Canada's Employment Insurance Program: Design, Effects, and Efficiency Costs

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Abstract: Recent legislative changes to Canada's EI program have once again focused public attention on the program and its impact on the lives of Canadians and the Canadian labour market. In this paper, I review the theoretical premises behind the supply of insurance and discuss why insurance against unemployment is publicly provided. I examine the history and design of Canada's EI program and find that it does not perfectly reflect idealized insurance principles. Examining the effects of its design, I find that the program significantly redistributes funds from provinces West of the Ottawa River to those East of the Ottawa River, which affects the Canadian labour market. Examining these effects through a literature review, I find evidence that suggests EI has contributed to the persistence of unstable seasonal labour in Canada's Eastern regions. I also find that contrary to popular criticisms, the program does not affect an individual's decision to move to regions with greater economic prospects. Finally, I find that evidence suggests a significant portion of beneficiaries are repeat users of the program, but whether they repeatedly use EI in an attempt to game the system, or whether they repeatedly use the system because they lack employment alternatives is not clear. Discussing these effects in the broader context of program design, I discuss how the current EI program trades-off efficiency goals for equity gains. To contribute to the larger discussion of reform, I consider an alternative design: an experience rated EI program that seeks to maximize efficiency. Examining the costs and benefits of such a program I find estimates that suggest that the gains from moving towards an experience rated EI program would outweigh the efficiency losses, but that further research into this topic should be conducted. This paper is useful for those looking for a broad overview of the literature on the effects of Canada's EI program.

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Introduction

It has been a number of years since Canada's Employment Insurance program was a popular topic among academics, think tanks and provincial premiers. However, recent reforms have once again, brought Employment Insurance (EI) into popular consideration from Canadians and public policy experts alike. In order, to contribute to this debate I consider what issues the Canadian Employment Insurance program currently faces. Specifically, I conduct a literature review to examine whether Employment Insurance redistributes funds between regions, and to consider the impacts this redistribution has on social goals and the labour market. I discuss the theory of insurance to examine why the government provides insurance against unemployment, and then apply the theory to consider why there are elements of redistribution through EI's general pooling mechanism. I then examine evidence of the program's impact on the labour market, including claims that it restricts labour market mobility, creates incentives for unstable seasonal employment, and allows for overuse.

This literature review shows that the program has more nuanced effects on the labour market than standard economic theory would suggest. First, I find that the program has no significant impact on individual decisions to move to regions with better economic prospects. Next, I find evidence that suggests that Employment Insurance has perpetuated unstable seasonal industries which increases the costs of the program without significantly influencing labour supply. I also find evidence that suggests that although some individuals do repeatedly use the system, it is not always, as generally suggested, in the pursuit of subsidized leisure. Instead, it may be possible that the program is acting as a social support to ease a situation where there are no alternatives to unemployment.

Framing the discussion of the program's design as a trade-off between efficiency and equity goals, I examine the case of an experience rated EI program that trades-off equity goals in the pursuit of efficiency. In surveying the literature, I find evidence suggesting that an experience rated EI program would result in both economic growth and a reduction in unemployment. In estimating the size of the trade-off between efficiency and equity, I find literature that suggests the value of the equity losses would be smaller than the overall magnitude of efficiency gains that could be gleaned from an experience rated program. While an interesting overall finding, I argue that further research is required to aid policy makers in assessing the overall welfare gains that may be found by experience rating.

In the larger context, my literature review serves as a means to review relevant evidence concerning EI's effects on regional redistribution and labour markets with a look to informing current policy discussions concerning the reform of the EI program. While not an exhaustive review, I contribute to the larger discussion of reform by highlighting research that speaks to the effects of EI and the trade-offs associated with pursuing greater efficiency within the program.

Theory

In this section, I offer a brief summary of the theoretical underpinnings behind insurance markets. Relying heavily on the work of Barr (2004) and Corak (1994) I apply this theory to the market for unemployment insurance (UI), finding that UI does not perfectly fit an idealized insurance model.

Insurance offers individuals financial support in the event of financial loss. The theory behind the demand for insurance assumes that persons are rational, risk averse and have a diminishing marginal utility of income (Barr 2004). Individual future incomes are subject to

uncertainty: individuals may go through life without experiencing any unexpected financial shocks, or they may go through life experiencing one or several shocks that result in financial loss, such as car accidents, house fires, or expensive medical costs. The uncertainty of these events causes a risk-averse individual discomfort or disutility. This implies that a rational risk-averse individual will demand certainty (of income) and pay a positive price for the utility they gain from it as long as the price is less than or equal to the value they place on certainty (Barr 2004).

A model based upon the assumption that a rational, risk-averse individual will forego income in exchange for certainty does not specifically explain why an individual would demand insurance instead of pursuing certainty through other means such as saving. The gains from trade individuals receive by pooling risk in an insurance scheme explain why there is a specific demand for insurance (Barr 2004). Through pooling, individuals can pay less than the full cost of saving for an event's occurrence, yet still receive financial support if the event were to occur.

While it is uncertain whether a specific event will occur to a specific individual, the probability of an event's occurrence can be determined for large enough groups of people with similar characteristics. For instance, I do not know whether my house will burn down within the next year; however, based on the experience of other houses in my neighbourhood and the availability of fire stations, an insurance company may determine that there is a 1% chance of a house burning down in my neighbourhood of 500 houses. Through pooling, I can join other individuals in my neighbourhood to insure against house fires and pay premiums that reflect the probability of the group, foregoing less income than saving, but still gaining utility from certainty and exploiting gains from trade (Barr 2004).

On the supply side, the private market supplies insurance if market conditions allow for firms to profit from the provision of insurance. In order to profit from insurance provision, firms must be able to observe the probability of an event's occurrence and calculate an actuarially fair premium to remain solvent. To calculate premiums, a number of conditions must be satisfied. Individual probabilities of an event's occurrence must be independent of one another (Corak 1994). The solvency of an insurance fund depends on the ability to redistribute funds from those who pay premiums and do not suffer a loss to those who pay premiums and suffer a loss. If there is a correlation in the probabilities then when the event occurs to one person, it is likely that the event will simultaneously occur to a number of persons. Such an event may compromise the solvency of the fund, as it must simultaneously pay benefits to a large number of persons who suffered a loss. Depending on the degree of correlation, then the private market will either partially provide insurance or will not provide insurance at all (Corak 1994). Cyclical unemployment offers an illustration. During a recession, aggregate demand drops and large numbers of people become unemployed within a short time-period. In this example, macroeconomic conditions increase the likelihood of many individuals becoming unemployed rendering the probability of becoming unemployed is dependent on external factors (Barr 2004). Depending on the extent of unemployment brought on by the recession, the solvency of a firm may be compromised if it is forced to simultaneously pay benefits to large numbers of claimants.

Probabilities must also be known and calculable for the private market to supply insurance. The primary method firms use to calculate probability of loss is to use past information on the occurrence of an event to an individual and groups of individuals with similar characteristics (Corak 1994). By gathering information on sufficiently large groups of individuals, firms use the law of large numbers to calculate the probability of an event's

occurrence to a specific group. The law of large numbers is a probability theorem that describes the result of performing the same experiment a large number of times. Over a large number of trials, the occurrence the event should reflect its theoretical probability. Having sufficient information to determine the true probability of an event's occurrence is necessary for an insurance firm. Incorrect information could result in an underestimation (premiums too low for average risk, firms solvency compromised) or overestimation (premiums too high for average risk, firm not competitive) of premiums. There are, however, risks in relying on past experience to determine future probability, as probabilities are not necessarily static. For instance, the introduction of sensors and automatic breaking technology may greatly reduce the probability of car collisions in the future and auto insurance firms may have to adjust their premiums accordingly. Firms will constantly seek out new information and adjust their probabilities accordingly. If changes in probabilities occur too rapidly and a firm is unable to adjust, the solvency of the fund may be compromised or firms may not offer insurance at all (Corak 1994).

