An Examination of the Prevalence and Predictors of Asset Poverty in Canadian Families

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1

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Table of Contents

Abstract	6
Résumé	7
Acknowledgements	
Chapter 1: Introduction	9
Chapter 2: Literature Review	17
1. Concepts of Poverty	
1.1 Uni-dimensional Poverty as Economic Deprivation	
1.2 Multidimensional Poverty in Theory and in Practice.	40
2. Specific Measures of Poverty	43
2.1 Income-based Poverty Measures in Canada.	
2.2 Canadian Poverty Rates.	
3. Concepts and Measurement of Assets	50
3.1 Asset Concepts	50
3.2 Asset Measurement.	54
4. Assets and Well-Being	56
4.1 Assets and Child Well-Being	57
5. Child Poverty in Canada	60
5.1 Income Poverty in Families with Children	
5.2 Asset Poverty in Families with Children.	64
6. Social Welfare in Canada	65
6.1 Provincial Variation.	
6.2 Asset-Building in Canada.	
7. Summary	
8. Research Questions	
Chapter 3: Methodology	74
1. Data	
1.1 Survey of Financial Security	74
2. Sample	
3. Measures	
3.1 Asset Poverty Dependent Variables	
3.2 Independent Variables	
4. Procedure	
4.1 Analytic strategy.	86
Chapter 4: Results	89
1. Bivariate Statistics	89
1.1 National Estimates of Asset Poverty for Families with Children	89
1.2 Provincial Variance	
2. Regression Estimates	99
2.1 Descriptive Statistics	
2.2 Regression Results	102
Chapter 5: Discussion	131

1. Measurement and Predictors of Asset Poverty	
1.1 Families with Children.	
1.2 Provincial Differences	
1.3 Notes on Measurement	
2. Limitations	
3. Future Work	
4. Policy Implications and Conclusion	
References	

List of Tables and Figures

Tables

Table 1: Measurement Choices in Defining Economic Deprivation
Table 2: Variable Construction and Breakdown 78
Table 3: Income and Asset Poverty Rates in Canada, 1999 and 2005
Table 4: Income and Asset Poverty Rates Quebec, 1999 and 2005
Table 5: Income and Asset Poverty Rates Ontario, 1999 and 2005
Table 6: Income and Asset Poverty Rates Alberta, 1999 and 2005
Table 7: Income and Asset Poverty Rates British Columbia, 1999 and 2005
Table 8: Descriptive Statistics for Families with and without Children100
Table 9: Predictors of Asset Poverty Based on Financial Assets with LICO Threshold, Pooled Model 1999
Table 10: Predictors of Asset Poverty Based on Financial Assets with LIM Threshold, Pooled Model 1999 107-8
Table 11: Predictors of Asset Poverty Based on Financial Assets with LICO Threshold, Pooled Model 2005
Table 12: Predictors of Asset Poverty Based on Financial Assets with LIM Threshold, Pooled Model 2005
Table 13: Predictors of Asset Poverty Based on Net Worth with LICO Threshold, Pooled Model 1999
Table 14: Predictors of Asset Poverty Based on Net Worth with LIM Threshold, Pooled Model 1999
Table 15: Predictors of Asset Poverty Based on Net Worth with LICO Threshold, Pooled Model 2005 119-20
Table 16: Predictors of Asset Poverty Based on Net Worth with LIM Threshold, Pooled Model 2005
Table 17: Predictors of Asset Poverty Based on Financial Assets (LICO), SeparateModels, 1999 and 2005
Table 18: Predictors of Asset Poverty Based on Net Worth (LICO), Separate Models,1999 and 2005126-7

Figures

Figure 1: Three Poverty Measures in Canada in 1999, 2005, and 2011	49
Figure 2: Gini coefficients for wealth and income in Canada in 1999, 2005, and 2011	54
Figure 3: Social expenditures and child poverty in OECD countries in 2011	63
Figure 4: Income and Asset Poverty Rates in Canada, 1999	92
Figure 5: Income and Asset Poverty Rates in Canada, 2005	92
Figure 6: Odds Ratios of Net Worth Asset Poverty (LICO), 2005, part 1	129
Figure 7: Odds Ratios of Net Worth Asset Poverty (LICO), 2005, part 2	129
Figure 8: Odds Ratios of Income Poverty (LICO), 2005, part 1	130
Figure 9: Odds Ratios of Income Poverty (LICO), 2005, part 2	130

Abstract

According to UNICEF (2012) four in thirty (13%) children in Canada live in poverty. Aside from being a specific threat to social justice, childhood deprivation is associated with poor development outcomes, some of which may persist into adulthood. Asset poverty, while explored in other contexts and countries, has not been explored as much in Canada as income poverty has. There is good reason to suspect that assets have important effects on children independent of income, and a wide research gap exists in this area in Canada. This thesis explored the prevalence and predictors of asset poverty in Canadian families with children through use of two cross-sectional nationally representative datasets, the Survey of Financial Security 1999 and 2005. Results of bivariate and multivariate analyses of the data showed that while Canadian families with children had lower rates of net worth asset poverty than those without children, they had higher odds of asset poverty when socio-demographic variables are controlled for. Approximately 60% of Canadian families with children were found to be financial asset poor, and were nearly twice as likely as those without children to be asset poor. Although rates of asset poverty were higher in some provinces than others, the odds of being asset poor in different provinces were generally even. Social work is a discipline that is called to make real improvements in the well-being of vulnerable individuals, and measurement of economic deprivation is of particular importance to the effectiveness of our efforts. By exploring the likelihood of asset poverty in families with children, this study makes a significant contribution in opening the conversation in Canada on the importance of assets to child well-being.

Résumé

Selon l'UNICEF (2012) quatre enfants sur trente (13 %) au Canada vivent dans la pauvreté. En plus d'être une menace spécifique envers la justice sociale, la déprivation pendant l'enfance est associée à des résultats de développement appauvris, dont certains peuvent persister jusqu'à l'âge adulte. La pauvreté des actifs, tandis qu'explorée dans d'autres contextes et pays, n'a pas été exploré au Canada autant que la pauvreté monétaire. Il y a de bonnes raisons de soupçonner que les actifs ont des effets importants sur les enfants indépendants du revenu, et un manque de recherche existe dans ce domaine au Canada. Cette thèse a exploré la prévalence et les facteurs prédictifs de la pauvreté des actifs dans les familles canadiennes ayant des enfants grâce à l'utilisation de deux ensembles de données transversales représentatives au niveau national, l'Enquête sur la sécurité financière (ESF) de 1999 et 2005. Les résultats d'analyses bivarées et multivariées des données a démontré que tandis que les familles canadiennes ayant des enfants avaient des taux plus faibles de la valeur nette de la pauvreté des actifs que celles sans enfants, elles avaient plus de chances de vivre la pauvreté des actifs lorsque les variables socio-démographiques étaient contrôlés. Environ 60% des familles canadiennes ayant des enfants ont été trouvées à être pauvres en actifs financier, et étaient presque deux fois plus susceptibles que celles sans enfants à être pauvres en actifs. Bien que les taux de pauvreté des actifs étaient plus élevés dans certaines provinces que d'autres, la probabilité d'être pauvre en actifs dans les différentes provinces étaient généralement la même. Le travail social est une discipline qui est appelée à faire de réelles améliorations dans le bien-être des personnes vulnérables, et la mesure de déprivation économique a une importance particulière à l'efficacité de nos efforts. En explorant la probabilité de la pauvreté des actifs dans les familles ayant des enfants, cette étude apporte une contribution importante à l'ouverture de la conversation au Canada sur l'importance des actifs pour le bien-être des enfants.

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Chapter 1: Introduction

Before describing the structure of the thesis, in this introduction I will outline four arguments that explain why social work ought to be particularly concerned with the definition and measurement of child poverty. First, child poverty threatens the emotional, psychological, and physical well-being of children in a way that may have lifelong negative impacts. Second, child poverty represents a specific social injustice. Third, social workers are some of the most well-positioned social actors to take meaningful steps to reduce and eliminate poverty. Finally, in order to effectively reduce child poverty, social workers and policymakers need to be more aware of poverty measurements and the theoretical concepts underlying them. In what follows, I elaborate each of those reasons and conclude that taken together these four arguments should alert more social work scholars to the need to study poverty measurement in order to participate in policy formulation, implementation, and evaluation.

First, social work, as an academic discipline and a profession that focuses on increasing the well-being of individuals and families, should be concerned by the potentially lifelong impacts of economic and material deprivation in childhood. According to UNICEF (2012), four in thirty (13%) children in Canada¹ lived in poverty in 2011. Since the mid-1960s, research has supported the theory that opportunities offered throughout early childhood shape human development profoundly, and that inequalities in early childhood are reproduced throughout the life cycle (Boivin et al., 2012; Heckman, 2011, 2012). Research has shown that the length, severity, and recurrence of child poverty spells significantly impact future life outcomes, with more severe and longer spells of poverty associated with serious negative lifelong consequences (Magnuson & Votruba-Drzal, 2009). Recent behavioral economic work with adults has advanced and substantiated a theory that having scarce economic resources can change cognitive

¹ As measured by 50% of the median income.

functioning, possibly reinforcing disadvantage (Mani, Mullainathan, Shafir, & Zhao, 2013; Shah, Mullainathan, & Shafir, 2012). Studies exploring the neuroscience of poverty have found evidence that children living in materially deprived environments experience potentially grave biological consequences, such as lower gray matter volume (Hanson et al., 2012). Family household income has been consistently shown to be significantly predictive of children's higher educational attainment (Hill & Duncan, 1987; Huang, 2013; Reardon, 2011). Evidence also increasingly corroborates the claim that household asset levels significantly impact children's expectations for, and attendance at, post-secondary educational institutions (Elliott & Nam, 2012; Elliott & Sherraden, 2013; Friedline, Elliott, & Chowa, 2013). Further, evidence from the US, UK, and Canada, showed that the wage gap between adults is primarily driven by educational attainment (Boudarbat, Lemieux, & Riddell, 2010; Card & Lemieux, 2000).

