

# Alberta Welfare Reform and Employment Outcomes of Welfare Recipients

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## **Abstract**

It is well-established in the literature that financial work incentives and employability programs have positive labour supply effect. Though it is found that after a series of welfare reforms based on the work-first approach in Canada, the U.S., and the U.K., former welfare recipients and vulnerable groups, such as single mothers, tended to work in part-time or temporary jobs and witnessed limited wage growth; little is known about other job characteristics, such as union membership and pension plan coverage, of these groups. This study fills this gap by studying the 1993 welfare reform in Alberta using two years of panel data from Survey of Labour and Income Dynamics. I find that both welfare recipients and single mothers who started working after the reform were more likely to be covered by collective agreement and work full-time. However, welfare recipients tended to work regular evening schedules rather than daytime schedules; while single mothers received lower composite wage rates. Hence, there is mixed evidence as to whether the Alberta welfare reform improved employment outcomes for these two groups. More research in this area is certainly needed.

## Introduction

The recession in the early 1990s led to soaring unemployment rate and welfare expenditures in Alberta. In response to the growing government deficit, the Albertan government introduced structural reforms to its welfare program in the spring of 1993. Base on the philosophy of “any job is a good job”, Alberta implemented tightened eligibility, higher financial work incentives, reduced benefits, and mandatory employability program in the reformed welfare system. These changes jointly led to immediate decline in welfare caseload as employable individuals were moved from welfare to work (National Council of Welfare 1997, 84-86). However, is it true that “any job is a good job”? In other words, did the welfare reform in Alberta improve the employment outcomes –measured by job characteristics and employer attributes – of eligible welfare recipients?

Even though many Canadian and U.S. 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 indicated 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, and employer attributes, such as company size and multiple office locations. Moreover, studies of Temporary Assistance for Needy Families (TANF), a U.S. program similar to the new 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). On the contrary, the Alberta welfare reform occurred before the Employment Insurance reform and the introduction of the National Child Benefit.<sup>1,2</sup> Also, there were no other comparable provincial welfare reforms between 1993 and 1994 (National Council of Welfare 1997). Hence, this study can more readily identify the impacts of the Alberta welfare reform on

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<sup>1</sup> 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)

<sup>2</sup> The National Child Benefit, a program similar to Earned Income Tax Credit in the U.S., was introduced in 1998. (Shannon 2009)

employment outcomes among eligible welfare recipients by comparing Alberta with other provinces; thus filling a gap in the literature.

## **Why Study the Alberta Welfare Reform**

Few would object to 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, Martin, and Nativel 2001). Accordingly, government interventions to promote employment were seen as necessary in Alberta after the 1990 recession.

In addition, changes in labour market 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. Female labour force was growing dramatically. In Alberta, female labour force grew twice as fast as male labour force between 1976 and 1993<sup>3</sup>. It was believed that traditional social assistance, which provided income support passively, could no longer sustain the evolving labour market (Dawkins 2001; Hoynes, Page, and Stevens 2006; Ray et al. 2009).

As a result, the Albertan government began to implement changes in 1992 to cut welfare caseloads and encourage welfare recipients to work. These changes were possible despite restrictions from 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). Therefore, Alberta was able to prompt 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

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<sup>3</sup> Male labour force grew 42 percent while 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.

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, earnings exemption increased by \$58 per month for single persons working full time at minimum wage. Intake interview, employment session, and Employment Plan 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 in denial or termination of social assistance. Moreover, employability programs were introduced to provide trainings on basic literacy and numeracy skills, as well as job- search skills, such as resume and interview preparations. Job placement programs, including the Alberta Community Employment Program, the Alberta Job Corps, and the Employment Skills Program, placed employable welfare recipients to jobs that paid minimum wage (Klein 1996, 134-135; Elton, Sieppert, Azmier, and Roach 1997, 23; Boessenkool 1997, 16; Quaid 2002, 150-153). The combination of reduced benefits, increased financial work incentives, sanctions for noncompliance, and employability programs, was expected to motivate welfare recipients in Alberta to become self-sufficient through participation in the labour force.

Indeed, a welfare leaver survey conducted by 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 respondents participated in job trainings through the Alberta welfare system, less than half of them reported these training to be helpful for them in finding a job. In fact, 34 percent of the respondents rated 1 out of 10 – with 1 being not helpful at all – when asked whether welfare had helped them to achieve independence. It is apparent that welfare leavers faced 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 to the job insecurity faced by many former welfare recipients (Elton et al. 1997).

Even though the above mentioned survey provided excellent overview of the employment profile 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 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 move other vulnerable individuals into the labour force. For that reason, I study employment outcomes of both former welfare recipients and single mothers. Second, the survey did not provide information on current or former welfare recipients prior to the reform. As such, one cannot identify from this survey how the reform 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 impacts of the Alberta welfare reform on both actual and potential welfare recipients. Before I discuss the methodology; however, I would first review the existing literature on employment impacts of financial incentives and employability programs.

## **Literature Review**

As mentioned above, 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 impacts of these two components both jointly and separately. My discussion begins with the impact of financial work incentives.

### **Financial Incentives Increase Labour Supply**

Financial incentives generally increase employment among welfare recipients in Canada and the U.S. An evaluation of the Quebec wage subsidy program that targeted single parents found 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, treatment group members tended to accept low-wage jobs that were inherently unstable. Over the 54-month study period, full-time jobs accepted by the treatment group exhibited no wage growth. In fact, by the middle of the first year after the wage subsidy expired, the treatment group and the control group were equally likely to receive income assistance. This assessment concluded that financial incentives could motivate employment among welfare recipients in the short run but have no effect on long-term employment outcomes (Michalopoulos et al. 2002).

U.S. Studies of financial work incentives found similar positive labour supply effect; but there are limited studies that evaluate types of employment induced by financial incentives. For instance, research finds that the EITC expansion in 1993 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 U.S. evidence on how financial incentives alone may affect employment outcomes.