While a firm can use past experience to determine the aggregate probability of loss for specific groups, past experience alone does not account for individual influence over probability of loss. As an example, through past experience a firm may determine that a house in my neighbourhood has a 3% chance of experiencing a burglary and charges premiums accordingly. If the firm is unable to observe individual behaviour that influences the probability of loss it would charge a household with an extensive home security system (including reinforced locks and private monitoring) the same premium as a household that does not lock its doors. The ability for individuals to conceal information regarding their actions that influence both the probability of loss and magnitude of loss is referred to as moral hazard (Corak 1994). Moral hazard is said to occur as an unobservable rational behavioural adjustment to being insured; if I

am insured then I may engage in more risky behaviour than I might otherwise when I am uninsured (Grubel 2002). As a result, firms will constantly seek to gather as much information on their clients as possible to adjust premium accordingly. Moral hazard is a concern in most insurance schemes, depending on the severity of moral hazard firms may not offer insurance at all. In other instances, insurance companies may try to design insurance policies to minimize the extent of moral hazard. For instance, a firm may structure policies to include features that reduce the incentive to engage in risky behaviour or overuse, such as coinsurance, deductibles and the policing of fraudulent claims (Grubel 2002). If the extent of moral hazard were too great, then a firm would face the possibility of eventual bankruptcy, as benefits payments would be greater than premiums charged (Corak 1994).

In addition, there must be no adverse selection in order for firms to be able to supply insurance. Adverse selection refers to instances where individuals have differing degrees of probability and an insurance firm is unable to observe them, making it impossible for the firm to discriminate premiums on the basis of an individual's characteristics (Rothschild and Stiglitz 1976). If an individual can conceal certain characteristics that determine whether the individual is high risk or low risk, then a firm may not offer insurance or may try to offer insurance through a general pooling premium or a separating premium.

A firm may offer a pooling premium (the same premium for all individuals) at the average risk for a group. A pooling premium is likely to be offered if there is adverse selection, but the differences in risk between a high risk group and low risk group are minimal, or if the general make-up of the group is primarily comprised of low risk persons; making the costs of

subsidizing the high risk group minimal (Rothschild and Stiglitz 1976).[1] However, if the majority of the group is comprised of high risk individuals or there are a large differences in the probabilities of low-risk and high-risk individuals, low-risk individuals may choose not to purchase insurance as the cost of the premiums would greatly exceed their probability of risk; resulting in heavy subsidization of the high-risk group (Rothschild and Stiglitz 1976). As low-risk persons opt-out, solvency of the firm may be compromised because premiums are based on average risk of the entire group, while the majority of the remaining participants in the scheme consist primarily of high-risk persons. If the differences in probability between low-risk and high-risk groups are large enough that the low risk group opts-out, it is unlikely that a pooling mechanism will exist, unless all individuals are coerced into participating (Rothschild and Stiglitz 1976).

Under the conditions where a pooling mechanism does not work, firms could also attempt to separate individuals by structuring policies that encourage individuals to self-select policies based on their own risk. If a firm offers two separate policies that offer full insurance, one for high-risk individuals and one for low risk individuals, the firm will become insolvent as high risk individuals will choose to opt-for the fully insured plan at the premiums paid by low-risk individuals (Rothschild and Stiglitz 1976). Therefore, in order to separate these individuals, firms must offer low-risk individuals a plan that is less desirable to high-risk individuals than the plan offered to high-risk individuals, implicitly meaning a firm must only offer partial insurance to the low risk group (Rothschild and Stiglitz 1976). This is a suboptimal outcome because low-risk individuals demanding full insurance can only receive partial insurance at a premium that

[1] This is not necessarily optimal as discussed in Stiglitz, firms may still be able to profit from this kind of arrangement, but perfect information would result in efficiency gains as some subsidization occurs from the low-risk group to the high risk group.

reflects their risk. Thus depending on the extent of difference in the risk of individuals, in the face of adverse selection, a firm may opt to supply insurance via a pooling mechanism, a separating mechanism, or not at all.

Unemployment Insurance: Public or Private Provision

The risk of unemployment does not fit easily this framework resulting in all Western governments publicly administering unemployment insurance schemes (Radimilovic 2011). As was previously discussed when downturns in the business cycle cause unemployment to increase, there is a correlation in probabilities that would compromise a firm's ability to remain solvent. The correlated probabilities of unemployment during cyclical downturns make it unlikely that a private firm will provide insurance. In the absence of private provision, governments would be the only providers of public insurance, using their ability to tax the working population to make up for fiscal deficits in the insurance fund.

There are also issues of moral hazard when insuring against unemployment. Depending on the structure of the scheme, moral hazard can be present in the behaviour of both employers and the unemployed. If, as in Canada, premiums are not experienced rated (they do not adjust based on prior use) then employers may rationally adjust their behaviour according to the design of UI; for instance by choosing to lay off workers when demand falls rather than cutting prices or building inventories (Fath and Fuest 2002). Feldstein's "Temporary Layoffs in the Theory of Unemployment" highlights this behaviour (1976) which examines temporary layoffs, finding that some firms, either through explicit or implicit voluntary agreements, used unemployment insurance to promote labour attachment to their firm by using the program as a wage subsidy. The lack of experience rating incentivized firms to change their behaviour as there were no additional costs or consequences of a firm laying-off its employees – who would temporarily live

off of unemployment insurance and return to the firm when benefits ran out or when the firm required an increased supply of labour (Feldstein 1976). In general, experiencing rating can minimize this behaviour, however, Feldstein's work highlights how employer behaviour can be subject to moral hazard if the design of an UI program is not optimal.

The unemployed can also exhibit moral hazard behaviour that affects the magnitude of loss – the duration of unemployment (Corak 1994). UI provides financial support for those who are recently unemployed and are seeking re-employment. Depending on the duration and length of benefits, the presence of financial support may change the behaviour of an unemployed individual. For instance, if I were recently unemployed and were entitled to 42 weeks of UI benefits, I may only begin searching for a job near the exhaustion of my benefits, increasing the intensity of my job search as the exhaustion date approaches. Whereas, if I were unemployed with no benefits, I would likely search for a job more intensely as a result of having no financial support. A private firm could account for this type of behaviour by imposing the condition that individuals continuously search for employment while receiving benefits, but the intrusiveness required to monitor this behaviour widely regarded as "so great that only the government should be entrusted with the requisite authority" (Corak 1994). Firms and the government can also structure benefits in such a way to minimize moral hazard behaviour through means such as coinsurance. By adjusting the replacement rate of benefits (the ratio of benefits to prior income) an insurance provider can create a form of coinsurance whereby the firms pay a portion of the person's prior income and individuals pays a portion through foregone income (Grubel 2002). A lower replacement rate will make it less desirable to remain unemployed and thus encourage job search.

The discussion of the extent of moral hazard in the behaviour of the unemployed does have its limitations. Implicit in the discussion is the assumption that unemployment is voluntary – that individuals live in an area with several available job opportunities, which they forego in the pursuit of leisure funded by unemployment benefits. This assumption is not always true; when cyclical factors affect the aggregate demand for labour, it is possible that an individual would not be able to find employment regardless of search intensity (Kroft and Notowidigo 2011). In these instances, the replacement rate and duration of benefits have less of an impact on the behaviour of an unemployed beneficiary, than in good economic circumstances (Kroft and Notowidigo 2011). Indeed, in an empirical study of the United States, Kroft and Notowidigo (2011) find that one standard deviation increase in the unemployment rate leads to a roughly 14 to 27 percentage point increase in the optimal wage replacement rate. This study provides useful evidence of the extent of moral hazard present when an individual experiences unemployment in a region with ample job opportunities or unemployment because of a cyclical downturn or in a labour market where job prospects are weak.