A focus on child poverty versus overall poverty and inequality can be a contentious distinction to some. Albanese (2010) cited Canadian discourse that argues the term *child poverty* disaggregates children from their families, in order to make policy discussions of poverty more palatable within an increasingly conservative political atmosphere. Further, the term *child poverty* can be seen as sidestepping a formal political acknowledgement of changing family dynamics, in that poverty is increasingly associated with non-traditional families (Wiegers, 2002 as cited by Albanese, 2010). I do not dispute the validity of these critiques. Poverty is a social problem of concern regardless of whom it affects. However, children represent a particularly vulnerable segment of the population, and the subject of child poverty is more likely to affect certain children. For instance, across provinces in Canada, children who grow up in female lone-parent households are far more likely to be poor than those who do not (Albanese, 2010; Raïq &

Plante, 2013). There is likely no justification for the high rates of child poverty in female lone parent families.

Second, social work, as a discipline that works to promote human rights, ought to be concerned with prevention of child poverty from the perspective of social justice. A full and fair treatment of the concepts of social justice or justice, particularly in terms of social work, would take far more time, space, and analysis than is afforded by the confines of a Masters thesis. Nonetheless, it is important to pause and define social justice in order to draw the connection between social justice, justice, social work, and the study of poverty.

Like other academic disciplines, social work is a profession regulated by various international, national, provincial, and state professional organizations. However, unlike many professions, social work professional regulation often mandates social workers to pursue, or defines social work as the pursuit of, social justice. As much as the term *social justice* is used in social work, and as much as we tacitly understand social work to have a special relationship with social justice, a clear and agreed upon definition of social justice for social work is notably absent from the discourse. For example, while the Canadian Association of Social Workers (CASW) *Code of Ethics* (2005) declared the "pursuit of social justice" a core social work value, they do not give a clear definition of the term (p. 4). Explaining the value, the CASW stated:

Social workers believe in the obligation of people, individually and collectively, to provide resources, services and opportunities for the overall benefit of humanity and to afford them protection from harm. Social workers promote social fairness and the equitable distribution of resources, and act to reduce barriers and expand choice for all persons, with special regard for those who are marginalized, disadvantaged, vulnerable, and/or have exceptional needs. (2005, p. 5)

The CASW does not explicitly state it, but another, and no less important, component of social justice are the social arrangements that protect civil and human rights. Still, these generic statements of what social justice is do not clearly define what is "equitable," what "resources" are being distributed, or what "social arrangements" are fair. What exactly is "social fairness"? Who defines what is of "benefit to humanity"? A reasonable person might deem that there could be competing claims to fairness, and it is unclear how social workers decide to promote social fairness in the presence of a conflict.

Theories of justice derive principles that define what is equitable and reasonable, either for individuals or groups of individuals. Principles of justice can vary substantially by theoretical position. For example, principles of justice can be based on a criterion of maximum utility for the maximum number of individuals (Utilitarianism), or a criterion of maximum liberty and freedom for individual actors in pursuing their ends (Libertarianism). Many philosophers and political theorists articulate concepts of justice, and a few deal directly with concepts of *social* justice. Philosopher John Rawls, in his treatise, *A Theory of Justice* (1971) clearly anchors the concept of social justice in broad principles of justice. He remarked:

A set of principles is required for choosing among the various social arrangements which determine this division of advantages and for understanding and for underwriting an agreement on the proper distributive shares. These principles are the principles of social justice: they provide a way of assigning rights and duties in the basic institutions of society and they define the appropriate distribution of the benefits and burdens of social cooperation. (p. 4)

The principles of justice upon which Rawls' theory of justice rests are that: (1) everyone is entitled to the same scheme of basic liberties as long as those liberties can be provided to all, and (2) inequalities in society are only justified if they are the result of equality of opportunity and are of the greatest benefit to the least-advantaged members of society (Rawls, 2001, p. 43). Rawls held that the distribution of resources in a well-ordered society is guided by the two aforementioned principles, the latter being well-known as the difference principle. Insofar as social work is concerned with social justice through the promotion of a balanced social arrangement of liberties, along with the fair and equitable distribution of resources guided by the difference principle, then it follows a Rawlsian interpretation of justice. Furthermore, if social work promotes interventions that maximize benefits to the most disadvantaged members of society, then it must place particular emphasis on the welfare of children. Children are without the power to improve or change their socio-economic situations, and constitute some of the least advantaged members of society.

The third reason that social work ought to be concerned with defining and measuring child poverty lies in the discipline's professional and social location. In highly residual welfare systems like those generally found in the UK, US, and Canada, social workers are often charged with working with individuals for whom familial and social networks, along with market mechanisms, have failed. Many of the individuals that social workers work with are poor, socially excluded, and disempowered. Social workers have intimate knowledge of the challenges that poor families face, both in terms of economic well-being and in terms of accessing programs/services. By closely working with many levels of social institutions, from governments, to communities, to families, to individuals, social workers have instant exposure to the effectiveness of antipoverty policy. Moreover, through direct client work, social workers are privy to the qualitative, sometimes nuanced, effects of anti-poverty social policies. Social workers (whether knowingly or unknowingly) are essentially poverty experts. As professionals focused on interventions, social workers that act in concert with those living in poverty can help inform programs that are pragmatic, targeted, effective, and have lasting positive intergenerational effects.

Finally, in order to advocate for poverty elimination, design programs that reduce poverty, or track poverty outcomes, social workers must pay attention to the definition and measurement of poverty. The formulation of a redistributive remedy (such as poverty alleviation) for those in need first requires the *identification* of those in need. Logic might follow that those who are involved in poverty alleviation efforts would also take an interest in the definition and measurement of poverty itself. While this logic might be true for many disciplines, it may not be true for social work. Social workers, particularly in Canada, are largely absent from formal poverty policy discussions and research. Although sociologists and economists write much of the literature on poverty, social workers might have a better barometer on the effects and consequences of poverty and poverty policies for vulnerable individuals and families. Social workers may be well positioned both to take action in reducing poverty and to study poverty, but few social work researchers in Canada take the opportunity. As one example, a study of dissertations published at Canadian social work institutions from 2001-2011 found that only 4% (10 out of 248) focused on poverty and social policy (Rothwell, Lach, Blumenthal, & Akesson, 2014).

Much of poverty literature can be argued as treating the study of poverty as a way to crudely capture the economic productivity or well-being of a nation. A social work perspective that views individuals within their environments, moving through time, is sorely needed in this field. In 2011, sociologists McDaniel and Bernard called upon Canadian public policy analysts to adopt the life-course perspective in examining, among other things, social inequalities. Interestingly, the life-course perspective is a theoretical approach that is widely taught in schools of social work and used in social work research. The call by McDaniel and Bernard underscores

14

the opportunity for social workers to expand their use of familiar theoretical frameworks to examine social problems and social policies. In doing so, social workers might offer unique insights into the study of poverty measurement.

Much of the research conducted on the impacts of poverty on children is conducted in the US. However, there is evidence that Canadian children living in economically deprived environments are just as likely to suffer the similar negative consequences of poverty as their American counterparts. Children growing up in poverty in Canada are more likely to: experience injuries, have lower health statuses, have lower vocabularies on average, and consume less nutritious foods (Albanese, 2010; Crossley & Curtis, 2006; Hertzman & Boyce, 2010; Phipps, 2002). It is important to note that children growing up in poverty are not destined to experience negative developmental consequences, although they are more *likely* to experience them. This likelihood translates to aggregate disadvantages. These disadvantages might be avoided with more attentive policies or programs that increase the supports to and social developmental capacities of parents and communities. Social workers have a unique mandate to pursue social justice; they also have unique knowledge of anti-poverty policy formulation and the lived experiences of poverty policy implementation. Therefore, it is incumbent upon social workers to play a greater role in the poverty discourse, in order to further support vulnerable families and children.

This thesis investigates the prevalence and predictors of asset poverty in Canadian families with children. The literature review in Chapter 2 will describe how poverty has various theoretical meanings, operational definitions, and practical measurements. All of these meanings, definitions, and measurements have different policy and social service intervention implications. Poverty measurement based on income in Canada is reviewed in Chapter 2, as well as the concept and measurement of asset poverty in Canada. Pause is then taken to describe the current state of knowledge regarding income- and asset-based child poverty in Canada. Finally, Provincial social welfare variation and asset-building strategies in Canada are reviewed in Chapter 2. The literature review finds that asset poverty, while explored in other contexts and countries, has not been explored as much in Canada as income poverty has. The literature review also finds that Canadian research on child poverty, whether measured by income or assets, is relatively muted compared to research from the US, UK, and European Union. There is good reason to suspect that assets have important effects on children independent of income, and a wide research gap exists in this area in Canada. In this thesis, I explored this research gap by answering four main questions: (1) What is the prevalence of asset poverty for families with children? (2) How do these prevalence estimates vary by province? (3) Are families with children more likely to be asset poor than those without children? (4) What are the predictors of asset poverty for families with children versus those without children? These questions were answered through use of two cross-sectional nationally representative datasets, the Survey of Financial Security 1999 and 2005. Chapter 3 presents the detailed methodology for the thesis, including measures and analytic strategy. Chapter 4 presents the results of bivariate and multivariate analyses of the data, and finds that while Canadian families with children had lower net worth rates of asset poverty than those without children, they had higher odds of asset poverty when socio-demographic variables are controlled for. Families with children also had significantly higher rates of financial asset poverty, and were nearly twice as likely to be asset poor than those who do not have children. Although rates of asset poverty were higher in some provinces than others, the odds of being asset poor in different provinces were generally insignificant. Chapter 5 discusses the limitations of the work as well as the theoretical and policy implications of the findings.

Chapter 2: Literature Review

1. Concepts of Poverty

Although concepts of poverty are at least as old as the printed word, the scientific operationalization and definition of who is and isn't poor is a more recent phenomena. In Canada, the first major attempt to measure poverty was Herbert Ames' 1897 study of 7,671 families located in a Montreal neighbourhood dubbed the "city below the hill."² This neighbourhood was, at the time, densely populated and largely working class. In this study, Ames (1897) first estimated the mean weekly share of income per family as \$10.20 per week, noting that significant variation around this figure existed in the neighbourhood. Ames settled on a line of less than \$5.00 per week per family as the point at which a family could be considered poor due to lack of ability to purchase goods and services. Using this measure, he found that 11% of families living in the "city below the hill" lived in poverty (Ames, 1897). It is remarkable how similar Ames' measurement methods are to the ones used today. He defined an absolute level of income needed to provide command over resources to meet a basic measure of economic wellbeing. Thus, Ames did not measure economic well-being exactly, but he measured a proxy for economic well-being: income. Ames' work—and similar work by Rowntree (1902) and Booth (1895) in the UK, as well as Du Bois (1899) and Hunter (1905) in the US—are significant because they form a demarcation point between eras where poverty was understood as a general concept and an era where poverty is defined, and measured. Although a good portion of the literature review traces poverty concepts, it always connects them to poverty measurements.