### **Employability Programs Improve Employment Outcomes in the Short-Run**

As for the effectiveness of employability program, there are mixed evidences. In general, 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. But 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, Michalopoulos, and Foley 2008). This finding suggested 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)

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 U.S. had similar experiences as the above quoted Ontario Works recipient. Although an assessment of the Job Opportunity and Basic Skills programs (JOBS), a federal program that provided funds for welfare-to-work program services, found work requirements with sanction for noncompliance increased employment and earnings by \$1400 to \$2500 among the treatment group as compared to the control group; these impacts 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 were 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 overtime. In addition, even those who became employed remained poor or near-poor (Morris et al. 2007; Slack et al. 2007; Needles Fletcher, Winter, and Shin 2008). These evidences indicate 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-limited disabilities. Second, many recipients may be constrained from desirable employment opportunities by exogenous circumstances, including lone parenthood, domestic violence, and lack of transportation. Third, skills trainings offered by employability programs are generally inadequate. Those who completed trainings that were equivalent to high school diploma still had relatively low human capital in the labour market (McQuaid and Lindsay 2005; Lightman, Herd, and Mitchell 2009). Forth, employability programs fail to acknowledge the important role of labour demand in determining the employment condition of job seekers. The above mentioned 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 are 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, Herd, and Mitchell 2008; Baum, Bill, and Mitchell 2009; Ray et al. 2009). On the other hand, employers' recruitment and orientation processes are typically unfavourable or inaccessible to long-term welfare recipients. Interviews with U.K. employers 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 U.K. 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 trainings were 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).

### **Mixed Evidence on Joint Impacts**

While having considered the separate effects of financial work 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 U.S. and U.K.

Temporary Assistance to Needy Families (TANF) replaced Aid to Families with Dependent Children (AFDC) in the U.S. 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.<sup>4</sup> Lim, Coulton, and Lailch (2009) found that a combination of generous financial incentives and lenient work requirement 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 (2000) 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)

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<sup>4</sup> 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 was from the expansions of EITC and 20 percent from a strong economy.

argued that this was likely due to the difficult choice between providing for and nurturing of children faced by many single-parents.

Similar to TANF in the U.S., U.K. 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 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 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 U.K., Ray et al. (2009) found that younger, single recipients were less likely to make plans or employ any 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 the employment outcomes of welfare recipients and single mothers. Therefore, I can contribute to the literature by providing additional evidence from the Alberta welfare reform.

## **A Static Labour Supply Model to Analyze the Alberta welfare reform**

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

In the static neo-classical 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 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 work 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 U.K. 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 trainings that were 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 section, 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 actual 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, work experience, presence of young children, marital status, and regional economic indicators such as female and male unemployment rates and average wage rates in goods and service 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 policy effects on labour supply and employment outcomes.

## **Data Source – Survey of Labour and Income Dynamics**

This study uses the public micro longitudinal data from the Survey of Labour and Income Dynamics (SLID) for year 1993 and 1994.<sup>5</sup> 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

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<sup>5</sup> 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 labour supply response to the Alberta welfare reform as the reform took place in early 1993.

files, detailed information on job and employer characteristics are also available for the purpose of this study. Data for regional economic indicators are retrieved from Labour Force Survey Estimates<sup>6</sup>.

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, in order to focus my analysis on those who are likely to be active in the labour force during the study period. This restriction also excludes individuals who might have moved in anticipation of the welfare reform. In addition, observations for individuals aged 19 or under, who lived in a single-parent household with child aged between 15 and 19, 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 dependents that are not directly affected by welfare reforms.

### **Albertans are Younger, More Educated, and More Active in the Labour Force**

Table 1 shows the differences between welfare recipients and non-welfare recipients in Alberta, as well as differences of these two groups compare to the rest of Canada. Due to the small sample size, characteristics of both male and female welfare recipients are reported together. On average, welfare recipients in Alberta were younger and more likely to have children than average Albertans. They also worked less hours and had less education. However, welfare recipients in Alberta had more favourable labour force characteristics than those in other Canadian provinces in terms of work experience and education, more likely to be employed, and spent less time outside the labour force. Welfare recipients in Alberta worked double the amount of paid hours than average Canadian welfare recipients; whereas non-welfare recipients in Alberta only worked 13 percent more hours than non-welfare recipients in the rest of Canada. Albertans were also richer in terms of after-tax equivalent income than average Canadians. In general, welfare recipients all over Canada faced higher job insecurity as indicated by the shorter durations of jobs. They were also more likely to work in relatively smaller firms that only had offices in one location. Though participation in union or coverage by collective agreement was roughly the same

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<sup>6</sup> Retrieved from CANSIM. Table 2820002 for male and female unemployment rates. Table 2810004 for good-producing and service-producing industries hourly wage rates, excluding overtime and unadjusted

between welfare recipients and non-welfare recipients, only less than 5 percent of welfare recipients were entitled to employer-sponsored pension plan as compared to around 20 percent of non-welfare recipients.

In 1994, the number of surveyed Albertan welfare recipients dropped while it increased in other provinces. Even though the remaining Albertan welfare recipients worked longer hours, their employment outcome worsened, as measured by full-time status, work schedule, and pension plan coverage. In addition, they were the only group who experienced decline in average composite wage rate. Although Albertan welfare recipients worked longer hours on average, their after-tax equivalent income dropped by nearly \$2,000. These initial findings are consistent with the hypothesis that the Alberta welfare reform only increased employment but not employment outcomes among welfare recipients. However, since there might be other factors, such as economic condition and individual characteristic that contributed to these changes, this hypothesis remained to be tested by econometric estimations. Moreover, lumping together male and female recipients may dampen the employment effects of the Alberta welfare reform, since males and females generally have different labour market experiences.