Adverse selection is also present when insuring against unemployment. Unemployment insurance based solely on insurance theory would only cover instances of unemployment that are unexpected, which would leave a number of types of employment (seasonal, contractual) outside of any insurance scheme. Eliminating forms of employment where there is a known or expected end date, would still not give insurers perfect information. A dynamic labour market has many different types of occupations and employees with some being low risk and others being high risk. While personal characteristics and past work-experience may be able to provide some indication as to the probability of job-loss, there is still an information asymmetry as to the person's likelihood of unemployment. For example, I may have inside knowledge about

upcoming layoffs in my firm that an insurance company does not. If I anticipate that my company will lay me off, I can purchase an unemployment insurance policy and shortly receive benefits. The inability of insurance firms to fully differentiate premiums based on risk will greatly restrict the number of persons eligible for unemployment insurance. A general pooling premium would not be possible because those who have stable and secure employment (for example tenured university professors, permanent government employees) would choose to opt-out of such a system, making the composition primarily high-risk persons. Firms will differentiate premiums as closely as possible to perceived actuarial risk of specific individuals.

Clearly, there are challenges in providing unemployment insurance in the private market. The prominent challenge is addressing the correlation of probabilities exhibited in cyclical downturns, during a recession the probability of unemployment increases for all persons and many become unemployed within a short period. A recession, depending on the severity, may compromise a firm's solvency. The existence of business cycle downturns is the primary challenge that may result in firms not providing UI. Private firms can address challenging information problems for example by using experience rating. Experience rating would address employer moral hazard, and if society was willing to accept the intrusiveness of monitoring job-search, insurance companies could counteract negative behaviours exhibited by the unemployed. Private firms can also mitigate adverse selection to a reasonable extent through experience rating and through the exclusion of many groups.

While it may be possible to for a firm to provide limited unemployment insurance, such a system may not be desirable for social planners. The consumption smoothing function of unemployment insurance has social benefits because it allows individuals to continue to support domestic demand and it helps to avoid exacerbating social problems. In particular, if insurance

principles were followed in the delivery of unemployment insurance there could be poor social outcomes if those high-risk individuals who are excluded are those with low incomes and low savings. When provided publicly, through government intervention the government can coerce individuals to participate in a universal unemployment insurance program that can address the social costs associated with the loss of income. This would implicitly entail a level of redistribution from low-risk to high risk, but the degree of redistribution represents a policy choice. The government could choose to attempt to be as neutral as possible making premiums reflect expected loss or it could attempt to alter the design of the program to redistribute according to broader societal goals (Corak 1994).

Canada's Employment Insurance Program

Canada's UI program called Employment Insurance (EI) has been in existence since 1941. Over the course of its existence, the program has differed in the degree to which it reflects idealized insurance theory and redistribution. In addition, to insuring against unemployment, Canada's EI program has grown to insure against a number of life cycle risks and has incorporated a number of programs that support re-training and labour market attachment. The following provides a brief summary of the program's history and an outline of its current parameters.

History of Canada's Employment Insurance Program

The federal government implemented unemployment insurance in Canada in 1941 after winning a constitutional battle with the provinces to amend the British North America Act to allow the federal government to provide unemployment insurance. The system originally only covered 42% of the work force with certain types of employment excluded. There was no explicit regional variation in the types of benefit available (Mowat 2011). By the end of the 1940s, the

system covered about 50% of the workforce (Lin 1998). Employers, employees and the federal government shared the costs for the program with the federal government contributing 20% of employer and employee contributions (Lin 1998). During the early1950s, the program saw an expansion of its generosity with the extension of supplementary or seasonal benefits for those who had exhausted their regular benefits. By the mid-1950s, regulations regarding repeat claimants were relaxed and the federal government reduced eligibility requirements (Lin 1998). In the 1960s, there were relatively few changes to the design of EI, but coverage increased and expanded to about 68% of the workforce (Lin 1998).

In 1971, the system experienced major reforms that generally expanded the coverage and generosity of the programs (Finnie and Irvine 2011). The 1971 Act provided nearly universal coverage, eased eligibility and added a host of new special benefits including sickness and maternity benefits (Lin 1998). In 1977, the Variable Entrance Requirement (VER) replaced the eligibility requirement. The VER allowed the claimant to have 10 to 14 weeks of insurable employment during the qualifying period and adjusted the maximum benefit period according to regional unemployment rates. In 1977, the program's parameters allowed for 16 different economic regions some of which corresponded to entire provinces (Day and Winer 2011). In 1978, this increased to 48 and in 1992 increased to 62 (Lin 1998). The federal government has since scaled back the number of economic regions to 58. The 1971 reform also increased the replacement rate to 75% for persons with dependents and 66.67% for persons without dependents. The replacement rate was slowly scaled back over the decade reaching 60% for persons with dependents and 66.67% by 1979 (Lin 1998).

After the expansion of the 1970s, the next major reform of the program came in the early-1990s – in 1990, 1993 and 1994. Whereas previous reforms were about expansion, the reforms

of the 1990s were about retrenchment; they tightened eligibility and reduced benefit payouts (Finnie and Irvine 2011). In 1990, the federal government withdrew its contribution to the fund entirely. Other reforms included an increase of number of weeks required to be eligible for benefits, restrictions on the availability of EI to workers who quit their jobs, and a reduction in the wage replacement rate to 55% (Lin 1998). In 1995, an intensity provision was introduced which was an experience rating provision that reduced the benefits received according to the number of weeks a claimant had collected benefits in the previous five-year period (Canadian Chamber of Commerce 2008). While this represented a move towards lessening the redistributive elements of EI and addressing aspects of moral hazard, the federal government removed the intensity rule in 2001 stating that it had the provision had the unintended effect of being punitive and had failed to reduce frequent EI claimants (Canadian Chamber of Commerce 2008). In 1997, the federal government reformed the criteria for benefit eligibility. The changes switched the basis for eligibility from a weeks-of-work requirement to an hours-of-work requirement, which had a significant impact on part-time workers, multiple jobholders and seasonal workers who now had an easier time accessing the system (Finnie and Irvine 2011).

Since the reforms of the 1990s, there have been few changes to the program. In 2012, Bill C-44 made minor changes to the definitions of suitable employment and efforts to obtain suitable employment provisions. It also introduced a new benefit for the parents of critically ill children. The change in definitions categorize recipients into three types of claimants: frequent (3 claims within 5 years), occasional (those who have not paid into EI for 7 or more out of 10 years) and long-tenured (those who have paid into EI for 7 out of 10 years). These new definitions affect the suitable job criteria with the objective of addressing frequent claimants by requiring them to

accept lower paying work (now 70% of former wages after 6 weeks) to reduce repeat use of the system (Léonard 2013).

Employment Insurance Parts 1 and 2

The broad stated purpose of Canada's Employment Insurance program is to "provide temporary financial assistance to workers who have lost their job through no fault of their own while they look for work or upgrade their skills" (Canada HRSDC 2012). Although the majority of benefits paid out are classified as 'regular benefits' (benefits paid out because of loss of employment), there are also entitlements for several other types of income loss. Paid benefits in the EI program include: fishing benefits, work-sharing benefits, and special benefits - maternity and parental, sick, and compassionate care (Canada HRSDC 2012). Also included in EI are programs that fall under EI Part Two: Employment Benefits and Support Measures (EBSMs). EBSMs are active labour market adjustment policies that deal with the underlying cause of unemployment. They include labour market programs and services for unemployed individuals in Canada to prepare for, obtain and maintain employment (Canada HRSDC 2012). Included under the EBSM provisions are financial assistance for skills development, targeted wage subsidies, financial assistance for self-employment, and job creation partnerships.

Financing of Canada's Employment Insurance Program

Both employees and firms finance Employment Insurance. All employees pay the same premium contribution rate on every $100 they earn up until they reach the yearly maximum insurable earnings. Employers pay a higher premium rate - 1.4 times the rate employee's pay on their insurable income (Canada CRA 2012). The yearly maximum insurable earnings and premium contribution rate is determined by Canada Revenue Agency.

Table 1: 2012 Maximum EI Contributions			
	Maximum Insurable Earnings	Contribute Rate	Maximum Annual Contribution
Employee	45,900	1.83%	839.97
Employer	45,900	2.56%	1175.04

Source: Canada Revenue Agency. 2012. " EI Premium Rates and Maximums". <http://www.cra-arc.gc.ca/tx/bsnss/tpcs/pyrll/clcltng/ei/cnt-chrt-pf-eng.html>.