Today, in social science research, particularly social welfare research, the term poverty is regularly used without emphatic pause on the definition. Perhaps this is because defining poverty

² The neighbourhood Ames studied now comprises sectors of Griffintown, Little Burgundy, and St. Henri, in the central Southwest of Montreal.

can be riddled with difficulties, assumptions, and inaccuracies. Writers on poverty have often referred to many of the assumptions entailed in defining poverty as arbitrary or subjective (Blank, 2008; Rainwater & Smeeding, 2003). But however subjective, the way poverty is measured certainly matters, both in terms of research and in terms of policy. This literature review will focus first on the theoretical concepts of poverty. I begin by explaining the traditional conceptualization of poverty as uni-dimensional economic deprivation. I then describe the types of measurement choices that must be made in order to form a poverty measure, including the type of economic resource captured, the type of threshold, family equivalence scales, and indices of poverty. Following the discussion of uni-dimensional measurements of poverty, I summarize the rationale for two specific types of multidimensional poverty concepts. I then discuss the official measures of low-income in Canada, within the context of poverty measurement. These discussions will show that the measurement choices can result in different conclusions on how many individuals or families are poor.

1.1 Uni-dimensional Poverty as Economic Deprivation.

1.1.1 Introduction.

The most familiar conceptualization of poverty is as economic deprivation. Traditional and widely used measures of poverty in practice are based on this theoretical foundation. There are other concepts of deprivation that are not usually intentionally captured by a measure of economic deprivation, such as material, social, or psychological deprivation. The concept of economic poverty draws extensively from economic theory, which assumes that income is a proxy for well-being. More formally, economic theory holds that income is directly related to consumption, which in turn is related to utility. Utility originally was defined in classical economics as happiness, but in modern neo-classical economics utility must be measured, and thus represents a score of consumer satisfaction from a given market basket (Jehle & Reny, 2001; Pindyck & Rubinfeld, 2009). In developed economies, individuals meet the bulk of their material needs through market functions. For example, individuals purchase the majority of their clothing, they don't make it. Because of this, income is a "central element in the standard of living appropriate for physical and social development" (Corak, 2005, p. 5). To put it in classical economic terms, the assumption is that people derive utility or welfare (happiness as utilitarians might call it) from being able to purchase goods to meet their needs (consumption), and that income level relates directly to consumption level. Cross-national comparisons have revealed a strikingly positive linear relationship between income and self-reported measures of welfare (subjective well-being) (Sacks, Stevenson, & Wolfers, 2012). Additional research has shown that, in general, higher incomes are related to measures of well-being such as health status, education level, and civic engagement (Lichter, Shanahan, & Gardner, 1999), and that mean happiness or subjective well-being increases with income when accounting for overall growth in inequality (Rousseau, 2009). However, there is some evidence that shows that income may not be directly related to subjective well-being. Examining General Society Survey data over 20 years on the subjective well-being ratings of Canadians, Barrington-Leigh (2013) found that Quebec, while having significantly *lower* mean income than the rest of Canada, has significantly *higher* ratings of subjective well-being than the rest of the country.

Aside from acknowledging the core assumption of economic deprivation, a series of measurement decisions must be made in order to define economic deprivation. In their article comparing income-based measures to consumption-based measures, Meyer and Sullivan (2012a) saliently distilled these steps into eight poverty measurement choices (summarized in Table 1). They stated, first, a choice must be made regarding the resources available to individuals and families that will serve as an indicator of economic well-being. In uni-dimensional measures of economic deprivation, typically the resources chosen are before- or after-tax income. Some

Table 1Measurement Choices in Defining Economic Deprivation*

#	Question	Possible answers	
1	What is the indicator of well-being?	Before-tax income, after-tax income, assets, consumption	
2	What is the resource-sharing unit?	Family members, individuals sharing a residence	
3	What time period is references?	One year, one month, etc.	
4	What threshold should be used?	Absolute, relative, subjective	
5	What index should be used?	Headcount ratio, poverty gap, etc.	
6	Where should the threshold be set?	50% of the median, 60% of the median, a set amount, etc.	
7	What equivalence scale should be used?	OECD equivalence scale, square root of the family size, etc.	
8	Should the measure be adjusted for time and geography?	Yearly updates, provincial/state/city adjustments, etc.	
* *	* A danked from Marian and Sulling 2012		

*Adapted from Meyer and Sullivan, 2012a

poverty measures define resources available to individuals as more than just income, including in-kind services, and cash-like benefits (such as food stamps) in their measures. However, measures based on economic resources such as consumption or assets can also be used. The second choice that must be made is regarding the resource-sharing unit. In essence, the choice is if the resource-sharing unit (those who pool resources and/or make joint purchases) is related by family or are individuals that share a residence (Meyer & Sullivan, 2012a). The official US poverty measure defines as the resource-sharing unit as only individuals related through family ties, while the Supplemental Poverty Measure (SPM) defines individuals sharing a residence as the resource-sharing unit (Fox, Garfinkel, Kaushal, Waldfogel, & Wimer, 2014). Third, a choice must be made regarding time period, Meyer and Sullivan (2012a) stressed. Economic resources can be measured for long or short periods of time, however typically they are measured on an annual basis. Fourth, a choice should be made about a poverty threshold in terms of whether or not it represents an *absolute* level of resources or a level of resources that is *relative* to the overall population or a standard like the median income (Meyer & Sullivan, 2012a). Fifth, a poverty measure can result in different indices, such as the number of people that fall below a given threshold or cutoff (a headcount ratio) or the resources required to raise the poor to the poverty threshold (a poverty gap measure) (Brady, 2003; Meyer & Sullivan, 2012a). Sixth, a choice should be made regarding where the poverty thresholds are set. Commonly, in relative measures of poverty, a threshold is set at 50% of the median income, but choices regarding a set threshold are in general somewhat arbitrary (Meyer & Sullivan, 2012a). Seventh, a choice should be made regarding an equivalence scale, which weighs the economic contributions of individuals to a family differently. Equivalence scales create different thresholds for different kinds of families; for example, generally a family with two working-age adults will have a different poverty threshold than a family with one working-age adult and one child, even though both

families have the same number of members. Eighth, and finally, a poverty measure must take into account how it will be adjusted for time and geography (Meyer & Sullivan, 2012a). Prices of goods, incomes, and other economic factors vary significantly both over time and across geography.³

The following four sub-sections will explicitly focus on four of the questions prompted by Meyer and Sullivan in order to further distill the various important measurement choices that must be made when identifying poverty. The answers to these choices both inform the current study of asset poverty and identify future directions in the study of asset poverty research. The questions are as follows:

- 1. What types of individual or family-level resources are being measured?
- 2. What type of threshold is being used?
- 3. What type of equivalence scale is used?
- 4. What poverty index is being used?

1.1.2 Individual or family resources.

Typically an individual or family is defined as poor through two key components: an estimate of their economic resources and whether or not these resources fall below a poverty threshold. Although poverty thresholds are estimated for individuals, in the literature the term for economic resources is "family resources" (see Citro & Michael, 1995; Meyer & Sullivan, 2012). The following section will focus first on outlining the differences between defining economic

³ Corak (2005) further condenses these poverty measurement decisions into three main issues: economic resources, identification of the poor, and aggregation to an index. The eight questions provided by Meyer and Sullivan (2012a) highlight the many additional important measurement decisions within these three issues.

resources available to families as income-, consumption-, and asset-based in terms of poverty measurement.

1.1.2.1 Income.

The most familiar measure of poverty compares a household's annual income to a poverty line or threshold, below which households are considered poor (Ravallion, 2010a, p. 2). Haveman (2009a, p. 82) asserts that the assumptions of an income-based absolute poverty line are threefold: (1) money can purchase things that make people feel less deprived, (2) income is a good proxy for well-being, and (3) one year's income is an indicator of future income. Before-tax or after-tax income can be used, as well as after-tax income plus near-cash social welfare benefits; each of these choices measures a different type of income-based poverty. Before-tax income is a measure of what families gather from the labour market alone, whereas, after-tax income includes labour market income as well as income redistributed through taxes. Many have argued that a measure of poverty ought to examine after-tax income, as well as any near-cash benefits families receive, in order to calculate the redistributive effects of the social welfare system and to identify those who are post-transfer income poor (Blank, 2008; Citro & Michael, 1995; Waldfogel, 2013).

A purely income-based definition of family resources "is both too inclusive and not inclusive enough" (Citro & Michael, 1995, p. 206). Income as a measure of economic resources has many benefits. First, it is an uncontroversial and facile way to measure family level resources. Second, there is a strong theoretical justification and an abundance of evidence to show that income is related to overall well-being. However, critiques of the income-based poverty measure are many. This review will only focus on three main critiques. First, there is the critique that income poverty fails to capture important dimensions of material hardship. In their well-known study, Mayer and Jencks (1989) surveyed 992 randomly selected and 430 low-income households in Chicago in 1983 after a recession and again 1985 during an economic recovery. They asked families about their material hardships, including: ability to afford food, unpaid rent, crowded living environments, being evicted, having the utilities shut off, serious housing difficulties (e.g. no heating), lacking health insurance benefits, unmet medical needs and unmet dental needs (Mayer & Jencks, 1989). It was commonly assumed that income was the main determinant of material well-being and a measure of income poverty captured a significant portion of the material hardships that families experience. However, Mayer and Jencks (1989) found through regression analyses that family income explained only 14% of the variance in material hardships. They argued that the relationship between income and material hardship was a "loose" one, and that measurements of poverty should be concerned with more than just income (Mayer & Jencks, 1989, p. 112). This critique was echoed by many, who argued that income-based measures of poverty ignore that hardship and material well-being is not shaped solely by income (Beverly, 2001; Brandolini, Magri, & Smeeding, 2010; Haveman, 2009a; Meyer & Sullivan, 2009, 2012a). Beverly (2001) also found that the assumption that there is a direct relationship between income and material hardship is not entirely warranted. Examining data from the Survey of Income and Program Participation (SIPP) from 1995, she found that 24 million individuals experienced at least one material hardship in the previous year (defined as food insufficiency, eviction, utility/telephone disconnection, or medical need), and that 8% of those individuals were not living below the poverty threshold. Beverly (2001) argued that the focus on income-only resources in standard measures of poverty implies that poverty is a unidimensional construct and obscures material hardship, which is a "critical dimension of poverty" (p. 24).