The small sample size of welfare recipients made another categorization of control and treatment groups necessary. The literature generally agrees that single mother is one of the most vulnerable groups in needing social assistance. Hence, I use single mother in Alberta as a treatment group of the welfare reform, with females from other family composition 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 consistent estimates. Therefore, I would limit my analysis to single mothers.

Table 2 describes the characteristics of females in Alberta and the rest of Canada by family composition. The “unknown” column provides information on those whose family composition is not revealed in the survey. 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. Lastly, I would describe changes among females in Alberta and the rest of Canada during 1993 and 1994.



In Alberta, around 24 percent of single mothers received social assistance compared to less than 10 percent among females in other family compositions. In general, single mothers were two years younger than other females and were more likely to have children aged 5 or above. On average, single mothers were relatively more educated than married Albertan females and those in other family compositions. On the other hand, they had relatively less work experience (9.62 percent compared with 11.42 percent for unattached individuals and 10.8 percent for females in other family compositions). Despite their more favourable labour force characteristics (more educated and experienced) than married females, single mothers experienced four times the length of unemployment spells than married females. Single mothers also had the shortest job duration and the lowest composite wage rate. However, they received the second highest after-tax family equivalent income among Alberta females. This is likely due to the regression nature of taxes and transfers.

Compared to those living in Alberta, females in the rest of Canada were more likely to receive social assistance in 1993 regardless of family composition. Average Canadian females were also relatively older, less likely to have children younger than 15, and were less educated. A larger proportion of them were either unemployed or not in the labour force. However, the composite hourly wage rates for females in the rest of Canada are generally higher than Albertan females except for those who were married. The most significant differences between single mothers in Alberta and the rest of Canada were the number of weeks not in labour force and job duration. Single mothers in the rest of Canada spent twice as many weeks as those in Alberta outside of the labour force. For single mothers who worked in a job that started prior to 1993; however, their jobs lasted on average 46 months in Alberta as compared to 75 months in the rest of Canada. Since one can join the labour force by choice but have less control on job duration, this may suggest a more disadvantageous labour market environment for single mothers in Alberta. Other employment outcomes, such as participation in employer-sponsored pension plans and union membership, were similar across females in different family compositions.

During 1993 and 1994, a smaller proportion of females in Alberta received social assistance while an opposite trend occurred in the rest of Canada. Females in Alberta also saw larger declines or

smaller increase in after-tax equivalent income. Reductions in both social assistance receipt and after-tax equivalent income are likely results of the Alberta welfare reform. In addition, single mothers in Alberta spent more weeks being employed and more weeks out of the labour force as compared to those in the rest of Canada. Increases in paid hours and composite wage rates among single mothers in Alberta were the highest. However, there was virtually no change in other employment outcome indicators. In order to look more closely at the impacts of the Alberta welfare reform on employment outcomes among welfare recipients and single mothers, I would now discuss the econometric methodologies.

## **Econometric Methodologies**

This study attempts to answer several questions regarding the employment impacts of the Alberta welfare reform. For this reason, different estimations are needed to answer each of those questions. This section discusses the methodologies.

The first question is whether the Alberta welfare reform increased labour force participation among welfare recipients. A difference-in-difference model is proposed for this purpose:

$$y_{it} = \alpha_i + \beta_1 AL_{it} + \beta_2 SA93_{it} + \beta_3 y94 + \beta_4 AL_{it} * SA93_{it} * y94 + \gamma X_{it} + \varepsilon_{it} \quad (1)$$

where  $y_{it}$  represents employment for individual  $i$  in time  $t$ . The OLS regressions estimate number of weeks not in labour force, number of weeks employed, and number of weeks unemployed. The dummy variable  $AL_{it}$  represents residence in Alberta throughout the study period; whereas  $SA93_{it}$  is an indicator of welfare receipt prior to March 1993. The interaction variable  $AL_{it} * SA93_{it} * y94$  compares the effect of Alberta welfare reform on welfare recipients between 1993 and 1994 with the rest of the Canadian population.  $X_{it}$  is a vector of control variables consist of individual characteristics and regional economic indicators. Individual characteristics include age, years of education, dummies for education credentials, presence of children aged 0 to 4, 5 to 9, and 10 to 14, FYFTE work experience, and FYFTE work experience squared. Regional economic indicators include unemployment rates of males and females, and average wage rate in good and service industries. The two wages control for work-incentives for low-skilled workers (Lim et al. 2009).

Equation 2 is similar to Equation 1. The only differences being the time period variable and dependent variables to estimate changes in employment outcomes after the welfare reform.

$$y_{it} = \alpha_i + \beta_1 AL_{it} + \beta_2 SA93_{it} + \beta_3 j94 + \beta_4 AL_{it} * SA93_{it} * j94 + \gamma X_{it} + \varepsilon_{it} \quad (2)$$

The time period variable in this equation 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 that obtained prior and after the welfare reform. Two of the dependent variables in this equation are logged paid hours and logged composite wage rate. Since social recipients may be systematically less likely to be employed and receive wages, logged composite wage rate and logged paid hours will be estimated using Heckman two-step procedure. Full-time status, union membership, entitlement to employer-sponsored pension plans, and whether the employer has offices in multiple locations in Canada are estimated using logit regressions. The remaining employment outcome measures: work schedule and number of employees, are estimated by multinomial logit regression.

Equation 3 compares single mothers in Alberta with the rest of Canadian females:

$$y_{it} = \alpha_i + \beta_1 AL_{it} + \beta_2 FC_{it} + \beta_3 94 + \beta_4 AL_{it} * FC_{it} * 94 + \gamma X_{it} + \varepsilon_{it} \quad (3)$$

This Equation will use the same dependent and independent variables as in Equation 1 and 2 except  $FC_{it}$ , which is a vector of family composition dummies. Since single parents are more likely to receive social assistances, the interaction variables  $AL_{it} * FC_{it} * 94$  is the variable of interest. As in Equation 1, logged composite wage rate and logged paid hours will be estimated using Heckman two-step procedure to account for selection bias.