As demonstrated in Table 1, in 2012, the maximum insurable earnings were $45, 900 with a premium rate of 1.83% paid on an individual's first $45,900 of income (Canada CRA 2012). Thus, the maximum contribution an individual could make in a year towards EI would be $839.97. Employers contribute 1.4 times more towards EI than employees, thus the employer rate for 2012 was 2.56% and the maximum an employer could contribute for an individual would be $1,175.96 in 2012 for an employee making $45,900 or more (Canada CRA 2012). EI premium rates and contributions are the same for all individuals across all provinces in territories meaning that unlike traditional insurance schemes, premiums for EI are not experience rated or adjusted based on previous use or likelihood of loss. Implicit in this pooling structure is redistribution between low-risk and high-risk categories.

Regular Benefits and the Variable Entrance Requirement

To be eligible for EI Regular Benefits, individuals must be without work and pay for at least seven consecutive days, have paid EI premiums and accumulated the required number of insurable hours in the last 52 weeks before their claim or since the start of their last EI claim (Canada HRSDC 2012). The unemployment rate in the employment insurance region determines the required number of hours an individual must have to claim EI through the Variable Entrance Requirement (VER). The rationale behind the VER is to adjust eligibility and duration of benefits according to an individual's prospects of employment. Reflecting the difficulty of

finding employment, tying benefits to the unemployment level of a region was deemed an effective way to assess an individual's prospects for employment (Medow 2011). The VER also allows for an element of regional redistribution, whereby funds are reallocated from regions that have stronger labour markets, to regions that have weaker labour markets. The VER also allows benefits to be sensitive to cyclical downturns, expanding generosity when unemployment rates rise.

There are 58 employment insurance regions in total (see Annex 1 for full break down), with work requirement hours ranging from 420 hours in regions with an unemployment rate of 13.1% or more, to 700 hours in regions with an unemployment rate of 6% or less (see Annex 2 for full break down). The unemployment rate of each of the 58 regions is re-evaluated every three months and the Variable Entrance Requirement is adjusted accordingly (Canada CRA 2012).

The regional unemployment rate and the number of insurable hours an individual has accumulated also determine the duration of benefits. As previously discussed, studies have shown that the higher the unemployment rate the less impact moral hazard has on job search intensity (Kroft and Notowidigo 2011). Given that lower prospects of finding employment lowers the impact that the replacement rate and duration of benefits have on individual behaviour and job search intensity, benefits are extended for regions with higher levels of unemployment. Benefits range from 14 weeks in some areas to 45 weeks in others. In addition to these requirements, there is a separate requirement for new entrants/re-entrants to the labour market who are required to work 920 hours before they are eligible to apply for benefits regardless of their region (Canada HRSDC 2012).

If a person is eligible to receive EI benefits, then they receive 55% of their weekly insurable earnings. For example, if a person was insured to the maximum $45,900 they could receive a maximum of $485.48 per week from employment insurance regular benefits. The 55% replacement rate acts as a form of coinsurance to decrease incentives to rely on EI and increase the incentives to return to employment. The program is a significant social support in Canada representing 8% of federal government expenditures in fiscal year 2010/11, totalling $21.8 billion in expenditures (Canada CRA 2012).

Assessing Regional Impacts of Canada's Employment Insurance Program

Provincial Premiers in Ontario and in the West have levelled a key criticism of the EI program concerning the significant redistribution of funds from their provinces to the East Coast provinces and Quebec (Medow 2011). The benefit to contribution ratios of provinces illustrate the level of redistribution: if a province contributes more in premiums than it receives in benefits, then it can be said to be subsidizing provinces that contribute less in premiums than they receive in benefits (Mowat 2011). As previously discussed, in an actuarially fair insurance system, redistribution occurs between those who do not suffer loss and those whom do in any given year, but the persons who do not receive benefits and those who do are likely to change year after year. When patterns of redistribution become ingrained in the system, the program departs from insurance principles (Mowat 2011).

Table 2: Benefits Minus Contributions by Province, Years 2007-2010 (Millions of Dollars)					
	2007	2008	2009	2010	4-yr average
Newfoundland and Labrador	426.0	443.2	706.2	637.4	553.2
Prince Edward Island	89.4	95.5	147.4	149.9	120.6
Nova Scotia	139.2	144.8	326.4	324.6	233.8
New Brunswick	254.3	272.0	444.5	429.9	350.2
Quebec	-160.4	120.6	875.0	772.3	401.9
Ontario	-3,040.5	-2,598.6	-115.9	-955.9	-1,677.7
Manitoba	-286.1	-286.7	-145.0	-148.6	-216.6
Saskatchewan	-206.6	-226.4	-134.7	-147.4	-178.8
Alberta	-1,581.1	-1,586.6	-539.4	-746.0	-1,113.3
British Columbia	-1,048.5	-910.2	90.0	-7.9	-469.2
Nunavut	7.0	-8.8	-4.3	-4.8	-2.7
NWT	-21.0	-20.5	-6.4	-8.2	-14.0
Yukon	-2.8	-2.7	6.2	2.2	0.7

Source: Canada Employment Insurance Commission, "Employment Insurance: Monitoring and Assessment Report" Reports for 2011, 2010, and 2009 Benefits-to-contributions tables.

Data from EI reports has provincial contribution ratios for years 2007 – 2010. Compiling this data in Table 2, a trend of continual transfers from West to East is evident. The data accounts for total contributions on a provincial basis, and subtracts total benefits paid out each year to individuals within each province, with the total in each year by province representing net benefits. Benefits include both regular benefits (which make up the majority of EI payments) and special benefits. Looking at the three-year average, there is a stark geographical line: provinces east of Ontario are consistently net beneficiaries and provinces west of and including Ontario are net contributors. The largest contributor province is Ontario, which contributes on average $1.7 billion annually over the four-year period. This finding is consistent with other studies such as the one undertaken by the Mowat Centre EI Task Force (2011), which found that over the 2000-2010 decade, Ontario made a net contribution of close to $20 billion to the EI program - working out to $2 billion per year on average.

Table 3: UI Averages Across Provinces, Annual Averages 1986-1996 (1997 dollars) (Millions of Dollars)	
Newfoundland	597
Prince Edward Island	130
Nova Scotia	261
New Brunswick	417
Quebec	959
Ontario	-1951
Manitoba	-115
Saskatchewan	-70
Alberta	-261
British Columbia	19
Territories and Outside Canada	13

Source: Corak and Chen, "Who Benefits from Unemployment Insurance in Canada: Regions, Industries, or Individual Firms", The Earnings Supplement Project, 2003. Data was taken from table two and represented in format that specifically focused on regional differentiation.

Beyond these three reports from the Canadian Employment Insurance Commission, EI administrative data was not publicly available making it difficult to assess trends for a longer duration for all provinces. An earlier study done by Corak and Chen (2005) covering redistribution in the EI program at number of different levels, during years 1986-1996 presents patterns of regional redistribution similar to those found between years 2007 and 2009. The data in Table 3 covers a longer period and reinforces the findings of regional distribution found in data from 2007-2009. With the exception of British Columbia, the same patterns of provinces west of and including Ontario transferring EI funds to Eastern Canada is present. The historical pattern represented in this data speaks to the level of cross-provincial transfers ingrained in the current structure of the EI system.

A key factor in explaining the sizeable redistribution present in the Canada's EI system is the Variable Entrance Requirement. As previously discussed, the VER allows unemployed persons residing in regions in of high unemployment to access benefits with fewer required hours and for a longer duration. The intent of the VER is to modulate EI access conditions in response

to local labour market conditions; extending benefits when employment benefits are low and moral hazard plays less of a determining factor in job search intensity (Beausejour, Gray and Laurin 2009). In spite of this rationale, the VER and the current design of Canada's EI program has been criticized for having high efficiency costs. Examining these criticisms I review relevant evidence finding that: additional indicators may make the VER better at assessing employment prospects; despite what insurance theory would suggest EI (in its current form) does not have significant effects on overall mobility; that EI has contributed to the persistence of seasonal employment; and that the absence of experience rating has relied on repeat use by a number of users, but whether the extent of repeat use is as a result of individuals willingly gaming the system or as a result of individuals facing low employment prospects is unclear.