The second main critique of income-based measures of poverty is that they fail to take into account how assets relate to well-being and material hardships. It is clear that individuals smooth consumption (i.e. maintain a similar living standard when unexpected changes in income occur) by spending down assets (Meyer & Sullivan 2012a; Sherraden, 1991). There is considerable reason to think that assets, credit, and consumption relate to well-being, especially considering the third critique of income-based measures of poverty, that it is too sensitive to fluctuations in income. For example, a family may "dip below the poverty line because of something that happened that year, such as unemployment or a bad harvest" but an income-based poverty line would not capture how that family actually fares economically, as they may draw on non-income resources for their economic well-being (Haveman, 2009a, p. 83). Furthermore, assets have been argued to be a key component of long-term well-being and welfare (Shapiro, 2001, 2004; Sherraden, 1991). Wealth has been shown to be an independent predictor of well-being and development, even after income has been accounted for (Williams Shanks, 2007).

1.1.2.2 Consumption.

An argument can be made that it is more relevant to examine what families purchase or spend rather than what they earn when measuring economic well-being. This type of family resource is referred to as consumption. Some have referred to consumption as a direct indicator of poverty, whereas income is an indirect indicator of poverty (Berghman, 1995). When researchers examine consumption they generally use survey data and price data to estimate what the average individual spends on any given item (Citro & Michael, 1995). Consumption has been argued to reflect permanent income, and thus better reflect a family's long-term prospects (Meyer & Sullivan, 2009, 2012a). Those who have high incomes are likely to have high consumption; however, those with low-incomes may not always have low consumption levels. Economist Milton Friedman hypothesized in 1957 that current income is composed of permanent and transitory components (Citro & Michael, 1995, p. 211). Friedman found that many of those classified as low-income were temporarily low-income (i.e. those suffering from "income

shocks"), and he posited that families spend down savings and assets (or "dissave") to maintain their levels of well-being (Citro & Michael, 1995). Meyer and Sullivan argued that, "consumption is more likely to capture the effects of savings and dissaving, the ownership of durable goods such as houses and cars, and access to credit" (2009, p. 2). In their study of consumption-based poverty in the US using the Consumer Expenditure Survey, Meyer and Sullivan (2012b) estimated core consumption poverty based on a variety of indicators from 1960 to 2010 including: food (at home), rent plus utilities, transportation, gasoline, the value of vehicles, health insurance, and housing costs. Their consumption measure, because it was not a measure of income, implicitly included gains in material resources garnered through increases in social security and tax code reforms since the 1960s (Bailey & Danziger, 2013). Meyer and Sullivan define 50% of the median consumption as the poverty threshold, and find that over the 50-year period consumption-based poverty dropped by 26.4 percentage points, while the official poverty rate fell by only 4.4 percentage points (Meyer & Sullivan, 2012b). Meyer and Sullivan thus find that "consumption comes closer to what matters for well-being" than income-based measures (2012b, p. 190).

1.1.2.3 Assets.

Income and consumption are generally measured for a specified time period, usually representing either earnings or purchases on a monthly or yearly basis. Assets represent stored purchasing power, and are "a more stable indicator of status or position in society" (Oliver & Shapiro, 1990, p. 131). As is true with consumption, it is often assumed that those with high incomes have correspondingly high assets, but decades of research have shown that the relationship between income and assets is complicated and not always direct. For example, research on the racial wealth gap has repeatedly shown high levels of wealth inequality between Black and White Americans even after controlling for income in various ways (Shapiro, 2001,

2004). Further, through examination of Canadian data, Robson (2013) found that the correlation between income and net worth was lower than expected (r = .557, p = .001).

Conceptually, like income, assets can be defined with various indicators. First, there are *tangible* and *intangible* assets, with most of the asset-based literature focused on tangible assets (Midgley, 2005). Tangible assets include: savings, financial securities (stocks, bonds, etc.), real estate, other property (automobiles, jewelry, art, etc.), equipment and machines, natural resources, household goods, and copyrights or intellectual properties; intangible assets include: access to credit; and human, social, cultural, political, or organizational capital (Nam, Huang, & Sherraden, 2008; Sherraden, 1991). The rationale for measuring assets as an indicator of well-being can be distilled into two main points: (1) wealth affects current well-being by providing economic security and (2) possession of assets is a major determinant of future opportunities available to families (Brandolini et al., 2010; Haveman, 2009a).

Defining and measuring asset poverty (detailed information regarding this subject follows in the next session) typically focuses on assets as an indicator of economic security. To measure asset poverty a definition of the type of assets of interest must be given as well as a threshold, typically defined absolutely based on basic needs (Brandolini et al., 2010; Haveman & Wolff, 2004, 2005). Thresholds for asset-based poverty are generally based on a measure of assets above or below the relevant income poverty thresholds for the context, whether those thresholds are relative or absolute (Brandolini et al., 2010). Confusingly, however, asset-based measures of poverty are almost always absolute; thresholds are generally not based on a percentage of the median asset levels of families in a given society. A common reference period for an asset based threshold is set at one-fourth of the income poverty line for one year(three months), however, a sixth-month reference period has been advocated by some (Brandolini et al., 2010; Shapiro, 2004). Using asset-based poverty measures, scholars have found, in diverse contexts, that the proportion of individuals classified as asset poor is far greater than those classified as incomepoor (Brandolini et al., 2010; Haveman & Wolff, 2004; K. Kim & Kim, 2013; Rothwell & Haveman, 2013).

1.1.3 Types of poverty thresholds.

A measure of economic deprivation or need can be variously anchored or defined, in ways that are absolute, relative, or subjective (Ravallion, 2010a). Ravallion (2010b) argued that often scholars do not pay careful attention to the difference between these concepts. The theoretical justifications for each anchor (whether relative, absolute, or subjective) are considerably different. A clear outlining and definition of these anchors follows.

1.1.3.1 Absolute thresholds.

Absolute economic deprivation refers to a set amount of resources required to meet basic consumption levels or basic needs defined by a threshold; alternatively, this can be described as determining whether an individual has the necessary "purchasing power" or "command over economic resources" to achieve a community standard of living. Under the most familiar absolute definition of poverty, one is said to be poor if their income falls below the threshold of what it takes to purchase a minimally acceptable level of subsistence, i.e. adequate food, shelter, and clothing (Citro & Michael, 1995; Haveman, 2009b; Niemietz, 2011). Although income is most often used as the definition of family resources, absolute poverty can also be based on other family resources such as consumption or assets. Regardless of family resources used, an absolute economic measure of poverty refers to "*absolute levels of living*—how many people cannot attain certain pre-determined consumption needs" (Ravallion, 2010b, p. 27). In developing countries, an absolute poverty threshold is often set at the minimum level of food and shelter one would need to subsist. Broadly, in many developing contexts, an individual would be classified as poor if their current economic resources could not purchase the goods (or commodities)

needed to survive. Necessary commodities include food, shelter, and clothing. Beyond that, however, definitions of what constitutes a necessity of basic living vary by context (Brady, 2003).

There are two principle methods for identifying an absolute poverty threshold based on income: the cost of basic needs (CBN) approach and the food-energy intake (FEI) method.⁴ The FEI method, while complicated and with many variants, essentially breaks down to the cost of a local estimation of the minimum amount of calories one would need to survive (Greer & Thorbecke, 1986; Wodon, 1997). The FEI method first estimates a simple diet, taking into account nutritional requirements, availability, and taste preferences; a poverty threshold is then set based on the cost of this simple diet. One critique of the method is that it yields measures of poverty that are likely to be unable to compensate for regional preference and price differences (Ravallion, 2010a; Wodon, 1997). Furthermore, the science of estimating basic nutritional requirements remains contested (Ravallion, 2010a). The second commonly used absolute poverty threshold method is the cost of basic needs (CBN) method. The CBN method of estimating poverty thresholds in theory could allow for non-food items to be estimated in a bundle of basic commodities, but in practice, the CBN often includes only food items in the basic needs bundle (Ravallion, 2010a).

A familiar measure of poverty in developing countries is set at \$1.25 of income per day that is required to purchase basic necessities (UN Millennium Project, 2005). This CBN line is "intentionally frugal" and is meant to focus intervention attention on the world's poorest individuals, that is, those who are poor living in a poor country (Ravallion, Chen, & Sangraula, 2009, p. 163). It is important to stress that the dollar-a-day line has very little meaning for those

⁴ Another threshold estimating method related to the CBN and FEI method, is the food bundle method. Many developing countries (80%) estimate a national poverty line based on the amount of money it would take to purchase a given food bundle (Ravallion, 2010a). in middle or upper income countries, and that a higher line would mean that an untenable proportion of the population of developing countries would be deemed poor (Ravallion et al., 2009). However, the assumption that dollar-a-day, or its corollaries \$1.25 to \$2-a-day poverty lines have *absolutely no* relevance for developed countries is a false one. Shaefer and Edin (2013) found that in mid-2011, among US households headed by an individual under 65, 1.6% of families with children and 4.3% of families without children lived in extreme poverty (under \$2 a day). These estimates of extreme poverty, gathered from the SIPP (a representative longitudinal survey administered by the US Census) were calculated after means-tested program assistance, such as food stamps, were accounted for (Shaefer & Edin, 2013). In total, 1.17 million children lived in extreme poverty in the US in any given month in 2011 (Shaefer & Edin, 2013). Their findings indicate that a low absolute poverty line *does* have relevance for developed countries, particularly in identifying the effects of cash welfare retrenchment.