## Discussion and Analysis

Tables 3 and 4 list the regression results. In Table 3, results from OLS regressions on labour supply, logit regressions on employment outcomes, and Heckman two-step procedure are generally statistically significant.

Column 1 in Table 3 shows that Albertan welfare recipients spent six weeks less out of the labour force after the welfare reform. Even so, this decline was not able to offset the increase in number of

weeks being employed (nine weeks). They also spent three weeks less being unemployed. On average, their paid hours increased by 30.6 percent. These results are consistent with the literature that a combination of financial incentives and employability programs induced labour force participation. Moreover, these welfare recipients were more likely to be covered by collective agreements in their employment; and they were more likely to work full-time. However, Column 12 indicates that many of these employments require regular evening schedules. These employments were also more likely to be with employers that either employed less than 100 employees or more than 1000 employees, suggesting both smaller and the largest firms absorbed most of the previous welfare recipients who joined the workforce. In fact, Albertan welfare recipients are more likely to work for employers with offices in multiple locations in Canada after the reform. However, there were no statistically significant changes in wage rate or pension plan coverage. Accordingly, there is mixed evidence as to whether the Alberta welfare reform worsened employment outcomes among welfare recipients.

Table 4 shows that single mothers in Alberta (ALLy94) spent six weeks less outside the labour force after the welfare reform compared to average Canadian females, and the result is statistically significant. Moreover, these single mothers are spending almost ten weeks more being employed and three weeks less being unemployed. For those single mothers in Alberta who started working after the welfare reform (ALLj94), there were no significant change in paid hours (column 10 and 11). These results are in general consistent with previous research that welfare reform is effective in motivating eligible recipients to participate in the work force. Measures of employment outcome (columns 4 to 9), including the likelihood of obtaining a job with pension plan and working for an employer with offices in multiple locations, are not statistically significant. Single mothers were more likely to work full-time and being covered by a collective agreement if they started working after the welfare reform. As shown in Table 4, these single mothers were also more likely to work in either small firms that employed less than 100 employees or in large firms that employ more than 1000 employees. However, they received 13.8 percent less in composite wage rates. Therefore, it is inconclusive on the impacts of the Alberta welfare reform on employment outcomes among single mothers.

In summary, the data show that Albertan welfare recipients and single mothers spent more time in the labour force and being employed after the Alberta welfare reform. Welfare recipients worked more hours but saw no changes in their composite wage rates. Single mothers, on the other hand, saw declined wage rates but no significant changes in paid hours. Among those who started working after the reform, both groups were more likely to be covered by collective agreements and worked full-time. They were also more likely to work for either small or large employers (with less than 100 or more than 1000 employees). Moreover, welfare recipients were more likely to work regular evening schedule. Because of the different directions of changes among measures of employment outcomes, it remains unclear whether the Alberta welfare reform improved or worsened employment outcomes among welfare recipients and single mothers.

## **Conclusion**

Though the literature provides abundant amount of evidence on the impacts of financial incentives and employability programs on labour supply of welfare recipients and single mothers, there have been few studies that looked beyond wages and full-time versus part-time or temporary employment to analyze the employment impacts of these programs. Taking advantage of the Alberta welfare reform in spring 1993, I analyze how the reform might have affected job characteristics, such as union membership, pension plan coverage, wages, and working hours, as well as employer attributes like number of employees and multiple office locations among welfare recipients and single mothers.

The two-year panel data from SLID once again confirm the positive labour supply impact of welfare reform. Both groups spent more time in the labour force and being employed. However, welfare recipients worked more hours with no significant changes in composite wage rate; whereas single mothers experienced 13.8 percent decline in wage rates but no change in paid hours. Both groups were more likely to be covered by collective agreement and participated in employer-sponsored pension plans. However, welfare recipients were also more likely to work regular evening schedule rather than daytime schedule. Taking into consideration the responsibility of nurturing children among single mothers, the fact that

single mothers experienced declined in wages but not significant changes in their work schedules; whereas welfare recipients in general saw no changes in wage rates but were more likely to work regular evening schedule might suggest the presence of compensation principle. Inflexibilities of single mothers in terms of working hours might prevent them to accept higher-paid jobs that require evening schedule. Since the welfare reform prevented them from obtaining social assistance; however, these single mothers were prompted to accept low-pay jobs that they would not have otherwise accepted. This could be an undesirable policy outcome because the welfare reform might have introduced additional stress to single mothers by obligating them to provide for their children through working at low-pay jobs.

A potential area for future research is to use panel data that span more years. A recently published study by Lightman, Herd, and Mitchell (2010) used six years of panel data to study how Canadian welfare recipients cycled-on and -off the welfare system. This paper focused on frequency of re-entry to welfare and whether these recipients achieved wage gains. Though such knowledge is informative to policy making, other job characteristics are also important. For instance, knowing more about employers who are more likely to hire welfare recipients could foster partnership between the government and the private sector in engaging former welfare recipients or vulnerable groups to the labour force. Job trainings and advancement opportunities available to these individuals at the workplace also merit more attention. Such studies could better inform policy makers about the important role played by employers in determining employment outcomes of those affected by welfare reform.