Employment Insurance and the Canadian Labour Market

The VER in Canada's EI program is a unique feature not found in other country's unemployment insurance schemes (Radomilvic 2011). While a number of persons have focused on the policy implications resulting from this design feature, others have questioned whether the using the unemployment rate as the sole measure of employment prospects is a robust measurement, particularly during a period of increasing unemployment (Busby and Gray 2011; Bishop and Burleton 2009). Scholars have questioned whether the unemployment rate is sufficiently responsive to labour market prospects. The unemployment rate is updated using a three-month average, which lags actual conditions in regional labour market conditions. In the case of a recession where employments prospects worsen quickly, the VER may prove insufficiently responsive (Busby and Gray 2011).

Another concern is whether the federal government could make the VER more effective with the addition of other indicators. Using a stylized model, Bishop and Burleton (2009), show how an individual in a region with a lower unemployment rate, but with a low rate of job turnover, can have lower employment prospects than a person residing in a region with a high unemployment rate, but with high job turnover. This model suggests that the unemployment rate is not necessarily the most appropriate measure of an unemployed worker's chances of regaining employment and that other indicators such as the seasonally adjusted change in employment, the job vacancy rate or the rate of employee turnover, adjusted for the unemployment rate may be better suited to assess job prospects (Bishop and Burleton 2009).

Apart from the design of the VER, the effects of EI's redistribution of benefits has been criticised for having negative effects on the labour market, particularly in high employment regions. One concern has been that it reduces labour market mobility between regions: "geography-based policy contributes to incentives against mobility, thereby reinforcing patterns of persistently high unemployment and dependency" (Busby and Gray 2011). While theory suggests that the lack of experience rated premiums will lead to overuse and moral hazard, suggesting that EI would remove incentives to move to regions of greater economic prosperity, some experts have provided more nuanced evidence. Audas and McDonald (2003) use data from the Survey of Labour and Income Dynamics (SLID) from 1993 to 1999 to study the concept of interprovincial mobility and the effect the receipt of EI has on mobility decisions. Accounting for the fact that the decision to move regions is a complex function of personal, economic and social costs and benefits, Audas and McDonald (2003) find that for individuals with weak labour market attachment, "the EI program may play a significant role in their decision". Other studies (Day and Winer 1994; Gordon, Osberg and Lin 1994; and Canada HRSDC 2013) have found

that there is no link between EI and mobility. In contrast, Finnie (2000) found that EI has a positive effect on mobility and Day and Winer (2001) found that removing the VER and equalizing benefits would make a small contribution to mobility. While the lack of conclusive evidence does not necessarily negate the claim that EI reduces incentives to mobility, it certainly suggests that EI benefits are not a strong determinate of mobility.

Another related issue that has been discussed in the context of EI reform, considers the impact of repeat use, or dependency, on the program. These discussions examine whether the EI program results in significant moral hazard by examining the behaviour of employers and the behaviour of the unemployed. With respect to employers, as previously discussed, Feldstein (1976) shows how the lack of experience rating could encourage employers to modify their labour practices around the EI program. Indeed, Grubel (2002) has argued that Canada's EI program has "resulted in lower wages for employers, reducing the incentives to introduce labour saving technologies and capital, which in turn…increased the demand for seasonal labour." Examining the extent of this claim is complex, as firm decisions regarding labour are complex.

A substantial contribution to this research comes from Kuhn and Riddell (2010) who examine the effects of EI generosity between New Brunswick (NB) and Maine from 1940-1991. The comparison between NB and Maine presents itself as an ideal case study as the jurisdictions border each other, are costal, have a cold climate, are predominately rural, and have relatively low incomes with similar population demographics (Kuhn and Riddell 2010). Apart from their similarities, the two regions differ in their respective EI program's generosity. While both NB and Maine had roughly similar EI systems in the 1950s, the major expansion of the program experienced in the 1970s allowed for a study on how EI generosity affected the incidence of seasonal employment (Kuhn and Riddell 2010).The study found a number of interesting

descriptive statistics with respect to EI and the labour market. One finding was that by the end of the sample period, the share of EI benefits as a percentage of GDP was 6 times higher in NB (6% of GDP) than in Maine (Kuhn and Riddell 2010). The study also found that after the 1970's reforms, a large and persistent gap emerged with respect to differences in unemployment rates: NB's rate was consistently above that of Maine with differences between the two rates being greater than 4% by the mid-1980s (Kuhn and Riddell 2010). By the end of the sample period, 30% of NB workers received UI benefits in 1990, compared to rates of about 6% and 3% respectively for men and women in Maine.

The study ultimately found that UI had a significant effect on the dynamics of unemployment in each region. At the end of the sample period, 12.6% of working-age men in Maine's northernmost counties (those closest to NB) worked between 1 and 39 weeks, while just across the border in NB the figure was 25.6%; the more generous UI program in NB explained more than three-fourths of this differential (Kuhn and Riddell 2010). The authors estimate that if federal government had not implemented the 1971 UI Act the percentage of men working part-time throughout the year would be 14.9%. The study also showed that there were significant effects on the behaviour of working age men on both ends of the labour attachment spectrum. Kuhn and Riddell (2010) found that the 1971 UI Act had a "pulling effect," resulting in persons with no annual attachment to the labour force (0 weeks) and those with a strong annual attachment (40-52), moving into the 14-26 week category, for which the UI Act's subsidy was the greatest. While the study also demonstrated that EI's design created negative incentives distorting labour market attachment, it did not find that these incentives had a major effect on total labour supply. As a result of the pulling effects of EI, a number of individuals who were not attached to the labour market entered the labour force: "UI raises some workers' labour supply

while reducing others, thus aggregate labour supply falls only slightly, while the distribution of weeks worked and costs of running the UI system change substantially" (Kuhn and Riddell 2010). Implied here are findings consistent with the above discussion surrounding mobility. While EI has subsidized a larger group of individuals, it has not necessarily created incentives that impair mobility; the evidence suggests that in the absence of EI benefits individuals would leave the labour force rather than move to another economic region.

As was previously discussed, the federal government scaled back the generosity of the EI regime in the 1990s, after the Kuhn and Riddell study. As a result, it is unclear whether the reforms have had an effect on the extent of seasonal employment in those provinces that have historically been net beneficiaries. Early indications would suggest that the reforms have not had an impact on the seasonality of work. Using the SLID, Gray and McDonald (2010) examined the incidence of seasonal employment from 1993-1998, 1996-2001, and 1999-2004, finding that while the incidence of seasonal employment declined, there was no evidence to indicate that the reforms played a role in that declining trend. Indeed, after the declining trend, the number of seasonal workers increased again rising by 25.9% over a ten-year period (Canada HRSDC 2012).

Further evidence of the impacts EI benefits have on the incidence of seasonal labour is found in the United States. Authority for the administration of unemployment insurance is at the state level in the U.S., meaning that the U.S. provides a sample of 50 different unemployment insurance models. Examining these different models, de Raff, Motte and Vincent (2005) find that states that have unemployment insurance systems modelled according to insurance principles and fully experience rate premiums have fewer incidences of seasonal unemployment than states who either partially experience rate premiums or do not at all (de Raff, Motte and Vincent 2005).

This finding similarly indicates that the absence of fully experience rated premiums produces incentives that support unstable employment patterns (de Raff, Motte, and Vincet 2005).

The persistence and extent of seasonal industries and their relationship with EI may suggest that EI is distorting labour market outcomes such as the lengths of job spells and labour force participation choices. The above evidence suggests that the current parameters and provisions of Canada's EI system may incentivize persons to game the system. Workers work in collaboration with employers to tailor hiring and separation to ensure eligibility and maximize receipt of benefits (Gray and McDonald 2012). The incentives for the employer are clear: through the EI program, employers can address demand short-falls through temporary lay-offs, while still promoting attachment to the same firm (Gray and McDonald 2012).[2] Research on repeat users supports the claim that seasonal employers use the EI program to support attachment.