In developed economies, the CBN method may explicitly take into account the cost of food items that may not be essential for absolute survival, but are essential in a relative context. The inclusion of goods beyond those necessary for subsistence in a concept definition of poverty dates back to at least the turn of the 18th century, where Adam Smith remarked:

But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt, the want of which would be supposed to denote that disgraceful degree of poverty which, it is presumed, nobody can fall into without extreme bad conduct. (as cited in George, 2010 p. 167)

In Smith's definition, a linen shirt—while unnecessary for subsistence, is necessary for social participation—is an absolute need within a relative context. Although George (2010) stated that Smith "was the first major writer to consider poverty in relative terms," Smith's calculations of

necessary commodities were not similar to calculations of relative poverty thresholds (p. 166). Smith further clarified:

By necessaries I understand not only the commodities which are indispensably necessary for the support of life, but what ever the custom of the country renders it indecent for creditable people, even the lowest order, to be without ... Custom... has rendered leather shoes a necessary of life in England. The poorest creditable person of either sex would be ashamed to appear in public without them. (as cited in Sen, 1983, p. 159) Thus, Smith defined a bundle of basic needs (or necessary commodities) as both those required for subsistence and those required to avoid shame by meeting community standards of wellbeing. This definition of *relative basic needs* is what informs some developed countries' CBN calculations today, such as Russia (see Ravallion & Lokshin, 2006 for an extended discussion of Russia's unique poverty line calculation). Canada also has an alternative low-income measure,⁵ the Market Basket Measure (MBM; discussed in depth in section 2 of this chapter), that uses a relative basic needs basket to define low-income (or poverty) thresholds. Thus, in some countries' CBN-based thresholds, there is some allowance for non-food commodities, which is an explicit recognition that absolute poverty in a developed context is relative deprivation. Indeed, it can be argued that "at the core of the definition of an absolute poverty line [...] is a hazily recognized contradiction—poverty is actually relative" (Rainwater & Smeeding, 2003, p. 9).

Both Canada and the US have commonly used absolute poverty thresholds. One of Canada's unofficial alternative measures of poverty is absolute (the MBM) and the official measure of low-income, the low-income cutoff (LICO) is quasi-relative. Greater discussion of the three main Canadian measures of poverty (or low-income) will be undertaken in the

⁵ Although many researchers refer to Statistics Canada's LICO, LIM, and MBM thresholds as *poverty* thresholds, Statistics Canada defines these as measures of *low-income*.

following section. A good example of an absolute poverty threshold in a developed context is the US' poverty line. The US is one of the few developed countries in the world with an official income-based CBN absolute poverty line (Citro & Michael, 1995). The US poverty measure was created by Social Security Administration employee Molly Orshansky in 1963, based on the United States Department of Agriculture economy food plan designed for low-income individuals (McGarry, 2013). The economy food plan cost was calculated from the average spending patterns of a nutritional diet captured in 1955 survey data for families of different sizes. This base cost was then multiplied by three, due to estimates (again from 1955) that the average family spent one-third of their after-tax income on food (Blank, 2008; Meyer & Sullivan, 2009). The calculation created an absolute poverty threshold based on the cost of basic nutritional needs for families in 1955. As is common for all poverty measures, an equivalence scale was applied, leading to different poverty thresholds to various family sizes and types. The official US poverty line is only estimated for families that are related, thus two cohabitating individuals or individuals who share resources are not considered a family-type unit, and would have a different poverty threshold than two married or related individuals. The basic formula has not changed since 1963, although it has been adjusted for inflation through the Consumer Price Index (for more detailed discussions on the formula or the revised Supplemental Poverty Measure, see Citro & Michael, 1995 and Blank, 2008).

The US measure captures many of the critiques of absolute poverty lines, including that the definition of 'basic needs' is bounded by culture, geography and time. These critiques make absolute poverty lines a difficult concept to justify in theory and in practice. If absolute thresholds are not updated frequently (which they often are not), or if they are updated based on changes only in prices of goods, rather than changes in the purchasing practices of the society to which the thresholds are being applied, they tend to lose their validity over time. Sen (1983) recounted that in post-war Britain, absolute poverty thresholds which were based on outdated nutritional basic needs calculations done by Booth (1895) and Rowntree (1902) led to the Labour government in declaring poverty had been eradicated by 1950. Yet, poverty itself was not eliminated, simply the definition of basic needs had changed (Sen, 1983). Similarly, Smeeding, O'Higgins and Rainwater argued, echoing Townsend (1954), that an absolute poverty measure "conveys an unwarranted objectivity" and that:

The widely held view among scholars working in this arena [is] that a poverty standard cannot be established independently of the economic and social context within which needs arise and are defined. (1993, p. 247)

Although it has been tried, the process of establishing what a time-invariant relevant economic and social context is appears to be a methodological nightmare. In Russia, due to heterogeneity in needs that vary by social context (e.g. pork might be a basic need for those living in the north, but not those living in Muslim populated regions), absolute poverty lines are calculated for 23 different geographical regions and for six different age-gender groups (Ravallion & Lokshin, 2006). Although these lines attempt to capture regional variance, they are not utility-consistent, and some work has found that people living at the poverty line in various regions of the country have significantly different levels of welfare (Ravallion & Lokshin, 2006).

1.1.3.2 Relative thresholds.

In the industrialized world, the concept of poverty often does not speak to *subsistence*, but rather speaks to a minimum level of consumption in accordance with basic social participation or customs (Niemietz, 2011). Used most often in industrialized countries by researchers to measure poverty,⁶ relative poverty thresholds are tied to a country's overall

⁶ Most countries do not have official poverty measures that are estimated by the state (Citro & Michael, 1995).

income distribution. Poverty is measured as a relative concept in Europe, a change from absolute measures that occurred, at least in Britain, during World War II reconstruction (Sen, 1983). The most commonly used relative poverty measures in cross-national comparison literature is 50% of the median income; the European Union sets poverty-risk thresholds at 60% of the median income (Eurostat, n.d.-a; Rainwater & Smeeding, 2003). Although the median income is sensitive to high leverage outliers (high incomes), it is less susceptible to this type of bias than the mean income. Sometimes relative thresholds are based on the mean income, but Rainwater and Smeeding (2003) find that "anchoring the poverty line in terms of the median is a way of focusing on mainstream incomes" (p. 151).

Many researchers prefer relative poverty measures to absolute or subjective poverty thresholds for several reasons. First, relative poverty measures are more theoretically appealing because it is postulated that in order for individuals to have meaningful social roles or participate in their communities, they must have the necessary material resources to be active in doing so (Rainwater & Smeeding, 2003). Recall Adam Smith's early understanding that consumption of non-essential items was strongly tied to social roles and participation. His ideas came to be arguments for wholly relative poverty thresholds. As opposed to an absolute subsistence-type concept of poverty, a relative concept of poverty posits that:

[...] People are social beings and operate within relationships. Full participation within those relationships and within society requires that they "fit in" with others. Those whose resources fall significantly below the resources of others members of society, even if they are able to eat and physically survive, are not able to participate fully in society. (Citro & Michael, 1995, p. 125, referencing the work of Townsend, 1992)

Second, relative thresholds avoid many of the inherently subjective decisions and methodological problems that are involved in absolute poverty thresholds (Brady, 2003).

Relative thresholds often posit that below a percentage of the median income, a person can be considered poor. But relative thresholds do not define what goods are necessary to participate fully in society or to meet basic needs, they make a direct comparison of welfares of individuals within their contexts to other individuals within the same context (Brady, 2009). This idea recalls Peter Townsend's (1954) original argument that poverty is determined in large part by social context, and that fine-tuning measurement to account for social context is a losing proposition. Third, relative measures make cross-national policy analysis and comparisons feasible (Brady, 2003; Rainwater & Smeeding, 2003; Smeeding et al., 1993). Moreover, a relative measure can be tied to other national indices, such as per capita GDP. This in turn transforms it into another indicator of national economic well-being, improving the feasibility of historical analyses (Citro & Michael, 1995). Because absolute poverty thresholds are not updated frequently, historic poverty analysis holds less meaning with an absolute threshold (Brady, 2003). Finally, because relative poverty measurements frame poverty as social, and they are tied to median (or mean) income, they change frequently. Subsequently, they might offer researchers better indicators of the causes and consequences of poverty (Brady, Fullerton, & Moren Cross, 2009).

Critics of relative measures of poverty claim that relative poverty is too strongly associated with aggregate changes in social welfare. The idea of wholly relative poverty lines based on income was rejected by Sen (1983) who argued that they are far too sensitive to large macroeconomic shifts. He gave an example of the Dutch poverty winter of 1944-1945, wherein a prosperous society suddenly declined. An absolute measure of poverty would reflect the massive changes in the proportion of individuals experiencing deprivation, but a relative measure might not, as the proportion of those with 50% of the median income could have remained static. Ravallion (2010a) echoed these concerns, finding that perverse poverty trends—whereby relative poverty rises but absolute poverty declines sharply or vice versa—have been evident in contemporary Ireland and New Zealand. The second main critique of relative poverty thresholds is that they make it hard to measure local social policy efforts to combat poverty (Blank, 2008; Citro & Michael, 1995; Sen, 1983). Some have argued that because the thresholds change yearly, it becomes difficult for policymakers to target the population of poor individuals (Citro & Michael, 1995).