**Table 1: Descriptive Statistics of Welfare Recipients and Non-Welfare Recipients in Alberta and the Rest of Canada, 1993 and 1994**

	1993				1994			
	Canada		Alberta		Canada		Alberta	
	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients
Number of Observations	1258	22410	136	2670	1396	23531	92	2756
<i>Demographic Characteristics</i>								
Age	34.22	36.92	32.93	35.94	33.79	36.68	34.91	35.48
Std. Dev.	10.98	12.45	10.07	11.87	11.16	12.65	11.35	12.13
Min	17	17	20	17	16	16	20	16
Max	64	64	64	64	64	64	64	64
Child 0 to 4	26.15%	17.67%	32.35%	17.45%	26.12%	15.89%	35.16%	15.94%
Child 5 to 9	24.24%	19.00%	33.09%	18.35%	24.14%	18.37%	23.08%	18.74%
Child 10 to 14	21.62%	22.82%	22.79%	22.51%	21.34%	22.26%	25.27%	20.88%
<i>Labour Force Characteristics</i>								
Education (Years)	11.27	12.65	12.56	13.08	11.39	12.77	12.67	13.15
Std. Dev.	3.02	3.04	2.63	2.64	2.97	3.09	2.37	2.63
Min	0	0	6	1	0	0	6	1
Max	20	20	20	20	20	20	20	20
FYFTE experience	7.40	12.41	7.94	12.36	7.07	12.74	9.24	12.33
Std. Dev.	8.84	11.44	7.84	10.97	8.86	11.58	7.80	10.94
Min	0	0	0	0	0	0	0	0
Max	45	51	32	50	47	51	24	50
Annual Labour Force Status								
Employed	59.46%	89.11%	86.76%	91.87%	59.38%	88.02%	85.87%	90.42%
Unemployed	16.61%	2.59%	6.62%	1.36%	17.69%	2.61%	5.43%	1.74%
Not in Labour Force	23.93%	8.30%	6.62%	6.78%	22.92%	9.37%	8.70%	7.84%

**Table 1: Descriptive Statistics of Welfare Recipients and Non-Welfare Recipients in Alberta and the Rest of Canada, 1993 and 1994 (Continued)**

	1993				1994			
	Canada		Alberta		Canada		Alberta	
	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients
Number of Observations	1258	22410	136	2670	1396	23531	92	2756
Employed (weeks)	18.61	39.75	29.89	42.36	20.72	39.47	32.83	41.71
Std. Dev.	20.40	19.25	20.57	17.50	21.26	19.47	20.25	18.35
Min	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53
Unemployed (weeks)	14.61	4.18	12.79	3.09	14.67	4.32	11.50	3.38
Std. Dev.	18.76	10.39	16.87	8.48	18.86	10.63	16.35	9.54
Min	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53
Not in Labour Force (weeks)	19.78	9.08	10.32	7.55	17.93	8.53	8.87	7.16
Std. Dev.	22.95	17.35	17.64	16.05	22.67	16.98	16.57	15.75
Min	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53
<i>Job Characteristics</i>								
Duration of Jobs (months)	13.38	72.46	16.27	63.94	14.78	69.83	15.47	60.17
Std. Dev.	27.35	98.08	50.82	91.75	33.83	96.88	58.77	89.77
Min	0	0	0	0	0	0	0	0
Max	360	600	521	600	456	600	521	600
Full-Time	65.94%	75.01%	68.49%	74.80%	62.06%	76.10%	60.34%	75.01%
Part-Time	34.06%	24.99%	31.51%	25.20%	37.94%	23.90%	39.66%	24.99%
Total Paid Hours	557.37	1413.73	931.13	1607.50	636.52	1447.85	1302.62	1611.01
Std. Dev.	760.58	972.50	879.11	1040.87	809.38	976.30	1247.00	1038.54
Min	0	0	0	0	0	0	0	0
Max	4693	8386	4171	6622	5162	7037	4693	5496



**Table 1: Descriptive Statistics of Welfare Recipients and Non-Welfare Recipients in Alberta and the Rest of Canada, 1993 and 1994 (Continued)**

	1993				1994			
	Canada		Alberta		Canada		Alberta	
	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients	Welfare Recipients	Non-Welfare Recipients
Number of Observations	1258	22410	136	2670	1396	23531	92	2756
<i>Schedule</i>								
Regular Daytime	86%	80%	79%	79%	85%	80%	77%	81%
Regular Evening	4%	4%	9%	4%	5%	4%	11%	4%
Irregular	10%	16%	12%	16%	11%	16%	12%	15%
<i>Employer</i>								
Multilocations	14%	29%	21%	31%	15%	29%	17%	30%
<100 employees	67%	44%	57%	42%	63%	43%	49%	42%
100-999 employees	28%	38%	35%	39%	29%	38%	45%	39%
>1000 employees	6%	18%	8%	19%	7%	19%	7%	19%
Pension Plan	3%	24%	5%	22%	4%	25%	2%	19%
Union	31%	39%	43%	43%	35%	40%	53%	44%
<i>Income Levels</i>								
Composite Hourly Wage	9.05	13.34	10.43	13.75	9.77	13.70	10.17	13.82
Std. Dev.	4.27	7.33	6.98	7.47	4.74	7.33	4.58	7.57
Min	2	2	4	2	3	2	4	4
Max	50	61	34	48	44	50	20	49
After-tax Equivalent Income	6,478	8,759	9,129	10,304	7,162	8,947	7,796	10,453
Std. Dev.	4,026	8,464	6,313	10,391	4,634	8,589	4,230	9,962
Min	-2,455	-11,667	1,434	-9,972	-3,200	-16,430	1,045	-2,706
Max	30,290	130,000	28,750	225,000	34,150	167,000	18,620	87,600