Corak (1996), in his paper on temporary layoffs and recall expectations, found that about 40% of those making extensive use of the program (5 or more claims over a 14 year period) supported their claims with employment from just 3 or fewer different employers. A key factor in determining benefit duration was the expectation of recall. Corak (1996) found that the duration of EI benefits fell by as much as 15 to 20 weeks when there was no expectation of recall, compared to those having an expectation with a definite date. The difference in use of EI benefits in instances of expected recall, compared to those with no expectation, suggests the existence of moral hazard. The unemployed person does not search for a job with the expectation of recall; the employer benefits by maintaining attachment to their firm, while the employee

[2] Temporarily laying off employees adds no-additional cost compared to options (build inventories, invest in labour saving technologies).

benefits with compensated leisure. Over time, EI becomes part of the total compensation package offered by seasonal firms.

Other studies on repeat use demonstrated similar instances of individual behaviour adjusting to the program's parameters. Gray and McDonald (2012) use the Status Vector Data file to randomly select 100,000 individuals who experienced a claim over the period between 1985 and 2003 to examine the extent of behaviour change after an individual file an EI claim. The findings suggest that, over time in the case of repeat users, an adjustment process occurs whereby beneficiaries adjust their working patterns to meet the criteria that maximize benefits (Gray and McDonald 2012). The learning and adjustment process occurs over a five-claim period, where the individual increasingly adjusts facets of their EI claim as experience with the program increases. Similarly, Corak (1993a) finds that "claimants all other things equal, spent a longer and longer time collecting benefits with each additional claim they made."

Another study by Corak (1993b) examines the claim from the Forget Commission that EI had engendered a type of dependency, whereby individuals repeatedly cycle into and out of program participation – working long enough to meet the minimum requirements to receive benefits for the rest of the year - preventing industrial adaption and change. Examining incidence of repeat EI use from 1971-1989, Corak (1993b) finds that by the end of the sample period in 1989, over 80% of claimants were repeat users with as many as 40% experiencing their fifth or higher claim. Seasonal employment was found to have a strong relationship on the "10-40 syndrome" (meeting minimum requirements to max out the year), while repeat use over longer periods was more determined by regional and industrial patterns of labour turnover (Corak 1993b). A key finding was that there did not seem to be a strong relationship between the

generosities of benefits and being a repeat user, instead labour force history was the best predictor of repeat use.

Implications

The evidence of the impact of EI on the Canadian labour market are nuanced and complex. Most studies have focused on those regions that are the most heavily subsidized (East of the Ottawa River). A key finding is that the existence of EI does not greatly influence the incentives to move from one region to another more prosperous region. While it does not have significant impacts on mobility decisions, evidence supports the claim that EI has affected the Canadian labour market to some extent. The study by Kuhn and Riddell (2012) demonstrates how it has promoted less attachment to the labour force, without overall impacts to the supply of labour. Studies on repeat use have shown how firms use EI to support labour attachment to their firm, with a number of repeat claimants making claims with the same firm. This suggests the presence of moral hazard behaviour, subsidization and dependency.

Subsidizing these regions/industries has been criticized for its efficiency costs. In their Submission to Finance Canada's EI consultation, the Canadian Chamber of Commerce (2008) highlights a number of concerns about the notion that the EI system has become a system of income supplementation for many employers who have worked for the same employer year after year. A key criticism was that since the reforms the 1990s (when the federal government ceased to contribute to the system), the funding of EI come solely from employers and employees and that the excessive use of the system imposes an excess burden of taxation the effects of which have implications on the aggregate employment rate. Citing a study done by Di Matteo and Shannon (1995), which finds that a 1% increase in average payroll taxes paid by employers

results in a .56% increase in real wage costs to employers, a .55% drop in real wages received by employees and a .32% drop in the level of employment, the Canadian Chamber of Commerce (2008) submits that EI program (and its redistributive aims) results efficiency losses.

Another such cost is subsidizing and incentivizing firms who provide unstable employment, through the funds of employers who provide stable employment (Grubel 2002). Outside of structuring premiums in a manner in which firms who provide stable employment subsidize firms who provide unstable employment, it has been suggested that a number of firms would be willing to pay compensating differentials for the risk of unemployment (Gray and McDonald 2010; Gunderson 2011) or re-structure labour practices to make them more stable (Gunderson 2011). Theory suggests that in the absence of government intervention a positive compensating wage differential will be paid that is commensurate with the expected risk of layoff (Gray and McDonald 2010). The presence of EI reduces this differential and as a consequence allows for an inefficient allocation of labour; where seasonal industries are able to maintain larger than normal labour supplies (Gray and McDonald 2010). Using experience rated workers compensation programs as a grounds for comparison, de Raff, Motte and Vincent (2005) demonstrate how experience rated schemes have resulted in safer work places, as evidence of the importance financial incentives play in determining employer behaviour. Applying these findings, Gunderson (2011) suggests that amending the incentives present in the current design in EI could potentially result in more stable employment practices on the part of firms who frequently lay-off their workers.

Others have also criticized the program for the effects it has on unemployment arguing that the system's design creates the conditions for dependence and repeat use of the program resulting in regions with concentrated pockets of unemployment (Busby and Gray 2011).

Examining changes in local unemployment rates against Canada's unemployment rate, Busby and Gray (2011) demonstrate that during periods of economic growth, where the unemployment rates drop in the aggregate, the level of unemployment dispersion tends to rise, as the high unemployment rates of certain regions persists. The authors contend that the persistence of a high unemployment rate in these regions is partially explained by the design of EI and the VER (Busby and Gray 2011).

While the program has been criticized for its efficiency costs, it is important to qualify these criticisms with the fact that these costs represent a trade-off between efficiency and equity goals. While the redistributive aims of Employment Insurance are implicit and not explicit; treating workers differently is a result of design of the program rather than an explicit goal (Finne and Irvine 2011) many view the EI program as fulfilling a social goal: "many of these part-year workers face rationing in the job market and very unattractive alternative employment opportunities, from that perspective, astute and adept use of the UI provisions is an expected and a legitimate by-product of the recipients' benefiting as much as possible from the regime and this raising the welfare of a segment of the labour force that is disadvantaged" (Gray and McDonald 2012). Indeed if one views the high incidence of unemployment in these regions as primarily caused by geographic or climatic circumstances, and thus the EI regime is designed to address a case of market failure in which seasonal workers would face great economic hardship (lowering aggregate social welfare) then the efficiency losses may be worth it in the eyes of policy makers (Gray and McDonald 2010).

Experience Rating

One way to articulate these trade-offs in policy design would be to consider the case of a fully experience rated EI program. An experience rated mechanism could be designed in a number of

ways including the experience rating of premiums or the experience rating of benefits. An experience rated program that fully experience rates premiums would adjust the premiums paid by employers and employed/unemployed persons based on prior use of the system. Redistribution would still occur between those who incur a loss and those who do not, however, as an individual's incidence of loss increases they would be forced to pay more into the scheme. Premiums would increase labour market efficiencies and allow product prices to better reflect the actual costs of production by directly charging the cost of layoffs to firms who engage in them (de Raff, Motte and Vincent 2005).

A key difference between the current EI system and one that would be experience rated would be the amount of coverage. Whereas currently nearly all citizens are required to pay into a general pooling mechanism, experience rating would necessitate the exclusions of certain persons/types of workers currently covered under Canada's EI program. The theory of insurance states that a rational risk-averse individual will insure voluntarily so long as the value of certainty exceeds the net cost of insurance (Barr 2004). Fully experience rated premiums necessitate that employees who have a certainty of unemployment (such as seasonal/contract workers) and firms whose demand fluctuates throughout the year necessitating habitual layoffs would be excluded from EI. When there is certainty of an event occurring (such as in the case of the layoff of a seasonal worker), there is no role for insurance: it would be more effective to save for the event as an experience rated premium would equal the cost of saving for the event plus administrative costs.