1.1.3.3 Subjective thresholds.

Subjective threshold measures of poverty involve asking individuals or families what their definition of welfare is. Subjective measurement is a radically different way of measuring a poverty threshold than absolute or relative thresholds, and has been advocated by some prominent poverty scholars as a way to anchor or validate existing thresholds (see, for example, Mayer & Jencks, 1989). Ravallion (2010a) gave a clear example of how subjective poverty lines are created:

The main way that subjective poverty lines have been replicated in practice is based on the "minimum income question" (MIQ): "What income level do you personally consider to be absolutely minimal? That is to say that with less you could not make ends meet." One might define as poor those for whom actual income is less than the amount they give as an answer to this question. (p. 21)

Smeeding and Rainwater (2003) cite a Gallup Poll conducted in the US at the end of the 1980s that asked respondents at what level of income people should be considered poor; the poll found that the average response was about 24 percent higher than the official poverty line. Although they might helpfully eschew overly academic operationalizations of poverty in favour of a social consensus definition, subjective thresholds have many measurement problems. Because there is much variation in how people conceptualize basic needs, there are large standard errors around a subjective poverty threshold estimate (Citro & Michael, 1995).
Social service administrative databases or surveys created by social workers often include subjective measures of economic hardship, due to lack of clear poverty measures. Sometimes these measures are aggregated to create poverty indicators, or deprivation indices. Some economic hardship measures in administrative databases or surveys include indicators of employment status, housing problems, or material hardships. Although, ostensibly these measures provide information regarding the economic welfare of individuals or families, upon further investigation, these measures often come with untenable assumptions regarding respondent bias. First, Rothwell and de Boer (2013) argue that these measures, plentiful in Canadian child welfare research, do not adequately approximate economic deprivation or poverty. For example, in the 1998 and 2003 cycles of the Canadian Incidence Study of Child Abuse and Neglect (CIS), the survey instrument included questions that asked caseworker respondents to estimate the family's annual household income (Trocmé et al., 2001, 2005). These questions proved to be nearly useless, as "most child welfare workers were unable to estimate family income" (Trocmé et al., 2005, p. 7). Because of this, many 1998 and 2003 CIS researchers measured employment status as a proxy for economic hardship. However, employment status is not always directly related to economic welfare. In response, the 2008 cycle of the CIS changed its operationalization of economic hardship and included the yes or no prompt, "Household regularly runs out of money for basic necessities" (Public Health Agency of Canada, 2010, p. 69). The answer to this question was given by caseworkers who might not have any idea of a family's long-term economic welfare. These CIS questions exemplify some the potential problems with subjective measures of income in surveys used by social workers in that they rely heavily on respondent judgment at the time of responding. Subjective measures, whether they are establishing a poverty threshold or measuring economic deprivation, are susceptible to measurement error due to intentional or unintentional self-reporting bias. In sum,

subjective measures of poverty might "reveal more about the underlying differences in expectations and current circumstances than about relative needs" (Citro & Michael, 1995, p. 135).

1.1.4 Family equivalence scales.

Family size and structure has a significant effect on the economic well-being of individual family members through family resource sharing (Smeeding et al., 1993). This concept is intuitive; a single person needs less money than a family of four, or a family of eight. Yet, questions regarding the expected incomes per individual in a family are far from simple, nor are they agreed upon (Citro & Michael, 1995; Rainwater & Smeeding, 2003). For example, does a family of two require *twice* the income as one individual to maintain minimum levels of wellbeing? If the secondary family member is an elderly adult, do they require the same amount of income as a child, or the same amount of income as a working age-adult? The answers to these questions are effectively measurement choices regarding how to weigh the secondary, tertiary, etc. family members to define equivalent income. These choices are known as equivalence scales, and are essential to estimating poverty thresholds that validly measure economic deprivation. Most common equivalence scales take into account only the size of the family, rather than the age or the abilities of family members (Rainwater & Smeeding, 2003, p. 167). Rainwater and Smeeding (2003) offered a simple definition of equivalent income that helps clarify the concept in the following equation:

$Y = D/S^e$

where disposable income (D) divided by family size (S) raised to an equivalence elasticity, the weight (e), equals equivalent income (Y). In practice, this type of simple equivalence scale is not often used. Different equivalent income weights are applied to different family members. One example of an equivalence scale is the 1986 LICO scales for Canada. Under this scale, a family

of two would require at least 1.36 times the low-income threshold for one individual to at least meet the low-income cutoff. The equivalence scale (or percent of LICO) for a third family member was 0.37, a fourth member was 0.26, a fifth was 0.18 (Citro & Michael, 1995). Across the world, there is wide variation in the weights applied to additional family members in equivalence scales. For example, the US official line gives a higher weight to a second child in proportion to a first (Citro & Michael, 1995). Almost all poverty thresholds include a family equivalence scale. The choice of how to weigh family members and family sizes necessarily affects the proportion of individuals and families classified above or below the relevant poverty threshold.

1.1.5 Indices of poverty.

Indices of poverty identify how many individuals within a society are poor; they are the statistic most often heard regarding poverty rates. Seemingly a simple concept, choices in measurement for indices matter for estimates of poverty, regardless of previous choices in terms of type of threshold, family resources measured, or family-equivalence scale used (Corak, 2005). In general, most poverty research estimates a headcount ratio as a poverty linex, with the numerator being the number of those in a given population under the poverty line and the denominator being the total population (Blank, 2008; Citro & Michael, 1995). Although criticisms of the simple headcount ratio have been leveled for years due to the limited information provided (see Sen, 1976), it has continued to be used in most contexts. In his 2003 study, Brady applied various indices of relative poverty to Luxembourg Income Study (LIS) data, including: the traditional headcount ratio, the poverty income gap (median income minus the average income of the poor), interval poverty (the headcount ratio multiplied by the poverty income gap), inequality among the poor (the coefficient of variation for the income of the poor), ordinal poverty (a synthesis of inequality among the poor and the headcount ratio), and the sum

39

of ordinals related to poverty. He found that using these various indices, a much more complex picture of poverty emerged (Brady, 2003). For example, "Switzerland [in 1992] had much deeper poverty than Italy [in 1986] and the United Kingdom, while poverty increased considerably between 1974 and 1995 [in the UK]" (Brady, 2003, p. 737). Brady's (2003) conclusion was that the traditional headcount ratio measure is overly simplified. Brady found that the headcount ratio did not speak to the depth of need experienced by those beneath a poverty threshold, he concluded that (aside from showing aggregate movements of individuals above or below a set poverty line) the headcount ratio cannot help policymakers understand how policies actually affect the poor. However, while acknowledging the problems with the headcount ratio, Blank (2008) suggested that the index has benefits in that it is easy to use and easily understood.

1.2 Multidimensional Poverty in Theory and in Practice.

Although poverty is often measured uni-dimensionally, it is generally accepted in poverty scholarship that deprivation is a multidimensional concept with various important social, economic, individual, and community aspects (Citro & Michael, 1995). A multidimensional measure of poverty that includes other indicators of deprivation might better approximate the actual proportion of individuals in a given society experiencing deprivation and exclusion, as well as assist with the targeting of social welfare interventions (Haveman, 2009a; Silber & Yalonetzky, 2014). In describing the connections between human rights and poverty reduction, the Office of the United Nations High Commissioner for Human Rights (UNHCR) artfully stated:

It is now generally understood that poverty is a result of disempowerment and exclusion. Poverty is not only a lack of material goods and opportunities, such as employment, ownership of productive assets and savings, but the lack of physical and social goods, such as health, physical integrity, freedom from fear and violence, social belonging, cultural identity, organizational capacity, the ability to exert political influence, and the ability to live a life with respect and dignity. (2006, p. 9)

Haveman (2009a) argued that poverty measures are indicators of a nation's performance in improving social conditions and moving towards multidimensional measures of poverty have a number of advantages, including that: (1) they provide insight into dimensions of well-being, (2) they can help illuminate policy discussions by using measures of deprivation that reflect the needs of individuals in terms of accessing goods not captured through consumption based measures (health services, etc.), and that (3) they reveal different patterns of hardship experienced by different social groups. To these ends, the European Union has begun to both conceptualize and measure poverty multidimensionally (Eurostat, n.d.-b).

1.2.1 Social exclusion.

Social exclusion, a concept that originated in France in the 1960s, is "evocative, ambiguous, multidimensional, and elastic" and can be defined in many ways (Silver, 1994). Some have defined it as multidimensional disadvantage that results in isolation from the major social and occupational institutions in society (Golding, 1995). Social exclusion results in individuals being prevented from active participation in the communities and societies. Possibly due to the nebulous nature of defining a concept like social exclusion, the European Union (EU) has narrowed the definition of active social inclusion to be, "enabling every citizen, notably the most disadvantaged, to fully participate in society, including having a job" (European Commission, n.d.). Because the economic market is posited to be the main method whereby social exclusion is caused, social exclusion is often measured through the use of income-based relative poverty thresholds (Brady, 2003; Silver, 1994). European countries, with their increasing policy focus on poverty and social exclusion, measure poverty relatively (Eurostat, n.d.-b); generally the EU defines anyone under 60% of the median income as "at risk of being poor" (Eurostat, n.d.-a). Social exclusion measurement can also be composed of dimensions that are not conceptually related to income, such as indicators of exclusion (Levitas et al., 2007).

The concept of social exclusion has been codified in Canadian policies and legislation, through a push at the provincial level to combat poverty and social exclusion (Mondou & Montpetit, 2010; Parliamentary Information and Research Service, 2007). Although some research has explored formal measures of social exclusion, there is yet to be an agreed upon framework to measure social exclusion (Hyman, Mercado, Galabuzi, & Patychuk, 2011). Provincial poverty action plans generally do not operationalize social exclusion to a measurement (Fortin & Gauthier, 2011; Hyman et al., 2011). In 2011, researchers measured seven dimensions of social exclusion (income, labour force participation, education, health, social support, quality of life and material deprivation) in the National Population Health Survey (cycles one through six, 1994-2005; Fortin & Gauthier, 2011). They found that 47.2% of working age Canadians experienced disadvantage on at least one dimension, while 1.5% reported disadvantage in at least five dimensions (Fortin & Gauthier, 2011). These measures tell a different story regarding the well-being of Canadians than the commonly used LICO measure.

1.2.1 Capabilities.

Economist Amartya Sen, argued that poverty is an absolute condition that does not solely consist of economic deprivation, but rather is a state of capability deprivation. This idea, which came to be known as the Capability Approach to development and well-being holds that capability deprivation is the inability to be able to choose or act to improve one's own welfare. Measurement of this highly theoretical concept of poverty as capability deprivation is difficult. In 1983, Sen argued that while capabilities are absolute concepts, one either has them or one does not, the measurement of the commodities needed to achieve capabilities should be based on relative measures of income. Brady (2003) also argued, "though poverty is absolute in terms of

capabilities, it is plausible, and even appropriate, that poverty is relative in terms of economic deprivation" (p. 725). Work has begun regarding Capabilities Approach in measures of multidimensional poverty and current work refining a measure for multi-dimensional poverty is nascent (Alkire & Foster, 2011; Deutsch & Silber, 2005). Efforts to include measures of assets were not found discussed in capability deprivation measurement literature through this literature review. However it is easy to see how assets—either in terms of net worth or financial assets— might impact one's capabilities. Future work in this area should refrain from viewing income as a sole indicator of economic well-being leading to commodities and capabilities.