**Table 2: Descriptive Statistics of Females by Family Composition in Alberta and the Rest of Canada, 1993 and 1994**

	1993 Canada					Alberta				
	Unattached	Married	Lone-Parents	Other	Unknown	Unattached	Married	Lone-Parents	Other	Unknown
Number of Observations	1101	8059	753	1488	321	179	857	119	139	63
<i>Demographic Characteristics</i>										
Age	37.87	36.55	36.30	37.76	35.42	35.15	36.65	32.39	38.96	30.90
Std. Dev.	14.22	12.05	10.02	13.95	11.48	12.03	11.19	9.54	13.37	10.42
Min	17	17	20	17	17	18	17	20	17	18
Max	64	64	64	64	58	64	64	57	64	52
Child 0 to 4	0.00%	20.87%	21.38%	17.81%	-	0.00%	22.64%	21.85%	21.58%	-
Child 5 to 9	0.00%	23.18%	23.64%	13.31%	-	0.00%	22.87%	27.73%	15.83%	-
Child 10 to 14	0.00%	26.32%	32.67%	18.41%	-	0.00%	29.64%	27.73%	12.23%	-
<i>Labour Force Characteristics</i>										
Education (Years)	13.36	12.67	12.66	12.10	12.40	14.13	12.88	12.99	12.40	12.14
Std. Dev.	3.20	2.80	2.77	3.05	2.86	2.62	2.43	2.23	3.05	1.99
Min	0	0	3	0	3	8	3	7	3	8
Max	20	20	20	20	20	20	20	19	20	17
FYFTE experience	11.34	8.93	9.11	8.77	8.38	9.85	9.63	7.19	10.30	6.03
Std. Dev.	10.99	8.91	8.62	9.77	8.81	8.40	8.77	7.56	10.14	6.39
Min	0	0	0	0	0	0	0	0	0	0
Max	47	48	48	46	35	42	43	27	42	31
Annual Labour Force Status										
Employed	87.01%	82.28%	76.10%	77.28%	-	97.21%	83.10%	90.76%	84.89%	-
Unemployed	2.45%	3.49%	8.10%	4.52%	-	1.68%	1.76%	7.56%	0.72%	-
Not in Labour Force	10.54%	14.23%	15.80%	18.21%	-	1.12%	15.14%	1.68%	14.39%	-

**Table 2: Descriptive Statistics of Females by Family Composition in Alberta and the Rest of Canada, 1993 and 1994 (Continued)**

	1993 Canada					Alberta				
	Unattached	Married	Lone-Parents	Other	Unknown	Unattached	Married	Lone-Parents	Other	Unknown
Number of Observations	1101	8059	753	1488	321	179	857	119	139	63
Employed (weeks)	40.02	36.12	33.50	33.25	38.06	46.21	38.28	35.71	34.95	38.21
Std. Dev.	19.76	21.64	23.01	22.37	20.22	14.03	20.93	20.25	22	19.29
Min	0	0	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53	53	53
Unemployed (weeks)	3.39	3.81	5.50	4.21	5.93	3.04	2.86	10.17	3.83	1.43
Std. Dev.	9.99	10.32	12.97	10.48	12.87	8.78	8.89	15.95	8.67	3.84
Min	0	0	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53	39	16
Not in Labour Force (weeks)	9.59	13.08	13.99	15.55	9.01	3.75	11.86	7.13	14.22	13.37
Std. Dev.	18.06	20.39	20.98	21.49	17.83	10.87	20.05	14.84	20.89	18.76
Min	0	0	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53	53	53
<i>Job Characteristics</i>										
Duration of Jobs (months)	66.71	60.00	52.56	60.60	49.22	51.03	55.11	29.18	60.80	39.86
Std. Dev.	92.97	80.80	76.31	88.81	67.22	78.59	73.71	45.14	97.14	64.05
Min	0	0	0	0	0	0	0	0	0	0
Max	534	540	446	528	328	521	480	307	504	290
Full-Time	71.95%	60.29%	65.83%	63.72%	-	77.27%	56.81%	64.47%	66.29%	-
Part-Time	28.05%	39.71%	34.17%	36.28%	-	22.73%	43.19%	35.53%	33.71%	-
Total Paid Hours	1358.52	1061.45	1059.59	1034.27	1207.90	1601.32	1135.89	1180.16	1158.00	1214.19
Std. Dev.	889.50	864.98	974.65	918.06	889.95	797.56	918.92	858.59	868.96	961.38
Min	0	0	0	0	0	0	0	0	0	0
Max	5162	5162	4745	6373	5162	3389	3998	3011	3823	3154

**Table 2: Descriptive Statistics of Females by Family Composition in Alberta and the Rest of Canada, 1993 and 1994 (Continued)**

	1993 Canada					Alberta				
	Unattached	Married	Lone-Parents	Other	Unknown	Unattached	Married	Lone-Parents	Other	Unknown
Number of Observations	1101	8059	753	1488	321	179	857	119	139	63
<i>Schedule</i>										
Regular Daytime	78%	80%	82%	79%	-	78%	79%	77%	81%	-
Regular Evening	5%	4%	5%	5%	-	7%	3%	7%	5%	-
Irregular	17%	16%	13%	16%	-	15%	17%	16%	14%	-
<i>Employer</i>										
Multilocations	31%	27%	27%	25%	-	35%	26%	34%	29%	-
<100 employees	48%	48%	56%	52%	-	40%	45%	50%	53%	-
100-999 employees	33%	35%	29%	33%	-	34%	39%	31%	33%	-
>1000 employees	20%	17%	16%	14%	-	26%	16%	18%	14%	-
Pension Plan	27%	20%	20%	17%	-	26%	16%	18%	16%	-
Union	44%	39%	35%	38%	-	52%	40%	49%	48%	-
<i>Income Levels</i>										
Composite Hourly Wage	12.81	11.61	11.74	10.77	10.78	12.14	11.89	10.08	10.24	10.31
Std. Dev.	6.99	6.45	6.43	6.23	6.21	6.82	6.26	5.63	6.53	6.05
Min	2	2	4	2	4	3	2	4	5	4
Max	41	50	50	48	34	35	48	28	46	35
After-tax Equivalent Income	18,065	5,559	9,825	4,695	5,763	19,447	5,986	9,207	5,549	5,016
Std. Dev.	12,324	5,286	5,915	4,356	5,300	12,482	5,389	6,386	4,473	4,138
Min	-1,550	-5,294	0	-11,667	0	660	0	0	0	0
Max	95,000	66,000	35,235	62,353	42,282	61,150	32,647	26,294	21,694	14,119
Received Social Assistance	9.99%	1.97%	35.06%	10.36%	-	3.37%	0.93%	26.89%	9.35%	-