The changes in the make-up of participants in an experience rated system would lessen the degree of redistribution that is currently hard-wired into the system; individuals who regularly engage with the system would pay higher premiums for their benefits or not participate

in the scheme at all. If the persons who are excluded from the system are similarly low-income persons, then an experience rated system would have significant social costs on these individuals as well. While social costs may arise, theory suggests that experience rating EI premiums would help address the moral hazard and incentives that result in efficiency losses from the current EI program.

In estimating the impact of experience rated EI program Beauséjour, Sheikh, and Williams (1998) compare the pre-1990s reform EI program against an experience rated model. Studying both periods of low demand and high demand, Beauséjour, Sheikh, and Williams (1998) find that a move to an experience rated EI system would (at the end of the sample period: 1989) grow Canadian GDP by 2.2% and lower the aggregate unemployment rate by 2.2% points. At the sectoral level, the majority of industries would experience gains with real value added and real output increasing in 82 of 95 sectors (Beauséjour ,Sheikh, and Williams 1998). In all scenarios studied, a move towards experience rating demonstrated an improvement in economic performance (Beauséjour ,Sheikh, and Williams, 1998). While this study focuses on the EI program before 1990, the persistence of redistribution within the program and the absence of an experience rated program suggest that there remain efficiency gains to be had.

In trying to estimate the costs of this trade-off or the social benefits of redistribution in the current EI program Countryman (1999) examines the changes in income distribution between 1975 and 1996. Examining provinces individually, the author found that EI benefits lowered inequality gaps in provinces that have historically been net beneficiaries. Using the Gini co-efficient (a measure of inequality), Countryman (1999) finds that in Newfound Land EI benefits lowered the Gini Coefficient by more than 9%, more than 5% in PEI and New Brunswick and more than 3% in Nova Scotia and New Brunswick. The effects on provinces to the west of the

Ottawa River were less pronounced, but still played a role in lowering inequality. In an effort to quantify the value of this welfare gain, Countryman (1999) uses the Atkinson Index – a measure equal to the percentage that total income could be reduced and still achieve the same level welfare if incomes were equally distributed – to estimates that the welfare gain from the EI's redistribution. As a highly stylized example, if national income were $1billion dollars and was very concentrated in the hands of a few people, the Atkinson Index based off of a social welfare function of the society might have a value of .56. An Atkinson Index value of .56 suggests that the same amount of welfare could be achieved in that society if national income were 440,000,000 and evenly distributed. Comparing the Atkinson index between when benefits were redistributed and the hypothetical absence of UI benefits, Countryman (1999) finds that welfare gains of EI is equivalent to 1 to 2 percent of aggregate income nationally in most years.

While the study by Countryman covers a larger period, and includes the EI reforms of the 1990s, Countryman isolates welfare improvements as a percentage of national income on an annual basis. Isolating his findings for the years covered in the study done by Beauséjour, Sheikh, and Williams (1998), the benefits never exceed 2% of national income. As a means of comparison then, it would appear that the 2.2% GDP gains from experience rating EI as estimated in Beauséjour, Sheikh, and Williams (1998) would be greater than the estimated welfare from reforming EI, suggesting that a move towards experience rating would be welfare improving overall. These findings of course should be tempered; both studies were done separately with no coordination assumption in methodology between the two. While both studies were designed with the purpose of informing policy makers on: a. the costs of not experience rating (Beauséjour, Sheikh, and Williams 1998); and b. the benefits of redistribution (Countryman 1999) this is by no means a comprehensive estimate of the social costs and benefits

of moving to an experience rated social program. Specifically in the case of Countryman (1999), welfare gains are difficult to properly assess and any attempt to do so should be tempered with the fact that this is merely an estimate. Indeed, once an aggregate pooling mechanism has been agreed to the implicit level of subsidization is subject to societies values. What the findings do suggest is that experience rating may be welfare improving and that further research (in the form of a coordinated study) should be conducted.

Conclusion

Canada`s EI program represents a significant portion of federal government expenditures and plays a strong role in the lives of unemployed Canadians. In this literature review, I sought out to examine the recent criticisms levelled against the program that focus on the region distributions of benefits (Mowat 2011). Beginning with a discussion surrounding the theory of insurance, I found that insuring against unemployment does not easily fit the model of insurance provision, specifically in the case of cyclical unemployment where depending on the severity of a recession a firm's may be compromised. Applying these insurance principles to Canada's EI program I found that Canada's EI program uses a general pooling mechanism, which allows for redistribution to occur between contributors and beneficiaries. Adopting a regional lens, I examined the size and direction of redistribution of benefits finding that historically those provinces to the East of the Ottawa River have received consistently received subsidies through the EI program (receiving more in benefits then they have paid in premiums), with the largest subsidizing province being Ontario who over the last decade has paid on average $2 billion annually more in premiums than it has received in benefits.

In trying to understand the impacts of redistribution, I examined literature that considers the impact of EI on the Canadian labour market. In this discussion I sought out to examine claims that EI decreases labour mobility, promotes seasonal labour, and allows for overuse. On the question of mobility, I found that the presence of EI benefits does not have a significant effect on an individual's decision to move. With respect to seasonal labour, the literature suggested that EI's generosity and lack of experience rating have indeed promoted partial labour force attachment and higher incidences of seasonal employment; however, it did not have an overall effect on labour supply. Similarly, the incidence of repeat use from persons was similarly high, with the literature suggesting that the probability of repeat use was highly correlated with previous use of the program, while the generosity of benefits had little to do with repeat use. Together these results suggested that the EI program is subject to elements of moral hazard and has resulted in overuse and the promotion of seasonal labour, but the extent of this behaviour should be tempered against the existence of poor labour market prospects present in the regions.

Summarizing the implications of these findings, I suggested that the current design of the program trades-off elements of efficiency for equity purposes. Highlighting that many persons and organizations have raised concerns that the efficiency costs reduce competitiveness and result in excess taxation, especially since the federal government removed their portion of financing, in response, I consider a system that trades-off equity for efficiency: an experience rated program. Discussing the design of an experience rated program as more restrictive (excluding large portions of workers), I highlight a study that estimates the efficiency gains of moving to an experience rated program would allow for a 2% increase in GDP and a 2.2% decrease in the unemployment rate. In trying to quantify the trade-offs at the margin of this design I highlight a study that estimates that the welfare costs that would be sacrificed by moving

to an experience rated program lie in the 1-2% range. Recognizing the limitations of these estimations, I find that there is reason to further investigate the benefits/costs of experience rating EI. In the larger context, this literature review highlights a number of studies that contribute to the larger discussion surrounding regional redistribution and the impact of the current EI program.

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Annex 1: The 58 EI Economic Regions and their Unemployment Rates 2009-2011

