impacts of welfare reform can continue beyond one year, and there were subsequent reform of Employment Insurance, replacement of CAP by Canada Health and Social Transfer, as well as the introduction of National Child Benefit Supplement, the use of SLID data beyond 1994 is also not feasible (Kerr, 1998; Boessenkool, 1997; Shannon, 2009). One alternative is to use 1988 and 1989 data from Labour Market Activity Survey (LMAS), the survey which the collection of SLID labour information is patterned on (Statistics Canada, 1997).

According to Reichwein (2003), there was no major reform to the Alberta welfare system between 1988 and 1989, except the introduction of the Widow's Allowance in the 1980s. However, the exact implementation date was not specified. The only benchmark that Reichwein (2003) recorded for 1988 was the statement issued by the Alberta Government, which affirmed that the existence of Alberta's welfare program was for the betterment and enrichment of its people. Since Alberta announced a new income support program in November 1990, data collected in 1988 and 1989 appeared to be the best data available for the placebo experiment.

Similar to SLID, the objective of LMAS was to provide longitudinal data of the Canadian Labour Market. It provided detailed information on number and frequency of job changes, as well as information on the characteristics of jobs held by the respondents. The LMAS sample was also a subsample of the LFS sample. As such, the sampling methods for LMAS closely resembled those of SLID. One short coming of LMAS is that, as opposed to SLID, LMAS did not provide information on full-year full-time equivalent past work experience. Furthermore, no continuous years of schooling variable is available in LMAS. Using proxy of potential work experience may overstate women's actual work experience, in addition to introducing measurement errors because of various uses of approximation in calculating this proxy (Drolet, 2011). Other variables, including years of education, aboriginal status, and immigrant status, were also not available in LMAS. These limitations greatly reduce the comparability between estimation using LMAS and those using SLID. As such, a placebo experiment was not feasible for this study.

Table 4.3: Labour Market Dynamics of Welfare Recipients outside Alberta, 1993 and 1994

	OLS Regressions			
	(1)	(2)	(3)	(4)
	Outside LF	Employed	Unemployed	ln(Wages)
$SA93_{it} * yr94$	-1.713	3.399***	-1.347	-0.00548
	(2.084)	(1.109)	(1.327)	(0.0211)
α_i	63.36*	33.81*	3.703	2.240***
	(34.18)	(18.55)	(2.645)	(0.498)
N	30988	32439	3397	23329
adj. R^2	0.032	0.003	0.021	0.027

	Linear Probability Regressions		*Logit Regressions*	
	(5)	(6)	(7)	(8)
	Full-Time	Multiple Offices	Full-Time	Multiple Offices
$SA93_{it} * yr94$	-0.0302	-0.0353*	0.158	0.175
	(0.0299)	(0.0180)	(0.243)	(0.282)
α_i	5.942***	3.224***		
	(0.640)	(0.612)		
N	35392	35392	6850	6588
adj. R^2	0.037	0.013	-	-
Pseudo R^2	-	-	0.0395	0.0106
log-likelihood	558.0	2001.4	-2280.3	-2259.1

* Significant at 10 percent ** Significant at 5 percent *** Significant at 1 percent

Table 4.4: Labour Market Dynamics of Single Mothers outside Alberta, 1993 and 1994

	OLS Regressions			
	(1)	(2)	(3)	(4)
	Outside LF	Employed	Unemployed	ln(Wages)
$Lone_{it} * yr94$	0.791	0.261	0.501	-
	(1.904)	(0.928)	(0.670)	
$Lone_{it} * job94$	-	-	-	0.00280
				(0.0551)
α_i	21.86	21.04	31.36*	1.737***
	(49.24)	(26.54)	(17.87)	(0.668)
N	15605	16326	16326	11089
adj. R^2	0.026	0.001	0.002	0.030

	Linear Probability Regressions		*Logit Regressions*	
	(5)	(6)	(7)	(8)
	Full-Time	Multiple Offices	Full-Time	Multiple Offices
$Lone_{it} * job94$	-0.0402	0.0127	-0.415	-0.0512
	(0.0570)	(0.0686)	(0.321)	(0.325)
α_i	5.923***	2.907***	-	-
	(0.874)	(0.867)		
N	17719	17719	3352	3156
adj. R^2	0.032	0.018	-	-
Pseudo R^2	-	-	0.0291	0.0147
log-likelihood	973.4	1270.3	-1127.9	-1077.7

* Significant at 10 percent ** Significant at 5 percent *** Significant at 1 percent
Variables of interest for all regressions are ALL93y94 and ALL93j94;
ALS93y94 and ALS93j94 are unattached individuals;
ALO93y94 and ALO93j94 are other family compositions;
Base family composition is married.