**Table 2: Descriptive Statistics of Females by Family Composition in Alberta and the Rest of Canada, 1993 and 1994 (Continued)**

	1994 Canada					Alberta				
	Unattached	Married	Lone-Parents	Other	Unknown	Unattached	Married	Lone-Parents	Other	Unknown
Number of Observations	1232	8446	772	1564	425	198	875	97	154	49
<i>Demographic Characteristics</i>										
Age	37.67	36.37	36.37	37.45	33.80	33.85	36.45	32.26	36.47	31.49
Std. Dev.	14.77	12.23	9.45	14.03	11.64	12.39	11.75	9.25	12.93	10.50
Min	16	16	20	16	16	17	16	20	16	16
Max	64	64	64	64	64	64	64	57	64	57
Child 0 to 4	0.00%	18.93%	21.76%	15.47%	-	0.00%	21.14%	21.65%	20.78%	-
Child 5 to 9	0.00%	22.08%	31.48%	12.40%	-	0.00%	22.06%	25.77%	24.68%	-
Child 10 to 14	0.00%	25.76%	32.51%	15.35%	-	0.00%	25.83%	35.05%	11.04%	-
<i>Labour Force Characteristics</i>										
Education (Years)	13.36	12.77	12.73	12.28	12.85	13.84	12.90	13.17	12.39	13.63
Std. Dev.	3.29	2.84	2.91	3.21	2.83	2.65	2.52	1.84	2.45	2.39
Min	0	0	4	0	0	7	3	7	6	11
Max	20	20	20	20	20	20	20	18	20	20
FYFTE experience	11.10	9.27	10.02	8.97	7.94	9.06	9.77	8.36	9.20	8.39
Std. Dev.	11.33	9.00	8.68	9.89	8.68	9.02	9.01	8.14	9.39	5.15
Min	0	0	0	0	0	0	0	0	0	0
Max	48	48	48	47	41	43	48	28	42	16
Annual Labour Force Status										
Employed	85.39%	80.62%	77.98%	76.15%	-	92.93%	81.14%	94.85%	84.42%	-
Unemployed	2.92%	3.49%	7.12%	4.92%	-	3.03%	3.20%	1.03%	0.65%	-
Not in Labour Force	11.69%	15.89%	14.90%	18.93%	-	4.04%	15.66%	4.12%	14.94%	-

**Table 2: Descriptive Statistics of Females by Family Composition in Alberta and the Rest of Canada, 1993 and 1994 (Continued)**

	1994 Canada					Alberta				
	Unattached	Married	Lone-Parents	Other	Unknown	Unattached	Married	Lone-Parents	Other	Unknown
Number of Observations	1232	8446	772	1564	425	198	875	97	154	49
Employed (weeks)	38.53	35.77	34.67	32.84	36.65	43.60	37.21	39.77	37.32	42.27
Std. Dev.	20.07	21.81	22.59	22.76	19.81	17.19	21.77	17.71	20.48	19.04
Min	0	0	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53	53	53
Unemployed (weeks)	3.88	4.01	5.96	5.76	4.92	3.89	3.29	3.05	3.51	4.04
Std. Dev.	9.96	10.64	13.10	13.19	10.77	11.29	10.38	7.39	8.23	10.88
Min	0	0	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	37	47	52
Not in Labour Force (weeks)	10.38	12.54	12.38	14.20	10.54	4.97	11.63	10.39	11.74	5.85
Std. Dev.	18.09	20.22	20.58	21.37	17.65	12.44	20.05	16.25	19.41	15.79
Min	0	0	0	0	0	0	0	0	0	0
Max	53	53	53	53	53	53	53	53	53	53
<i>Job Characteristics</i>										
Duration of Jobs (months)	62.83	58.23	53.56	58.03	36.73	45.94	55.30	30.99	47.91	34.86
Std. Dev.	92.92	79.28	76.78	88.64	62.06	76.49	78.30	49.53	83.32	50.36
Min	0	0	0	0	0	0	0	0	0	0
Max	534	540	446	528	328	521	514	307	504	196
Full-Time	74.61%	61.46%	67.68%	64.98%	-	71.13%	58.26%	74.67%	63.27%	-
Part-Time	25.39%	38.54%	32.32%	35.02%	-	28.87%	41.74%	25.33%	36.73%	-
Total Paid Hours	1333.94	1097.08	1186.04	1034.99	1178.34	1532.44	1150.17	1552.91	1172.41	1436.80
Std. Dev.	864.66	890.53	1057.41	904.76	859.34	770.59	940.08	1039.74	854.87	837.42
Min	0	0	0	0	0	0	0	0	0	0
Max	3927	6344	5782	5162	5162	3292	5162	4573	3285	2399

**Table 2: Descriptive Statistics of Females by Family Composition in Alberta and the Rest of Canada, 1993 and 1994 (Continued)**