Region	Mar 2011	Dec 2010	Sep 2010	Jun 2010	Mar 2010	Dec 2009	Sept 2009	Jun 2009
Newfoundland and Labrador								
St. John's	6.8	7.1	7.9	7.4	8.1	9.1	8.2	7.5
Newfoundland and Labrador	17.8	17.9	19.8	20.6	20.4	20.5	21.1	20.7
Prince Edward Island								
Prince Edward Island	11.7	13.1	11.9	10.3	10.2	11.8	12.5	12.5
Nova Scotia								
Eastern Nova Scotia	16.5	15.8	15.7	14.8	15.6	15.4	16.1	16.6
Western Nova Scotia	11.1	10.8	10.9	10.7	11.4	10.3	10	10.6
Halifax	6.8	6.6	6	5.7	6.5	6.9	6.4	5.9
New Brunswick								
Fredericton–Moncton–Saint John	7.1	7.4	7.3	6.7	7.3	6.2	6.4	6.6
Madawaska–Charlotte	10.8	12	11.2	10.4	11	11.2	11.8	11.5
Restigouche–Albert	14.9	15.5	13.9	13	12.9	12.7	15.1	14.3
Quebec								
Gaspésie–Îlesde-la-Madeleine	14.8	14.4	18	16.7	15.6	15.2	16.5	17
Québec	5.3	4.5	5.4	5.8	4.1	5.4	5.2	4.5
Trois-Rivières	8.3	8.7	9.3	9.1	9.9	9.5	8.6	8.1
South Central Quebec	4.6	4.8	5.4	6	5.9	6.2	6.8	7.1
Sherbrooke	7.4	7.6	7.9	8.6	7.4	5.7	7.7	8.8
Montérégie	7.7	7.3	7.2	7.2	6.5	7.3	8.3	9.1
Montréal	8.2	8.7	8.5	9	9.3	9.2	9.7	9.5
Central Quebec	7.8	8.7	8.4	8	8.8	8.5	10	9.4
North Western Quebec	9.7	10.9	11.8	9.6	10.7	12	11	12.2
Bas-Saint-Laurent–Côte-Nord	11.3	10.5	11.9	10.6	11.2	11.5	11.8	11.8
Hull	6.5	6.7	6.7	6.1	6.2	5.8	5.9	5.4
Chicoutimi–Jonquière	8.2	7.8	8.2	7.6	7.8	7.7	9.3	9.4
Ontario								
Ottawa	6.6	6.7	6.7	5.8	6.3	5.4	5.3	6.2
Eastern Ontario	7.9	8.8	8.3	9.6	9.4	8.2	7.6	8.4
Kingston	6.3	6.4	5.7	5.6	5.9	6.8	5.9	6.2
Central Ontario	9.9	9	9.3	8.9	9.8	9.9	9.7	10.5
Oshawa	8.9	9.7	10.5	9.8	10.3	9.3	9.9	7.9
Toronto	8.3	8.8	9.1	9.4	9.4	9.5	10.1	9.1

Hamilton	6.7	6.7	7.9	8	8.7	8	8.7	7.4
St. Catharines	9.7	9.4	9.2	8.8	11.3	10.4	9.8	10.6
London	8.3	8.8	8.4	8.5	8.7	9.9	11.1	10.2
Niagara	10.2	10.6	9.7	11.3	11.4	11.2	12.4	11.2
Windsor	9.7	11.2	11.9	12.5	12.2	13.1	14.5	13.7
Kitchener	6.7	7.8	6.8	8	10.1	9.1	9.9	10
Huron	10.1	10.7	9	9.2	10.5	10.3	10.5	10.1
South Central Ontario	7	7.4	8.2	7.7	8	8	8.4	8.3
Sudbury	7.4	9.2	9.7	9.1	11.1	9.7	10.2	8.3
Thunder Bay	6.8	6.8	6.9	5.3	7.2	8.3	8.6	8.9
Northern Ontario	11.7	11.4	12.8	12.7	11.9	12.9	12.2	13.6
Manitoba								
Winnipeg	5.6	5.3	5.9	5.9	5.7	5.3	5.7	4.9
Southern Manitoba	5.5	5.7	5.7	5.5	6.2	6.4	5.9	5.8
Northern Manitoba	26.4	29.7	30	28.5	28.9	28.7	27.6	26.5
Saskatchewan								
Regina	4.9	4.8	4.9	4.6	4.6	5	4.3	3.8
Saskatoon	5.7	5.7	5.6	5.3	4.5	4.8	4.6	5
Southern Saskatchewan	7	7.2	6.8	6.6	6.5	7	7.1	7.3
Northern Saskatchewan	18.9	18	17.3	17.5	16.5	16.3	16.3	16.5
Alberta								
Calgary	18.9	18	17.3	17.5	16.5	16.3	16.3	16.5
Edmonton	6.2	5.8	7	7.8	7.2	7.8	7.4	6.2
Northern Alberta	8.8	9.8	9.6	9.5	9.7	10.2	9.8	10.4
Southern Alberta	6.7	7	7.1	7.8	7.6	8.2	7.9	7.2
British Columbia								
Southern Interior B.C.	9.3	11.1	9.6	9.5	10	9.3	10.9	10.8
Abbotsford	10.3	9.1	8	7.9	6.9	7.9	9	7.4
Vancouver	8.2	7.3	7.5	7.6	7.9	7.6	7.4	7
Victoria	6.9	6.4	6.4	6.8	8.2	7.9	6.5	7
Southern Coastal B.C.	9.6	7.4	9.1	7.9	8.3	9.2	8.9	8.1
Northern B.C.	12.2	10.9	11.4	10.6	13.1	14.1	14	13.7
Territories								
Yukon	25	25	25	25	25	25	25	25
Northwest Territories	25	25	25	25	25	25	25	25
Nunavut	25	25	25	25	25	25	25	25
NATIONAL	**8.2**	**8.4**	**8.5**	**8.6**	**8.8**	**8.9**	**9.1**	**8.8**

Annex 2: EI Eligibility Requirements – Insurable Hours and Regional Unemployment Rates

Number of hours of insurable employment	<6%	6.1% – 7%	7.1% – 8%	8.1% - 9%	9.1% - 10%	10.1% - 11%	11.1% - 12%	12.1% - 13%	13.1% - 14%	14.1% - 15.%	15.1% - 16%	>16%
420–454	0	0	0	0	0	0	0	0	26	28	30	32
455–489	0	0	0	0	0	0	0	24	26	28	30	32
490–524	0	0	0	0	0	0	23	25	27	29	31	33
525–559	0	0	0	0	0	21	23	25	27	29	31	33
560–594	0	0	0	0	20	22	24	26	28	30	32	34
595–629	0	0	0	18	20	22	24	26	28	30	32	34
630–664	0	0	17	19	21	23	25	27	29	31	33	35
665–699	0	15	17	19	21	23	25	27	29	31	33	35
700–734	14	16	18	20	22	24	26	28	30	32	34	36
735–769	14	16	18	20	22	24	26	28	30	32	34	36
770–804	15	17	19	21	23	25	27	29	31	33	35	37
805–839	15	17	19	21	23	25	27	29	31	33	35	37
840–874	16	18	20	22	24	26	28	30	32	34	36	38
875–909	16	18	20	22	24	26	28	30	32	34	36	38
910–944	17	19	21	23	25	27	29	31	33	35	37	39
945–979	17	19	21	23	25	27	29	31	33	35	37	39
980–1,014	18	20	22	24	26	28	30	32	34	36	38	40
1,015–1,049	18	20	22	24	26	28	30	32	34	36	38	40
1,050–1,084	19	21	23	25	27	29	31	33	35	37	39	41
1,085–1,119	19	21	23	25	27	29	31	33	35	37	39	41
1,120–1,154	20	22	24	26	28	30	32	34	36	38	40	42
1,155–1,189	20	22	24	26	28	30	32	34	36	38	40	42
1,190–1,224	21	23	25	27	29	31	33	35	37	39	41	43
1,225–1,259	21	23	25	27	29	31	33	35	37	39	41	43
1,260–1,294	22	24	26	28	30	32	34	36	38	40	42	44
1,295–1,329	22	24	26	28	30	32	34	36	38	40	42	44
1,330–1,364	23	25	27	29	31	33	35	37	39	41	43	45
1,365–1,399	23	25	27	29	31	33	35	37	39	41	43	45
1,400–1,434	24	26	28	30	32	34	36	38	40	42	44	45
1,435–1,469	25	27	29	31	33	35	37	39	41	43	45	45
1,470–1,504	26	28	30	32	34	36	38	40	42	44	45	45
1,505–1,539	27	29	31	33	35	37	39	41	43	45	45	45
1,540–1,574	28	30	32	34	36	38	40	42	44	45	45	45
1,575–1,609	29	31	33	35	37	39	41	43	45	45	45	45
1,610–1,644	30	32	34	36	38	40	42	44	45	45	45	45
1,645–1,679	31	33	35	37	39	41	43	45	45	45	45	45
1,680–1,714	32	34	36	38	40	42	44	45	45	45	45	45
1,715–1,749	33	35	37	39	41	43	45	45	45	45	45	45
1,750–1,784	34	36	38	40	42	44	45	45	45	45	45	45
1,785–1,819	35	37	39	41	43	45	45	45	45	45	45	45
1,820+	36	38	40	42	44	45	45	45	45	45	45	45