2. Specific Measures of Poverty

2.1 Income-based Poverty Measures in Canada.

Although Statistics Canada makes clear they do not estimate a poverty line in Canada, researchers often use Statistics Canada's estimates of low-income as operationalizations of poverty. The reasons why these measures are treated as tacit measures of poverty are that they follow many of the conventions of widely-used poverty measures. Statistics Canada rightly stated that:

Defining poverty is far from straightforward. The underlying difficulty is that poverty is a question of social consensus, defined for a given point in time and in the context of a given country. Decisions on what defines poverty are subjective and ultimately arbitrary [...] Given this, Statistics Canada has always referred to the low-income lines as indicators of the extent to which some Canadians are less well-off than others, based solely on income and, as such, are low-income and not poverty measures. (2013, p. 5)

However justified Statistics Canada might be in redefining poverty as something more than just low-income, they provide little explicit justification for doing so. Statistics Canada (2013) offers evidence that the corresponding statistical organizations of the EU and US are "also sensitive to the use of the word 'poverty,'" however, even after recognizing nuance in their language, the US and EU still refer to their measures as poverty measures (p. 5). As will become evident in the following three subsections, Canada's measures of low-income are conceptually and practically similar to income-based poverty measures used elsewhere in the world. Thus, they can be referred to as poverty measures. The following section on income-based poverty measures in Canada will outline the methods used to create the three main Canadian poverty thresholds: the low-income cutoff (LICO), a quasi-relative measure; the low-income measure (LIM), a relative measure; and the market basket measure (MBM), an absolute measure.

2.1.1 LICO.

The low-income cut-off (LICO) is Canada's oldest and most widely recognized poverty measure (Statistics Canada, 2013). First published in 1967, the LICO, like the official poverty thresholds in the US, was created by a female civil servant (Fisher, 2008). Explained simply, Jenny Podoluk created the LICO to represent the threshold at which families who spend more than 20% above the average family on basic needs would be considered low-income (Statistics Canada, 2013). The LICOs were created in five steps. First, the average spending amount made by all families on basic necessities (food, clothing, and shelter) reported in the 1959 Family Expenditure Survey was calculated. Second, "an arbitrary 20 percentage points" was added to this amount (Citro & Michael, 1995, p. 127). Statistics Canada argued that the 20 percentage points are based on the rationale that a family spending more than that would face "straitened circumstances" (Statistics Canada, 2013, p. 6). Third, log-linear curves were added to scatterplots of data that represented the reported amount of before-tax income on one side and the average amount of spending on basic necessities on the other (see Statistics Canada, 2013, p. 7 for an example fitted log-linear curve as described here). Fourth, the intersection of the curve and the line representing 20% more than the average household spending on necessities was

calculated as the LICO threshold. Fifth, the curves were adjusted for family and community sizes; today these adjustments result in 35 LICO lines (Statistics Canada, 2013). The LICO can be calculated for both before-tax and after-tax incomes.

The LICO can be seen as a "hybrid" between absolute and relative measures of poverty (quasi-relative; Citro & Michael, 1995, p. 127). It is absolute in the sense that the measure defines a set basket of goods that satisfy basic needs. It is relative in the sense that the actual threshold is based on average spending of families, so that both the proportion and allowance in the LICOs is determined relatively (Citro & Michael, 1995, p. 128). In its history, the LICO has been re-based—meaning it has been redefined based on average family spending—five times and was last re-based was in 1992 (Citro & Michael, 1995; Statistics Canada, 2013).

Critics of the LICO cite many of concerns that could be levied at absolute poverty thresholds. The LICO may be re-based too infrequently to have real meaning, given that spending patterns change over time (Norman, 2000). Although the LICO is adjusted for urban size differences, it is not adjusted for regional differences. Some researchers do not use the LICO because its calculation of average spending may not be applicable to particular provinces, such as Quebec (Plante & van den Berg, 2011). Similar to arguments levied by Brady (2003) against the US poverty line, because the LICO is based on different calculations of basic needs in time, today's LICO cannot be historically compared without researchers recalculating poverty rates on a common base expenditure estimate (Norman, 2000). Because of these flaws, as well as others, critics have identified that some antipoverty "policies may be insufficiently targeted" because the LICO indicator is poorly calibrated (Norman, 2000, p. 4).

2.1.2 LIM.

The low-income measure (LIM) was introduced in the 1990s after an influential paper published by Wolfson and Evans in 1989 critiqued the LICO (Statistics Canada, 2013). The LIM is a relative poverty measure that is updated yearly based on the income distribution found in the Survey of Labour and Income Dynamics (SLID). Under the LIM, anyone who falls below 50% of the median equivalent household income is classified as poor. Equivalent household income is calculated by dividing household income by adjusted family size (the square root of the number of individuals in the household; Statistics Canada, 2013). The LIM was changed in 2010 to apply to individuals (not households) as the unit of analysis and the equivalence scale was changed from an incremental factor assigned to each additional household member to the square root method of calculating equivalent household income (Statistics Canada, 2010). The only adjustments in the LIM threshold are for family size, it is not adjusted for geography. Advantages of the LIM are that it is updated frequently and can be used to compare poverty rates cross-nationally. In addition to the disadvantages noted above for relative measures, a potential disadvantage of the LIM is that it tends to give a lower headcount ratio estimate of poverty than the MBM or LICO and has been accused of better measuring inequality than poverty. Zhang (2010) found that if the LIM threshold was fixed at a base reference year, LIM poverty rates tended to converge over time with the LICO thresholds. Zhang (2010) argued that fixed LIM lines are advantageous as an addition to existing lines and would make Canadian poverty measurements more comparable with European practices.

2.1.3 MBM.

The market basket measure (MBM) was created in the late 1990s by a working group of Federal, Provincial, and Territorial officials led by Human Resources and Skill Development Canada (HRSDC; Hatfield, Pyper, & Gustajtis, 2010). The MBM was intended to "provide a more intuitive measure of low-income based on a basket of goods and services representing a modest, basic standard of living" in various communities across Canada (Hatfield et al., 2010). The MBM is a complex absolute CBN measure of poverty that uses an adjusted family-level economic resource measure of income (deemed MBM disposable income; Statistics Canada, 2010). MBM disposable income is equal to total income from all sources (including government transfers) minus: (1) income tax, (2) government pension plan (CPP/QPP) contributions, (3) employment insurance contributions, (4) registered pension plan (RPP) contributions, (5) union dues, (6) child support or alimony payments, (7) work-related child care expenses, (8) out of pocket medical expenses, and (9) public health insurance premiums (Statistics Canada, 2010). The basket of goods includes the average costs of food, clothing, footwear, transportation, shelter and other expenses (e.g. entertainment or food outside the home) for a reference family of two adults (aged 25-49) and two children (aged 9 and 13) in 49 geographical regions across Canada, resulting in 49 different thresholds. To calculate the threshold for other family sizes, the threshold must be divided by two and then multiplied by the square root of the desired family size (Statistics Canada, 2013). The MBM was originally based in cost estimates for goods in 2000. It was cost re-based, with the addition and subtraction of various goods, in 2008 and 2011 (Hatfield et al., 2010; Statistics Canada, 2013).

As with any measure of poverty, there are many advantages and disadvantages to the MBM. The main advantages of the MBM are: that is updated more frequently than the LICO, that it is more sensitive to regional differences in living costs as well as provincial differences in after-tax family level economic resources, and that conceptually it makes intuitive sense as an estimate of a threshold of modest living. The MBM may be easier for provincial policy makers to utilize as a measure the impact of anti-poverty policies because it is more localized than other measures. The main disadvantage of the MBM is that it is based on a somewhat arbitrary judgment of what is a basic necessity. For example, for reference families living in rural areas, the cost of transportation includes a car. For reference families living in an urbanized area, it is assumed that families use public transportation. Of course, the practicality and usability of public

transportation across Canada varies wildly. The measure suffers from the same kind of arbitrary judgments that are entailed in any absolute poverty measure. Additionally, it is unclear that the complicated strategy of estimating the MBM threshold is a meaningfully distinct way to measure low-income rates. Re-based MBM poverty rates from 2010 showed only a small difference from provincial LICO rates (Hatfield et al., 2010).

2.2 Canadian Poverty Rates.

Although poverty rates have remained relatively stable in Canada over the past three decades, closer examination reveals slight fluctuations in rates over time. For example, although the poverty rate (after-tax LICO, based in 1992) in Canada has declined from 9.1% in 2007 to 8.8% in 2011, the average poverty gap ratio (the average percentage shortfall in income from the poverty line) increased slightly from 32.8% to 33.3% in the same time period (Statistics Canada, n.d.-b). This increase means that it would have taken more money to bring the poor out of income-based poverty defined by the LICO in 2011 than it did in 2008. Figure 1 shows that when alternative measures of poverty are applied to the same data, different rates of poverty result. In 2011, the percentage of individuals living in poverty was 12% using the MBM (2011 base) and 12.6% using the LIM. Additionally, the Gini coefficient (a measure of inequality) of market income, for all family types, increased slightly in the period between 2007 to 2011 from 0.507 to 0.514,⁷ indicating that market-based income inequality has not improved (Statistics Canada, n.d.-a).

⁷ See Section 6 for a visual comparison of the Gini coefficients of wealth and market income for 1999, 2005, and 2011 in Figure 2.



Figure 1. Three poverty measures in Canada and their corresponding rates in 1999, 2005, and 2011. Data are taken from Statistics Canada's CANSIM series (Statistics Canada, n.d.-b).

Like many developed nations, poverty rates in Canada are highest for unattached individuals, children, and female lone-parent households (Raphael, 2011). The poverty rates of seniors have decreased over time in most Western nations, due in part to universal incometransfers (Smeeding & Sandström, 2005). In Canada this pattern is evident: the poverty rate for seniors declined from 30.0% in 1984 to 13.1% in 2008 (Raphael, 2011). The feminization of poverty is evident is Canada as well in that women, especially unattached women, have higher rates of poverty than men (Raphael, 2011). The causes of feminization of poverty are many, from wage inequality, to unpaid care work, to fragile employment in the informal labour market (M. Chen et al., 2005). Poverty is also racialized in Canada, in that visible minorities, Indigenous peoples, and recent immigrants have higher rates of poverty (Raphael, 2011). Many issues drive the incidence of poverty, and these have hypothesized as: low wages, low social assistance benefits, labour market discrimination, and differences in employment (De Silva, 1999; Raphael, 2011). More information on child poverty in Canada is provided in Section 5 of this chapter.