	1994 Canada					Alberta				
	Unattached	Married	Lone-Parents	Other	Unknown	Unattached	Married	Lone-Parents	Other	Unknown
Number of Observations	1232	8446	772	1564	425	198	875	97	154	49
<i>Schedule</i>										
Regular Daytime	77%	81%	81%	81%	-	77%	82%	79%	82%	-
Regular Evening	6%	4%	5%	5%	-	8%	4%	6%	9%	-
Irregular	18%	16%	15%	14%	-	15%	14%	14%	8%	-
<i>Employer</i>										
Multilocations	32%	27%	28%	26%	-	33%	26%	33%	30%	-
<100 employees	49%	48%	50%	51%	-	42%	47%	35%	45%	-
100-999 employees	31%	35%	31%	33%	-	35%	37%	47%	32%	-
>1000 employees	20%	17%	18%	16%	-	23%	16%	18%	23%	-
Pension Plan	25%	21%	21%	17%	-	20%	16%	20%	16%	-
Union	44%	39%	39%	39%	-	51%	39%	62%	44%	-
<i>Income Levels</i>										
Composite Hourly Wage	12.54	12.05	12.20	11.04	10.86	11.91	12.14	10.48	9.48	11.34
Std. Dev.	6.88	6.55	6.90	5.93	6.04	6.58	6.63	4.98	4.65	6.01
Min	2	2	5	2	4	6	5	4	5	5
Max	43	50	43	48	45	36	42	25	28	27
After-tax Equivalent Income	17,339	5,735	10,089	4,781	6,427	17,708	5,941	9,184	5,089	7,590
Std. Dev.	11,992	5,492	5,607	4,554	5,755	12,513	5,827	6,407	4,372	7,674
Min	0	-4,929	100	-292	-3,200	0	0	1,565	0	-2,706
Max	115,000	79,459	33,333	62,471	41,191	57,600	39,459	26,118	29,812	29,067
Received Social Assistance	11.61%	2.08%	37.69%	9.02%	-	5.05%	0.57%	24.74%	8.44%	-

**Table 3: Regression Results on Labour Supply and Employment Outcomes for Welfare Recipients**

	OLS Regressions			Logit Regressions				Heckman 2-Step			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Weeks not in Labour Force	Weeks Employed	Weeks Unemployed	Union	Pension Plan	Full-Time Status	Multiple Locations	ln(Wages)	ln(Wages)	ln(Hours)	ln(Hours)
ALSA93y94	-10.45*** (1.902)	16.73*** (2.682)	-6.179** (2.358)	-	-	-	-	-	-	-	-
ALSA93j94	-	-	-	0.839*** (0.223)	-0.229 (1.041)	0.969*** (0.244)	0.794** (0.278)	0.0625 (0.0622)	0.0631 (0.0622)	0.306* (0.132)	0.306* (0.132)
Selection	-	-	-	-	-	-	-	-	0.0461*** (0.0073)	-	0.0130*** (0.0033)
N	42547	43245	43245	43,352	43,352	43,352	43,352	33935	43352	37266	43352
adj. R-sq	0.247	0.270	0.056					0.441		0.264	

	Baseline: Regular Daytime Schedule				Baseline: 100<Employees<999			
	(12)		(13)		(14)		(15)	
	Regular Evening Schedule		Irregular Schedule		<100 Employees		>1000 Employees	
	$\beta$	$\exp^{\beta}$	$\beta$	$\exp^{\beta}$	$\beta$	$\exp^{\beta}$	$\beta$	$\exp^{\beta}$
ALSA93j94	1.226*** (.3656)	3.409	0.193 (.3878)	1.213	.736*** (.2400)	2.088	1.231*** (.3963)	3.426
N								
Pseudo R-sq	0.019				0.0306			

\* Significant at 5 percent  
 \*\* Significant at 1 percent  
 \*\*\* Significant at 0.1 percent



**Table 4: Regression Results on Labour Supply and Employment Outcomes for Single Mothers**

	OLS Regressions			Logit Regressions				Heckman 2-Step			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Weeks not in Labour Force	Weeks Employed	Weeks Unemployed	Union	Pension Plan	Full-Time Status	Multiple Locations	ln(Wages)	ln(Wages)	ln(Hours)	ln(Hours)
ALSy94	-3.092* (1.207)	3.615* (1.520)	-0.497 (0.810)	-	-	-	-	-	-	-	-
ALLy94	-6.826*** (1.755)	9.960*** (1.907)	-2.918** (1.020)	-	-	-	-	-	-	-	-
AL Oy94	-0.630 (1.962)	1.490 (2.039)	-1.535* (0.733)	-	-	-	-	-	-	-	-
ALSj94	-	-	-	0.299 (0.177)	0.129 (0.360)	0.0249 (0.186)	0.421* (0.189)	-0.0129 (0.0255)	-0.0131 (0.0255)	0.154** (0.0500)	0.154** (0.0499)
ALLj94	-	-	-	0.848*** (0.232)	-1.139 (1.002)	0.630** (0.236)	0.478 (0.259)	-0.139*** (0.0326)	-0.138*** (0.0325)	0.132 (0.105)	0.132 (0.105)
AL Oj94	-	-	-	-0.00687 (0.210)	-0.567 (0.737)	0.0351 (0.250)	-0.107 (0.269)	-0.0204 (0.0273)	-0.0202 (0.0274)	-0.0822 (0.0958)	-0.0821 (0.0958)
Selection	-	-	-	-	-	-	-	-	0.0473*** (0.0057)	-	0.0119*** (0.0033)
N	20,637	20,965	20,965	16,933	21,013	21,013	21,013	33,935	43,352	37,266	43,352
adj. R-sq	0.211	0.22	0.022	0.182				0.441		0.261	

**Table 4: Regression Results on Labour Supply and Employment Outcomes for Single Mothers (Continued)**

	<b>Baseline: Regular Daytime Schedule</b>				<b>Baseline: 100&lt;Employees&lt;999</b>			
	(12)		(13)		(14)		(15)	
	Regular Evening Schedule		Irregular Schedule		<100 Employees		>1000 Employees	
	$\beta$	$\exp^{\beta}$	$\beta$	$\exp^{\beta}$	$\beta$	$\exp^{\beta}$	$\beta$	$\exp^{\beta}$
ALSA93j94	1.226*** (.3656)	3.409	0.193 (.3878)	1.213	.736*** (.2400)	2.088	1.231*** (.3963)	3.426
N								
Pseudo R-sq	0.019				0.0306			
ALLj94	0.628 (.4015)	1.874	0.083 (.3315)	1.086	0.690** (.2430)	1.994	0.753* (.3354)	2.135
N								
Pseudo R-sq	0.0305				0.0768			

\* Significant at 5 percent  
 \*\* Significant at 1 percent  
 \*\*\* Significant at 0.1 percent

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