Chapter 5

Conclusion

5.1 Policy Implications and Further Research

This study fills a gap in the literature by looking at how the 1993 Alberta welfare reform affected employment outcomes — as measured by job characteristics and employer attributes — among welfare recipients and single mothers in Alberta. Data limitations restrict the sample size of welfare recipients to 32 and single mothers to 79. I also incorporate the sample weight in STATA rather than using the methodology specified by Statistics Canada. As a result, statistical inferences may become unreliable and hypothesis tests may subject to error. Nonetheless, policy implications from this study motivates further research in examining the impacts of welfare reforms on employment outcomes of welfare recipients and single mothers.

Without controlling for individual heterogeneity, Chapter 3 shows that welfare recipients and single-mothers in Alberta spent more time in the labour force and being employed after the 1993 Alberta welfare reform. Both groups were more likely to work full-time for employers with multiple office locations across Canada. These results were consistent for welfare recipients after controlling for individual heterogeneity

in Chapter 4, except for employers with multiple office locations, which becomes insignificant. This finding indicates that the welfare reform has been successful in motivating welfare recipients to participate in the labour force.

On the other hand, results for single-mother were different after controlling for individual heterogeneity. Not only do changes in labour force participation become insignificant, fixed effects estimations also showed that single-mothers were less likely to work full-time. Although the pooled cross-sectional regressions show a decline in composite hourly wage among single-mothers after the welfare reform, the individual fixed effects model produced the opposite result. These differences might suggest that single-mothers in Alberta actually possessed a wide range of unobservable individual characteristics that affected their employment conditions. Some of the highly employable single-mothers entered the labour force after the welfare reform; hence experienced satisfactory employment outcomes.

As such, it seems unobservable individual characteristics are significant in determining the employment impacts of welfare reform. Accordingly, the Canadian Centre for Policy Alternatives recommended early assessment and assistance to a wide range of services among vulnerable individuals that faced multiple barriers to employment rather than requiring them to work at undesirable jobs (Butterwick, 2010). Supports in a wide variety of areas, including education and trainings, would be an investment in better and more meaningful employment opportunities among single-mothers as opposed to creating traps of low-pay and insecure employments (Standing, 1990; Lightman et al., 2009; Jackson et al., 2007).

Lastly, the fact that welfare recipients and single-mothers who obtained employment after the reform were more likely to work for employers with multiple office locations across Canada in the pooled cross-section analysis warranted further investigation; even though it was not significant in the individual fixed effects regression. As discussed in Chapter 2, employment outcomes of job seekers were determined jointly by labour supply and labour demand (Devins and Hogarth, 2005; Ray et al., 2009). While welfare reform and the literature often emphasize and evaluate the supply side of the labour market, the demand side received much less attention, partly due to limited data (Osberg, 1994). As proposed by Sarfati (2003); however, successful welfare reforms that aimed at increasing employment among potential and former welfare recipients required consensus between a wide range of social partners, including the government, employers, and trade unions. The success story from Denmark suggested that flexibility to accommodate and support those who face multiple employment barriers, as well as protection for current wage earners, are needed in welfare reform. The fact that none of the welfare recipients in Alberta were protected by collective agreement nor employed in the public sector before the 1993 reform and no significant changes occurred after the reform might indicate the fragmented approach undertaken by the Alberta government. Hence, knowing that larger employers were more likely to employ welfare recipients and single-mothers in Alberta after the reform, even — to the best of my knowledge — without government intervention in the demand side of the labour market; more research may identify opportunities for future cooperation that fosters better employment outcomes for those affected by welfare reform.

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