3. Concepts and Measurement of Assets

3.1 Asset Concepts.

From a social welfare perspective, three major perspectives on assets, or asset concepts have been advanced (Nam et al., 2008). First, as has been previously referenced, assets can be conceptualized as stored income, or as a proxy for future consumption. This consumption model of assets rests on fairly strong assumptions about human behaviour, such as the assumption that individuals want to maintain high and constant living standards, or that that employed individuals rationally and regularly save (Nam et al., 2008). The consumption model also assumes that individuals spend down assets to maintain their living standards. The second perspective views assets as a vehicle for social stratification or inequality. The social stratification concept of assets, first advanced by Oliver and Shapiro (1990) focuses on assets as consequences of racial and social inequalities. In the social stratification conceptualization of assets, assets are seen as providing owners ore opportunities, both financially and socially, and thus they are indicators of long-term well-being. The third asset perspective views assets as a tool for socioeconomic development. This assets-for-development perspective was formalized and popularized by Michael Sherraden in his 1991 book Assets and the Poor. In this book, he posited that assets lead to nine distinct social, economic, psychological, and political effects including: (1) household stability, (2) an orientation towards the future, (3) development of other assets, (4) focus and specialization, (5) risk taking, (6) personal efficacy, (7) social influence, (8) political participation, and (9) the welfare of future generations (Sherraden, 1991).

3.1.1 Theories of savings.

Before proceeding to a discussion of how measurements of asset poverty are conceived and constructed, it is worthwhile to pause briefly to discuss how individuals save and accrue assets. There are many theories of how individuals save, this section will only discuss two relevant ones: neoclassical economic theories (in general) and the Institutional Theory of Savings. Neoclassical theories of savings inform the consumption perspective of assets. The first neoclassical theory is the life-cycle hypothesis (LCH); it proposes that savings reflects an individual's progression through the life course and that savings accumulation follows an inverted U-shaped distribution (Beverly & Sherraden, 1999). The second neoclassical theory is the permanent income hypothesis (PIH), which was introduced by Milton Freidman in the late 1960s (Beverly & Sherraden, 1999; Citro & Michael, 1995). The PIH postulates the individuals are motivated to save so as to maintain a constant rate of consumption. In their review of theories of savings, Beverly and Sherraden (1999) find that there is little evidence to conclusively substantiate either theory, and that there is increasing evidence for a "buffer stock" model which proposes that individuals save for emergencies until they reach about age 50 when they start saving for retirement (p. 460).

In contrast to neoclassical theories, social welfare theorists have proposed that institutions critically shape asset accumulation. In his 1991 Sherraden theorized that "asset accumulations are primarily the result of institutionalized mechanisms involving explicit connections, rules, incentives, and subsidies" (Sherraden, 1991, p. 116). The theoretical importance of institutions in shaping asset accumulation was further advanced by Beverly and Sherraden (1999), who found a gap in theoretical understanding of how low-income individuals save in the extant theories of savings. They theorized that the following four factors promote savings: (1) access institutionalized savings mechanisms, (2) financial information and education (3) incentives (such as tax-preferred savings accounts, or the rate of return on investments), and (4) facilitation

(otherwise known as mechanisms of contractual savings, like payroll withdrawal) (Beverly & Sherraden, 1999). Their work was furthered by Beverly and Sherraden (1999); Sherraden, Schreiner, and Beverly, (2003); Schreiner and Sherraden, (2007); Beverly, Sherraden, Cramer, et al., (2008) and Beverly, Sherraden, Zhan, et al., (2008). Beverly, Sherraden, Cramer, et al., (2008) specifically added three additional determinants of savings: (5) security or institutional legitimacy; (6) expectations of savings programs that promote further savings; and (7) restrictions that protect savings. Institutional constructs or mechanisms have been clearly defined in this theory as: "purposefully-created policies, programs, products, and services that shape opportunities, constraints, and consequences" (Beverly, Sherraden, Zhan, et al., 2008, p. ES–2). Research has provided evidence on how some institutional mechanisms, such as auto-enrollment or matched savings, increase participation in asset-based intervention programs (Sherraden & McKernan, 2008).

3.1.2 Current state of private asset accumulation in Canada.

Just as there is no official measure of income poverty in Canada, there is no official measure of asset poverty. However, unlike income-based poverty measures in Canada, there is no *unofficial* measure of asset poverty or low-assets either. The study of Canadian household wealth has not been an unexplored topic, and a review of the literature revealed interesting findings. Milligan (2005) explored trends in asset accumulation in Canada using cross-sectional surveys from the 1970s, 1980s, and 1990s. He found that asset accumulation increased by 40% for families at the peak of the life-cycle (ages 50-65) from 1977 to 1999. However, Milligan (2005) also found that in 1999 younger families were accumulating far fewer assets in relation to older families, than they were in 1977. Overall, he found evidence supporting the LCH of household savings in that older and younger families captured by the survey tended to hold fewer and less risky assets than those in the peak of the life cycle (Milligan, 2005). Using the same

1999 Survey of Financial Security (SFS) data that Milligan used, Chawla (2004) found that in all provinces, nearly two in ten families had "virtually no wealth" (p. 13). As is true in the United States, Chawla (2008) found evidence of higher wealth inequality than income inequality in Canada, citing a Gini coefficient for wealth of 0.678. Figure 2 displays visually that the Gini coefficient of wealth is 1.32 times greater than that of income. However, significant provincial variation in wealth exists. For example, in 1999, Ontario had the highest mean income (\$55,400), but British Columbia had the highest mean wealth (\$298,100) (Chawla, 2004). On average, it appears that low-income is associated with low-assets. Using the 2009 Canadian Financial Capability Survey (CFCS), Luong (2011) found the median net worth of employed non-lowincome families (based on the LIM) to be \$257,700; for employed low-income families the median net worth was \$19,000. Examining the 2005 SFS, Chawla (2008) found that overall, the shapes of the income and wealth distributions did not change markedly from 1999, although the debt-to-income ratio increased. Using a stochastic life-cycle model of savings, Liu, Ostrovsky, and Zhou (2013) assessed the adequacy of private savings by household in Canada with data from the 2005 SFS. They found that the risk of undersaving was small, and that those approaching retirement age (60 to 65) had a savings surplus of around \$73,000; they also found that single individuals and households without private pension coverage were most at risk for undersaving (Liu et al., 2013). Further evidencing the particular asset vulnerabilities of lowincome Canadian families, Robson (2013) examined the SFS 1999 and 2005 and found that those in the bottom quintile of income were significantly less likely to report any funds invested in tax-preferred savings instruments than those in the 2^{nd} to 5^{th} quintiles.





3.2 Asset Measurement.

Measurement of assets or wealth poverty has been increasingly advanced as an important dimension of deprivation requiring further attention (Haveman & Wolff, 2004; Williams Shanks, Kim, Loke, & Destin, 2010; Sherraden, 1991). Assets are theorized to have important effects independent of income, and income-based measures of poverty may not capture those effects. Robson (2013), in her examination of Canadian data from the SFS 1999 and 2005 found that the correlation between a family's net worth (assets minus debts) and their income was imperfect (r = .557, p = .001). The consumption model of assets, social stratification perspective of assets, and assets-for-development perspective all propose the rationale for measuring assets as an indicator of well-being because: (1) wealth affects current well-being by providing economic security and (2) the possession of assets is a major determinant of future opportunities available

to families (Brandolini et al., 2010; Haveman, 2009a; Nam et al., 2008). Assets are generally measured in two key ways, through calculating net worth and through calculating financial or liquid assets.

3.2.1 Net worth.

Net worth is the most commonly estimated measure of assets (Haveman & Wolff, 2004, 2005; K. Kim & Kim, 2013; Oliver & Shapiro, 1990; Rothwell & Haveman, 2013). Generally, net worth refers to all marketable assets a family or individual holds minus their debts. It reflects a store of income that can be liquidated (converted into cash) within a short period of time (Haveman & Wolff, 2004). Haveman and Wolff (2004) operationalize net worth to include: the value of the principal residence and other real estate; any cash or savings deposits; any stocks, bonds, mutual funds; the cash value of life insurance policies and defined contribution pension plans; net equity in unincorporated businesses or equity in trust funds; *minus* mortgage, consumer, or other debts. Caner and Wolff (2004) propose a second measure of net worth that subtracts home equity in their analysis of PSID data from 1984-1999; they find the net worth minus home equity measure increased the asset poverty rate by about 15 percentage points from the net worth rate. Recent cross-sectional quantitative research has estimated the prevalence of asset poverty based on net worth in Canada to be 33.5% in 2005, while in the US it was estimated to be 24.5% in 2001 (Haveman & Wolff, 2004; Rothwell & Haveman, 2013). In comparative analyses, Canada was found to have the lowest net worth to disposable income ratio of eight leading OECD countries, and the highest percentage of financial asset poor individuals (56.5%) (Brandolini, Magri, & Smeeding, 2010).

3.2.2 Financial assets.

Financial assets are defined as those that are liquid, and easily converted into cash in a short period of time. As such, they represent an emergency fund for families. This indicator of

assets, "assumes that a household will use financial assets when current income is not enough to meet consumption needs" (Nam et al., 2008, p. 7). Haveman and Wolff (2004) operationalize financial assets to include: any cash or savings deposits; any stocks, bonds, mutual funds; and the cash value of life insurance policies. Rothwell and Haveman (2013) find higher rates of financial asset poverty (52.9%) than net worth poverty (33.5%) in Canada, and the ratio of financial asset poverty to net worth poverty is higher for all demographic groups.

4. Assets and Well-Being

A number of studies have examined the general effects of tangible asset holding on poverty and social development. Families with assets compared to families without assets usually experience less financial strain (Mayer & Jencks, 1989). Ownership of productive assets (homes, vehicles, financial accounts, and investment and retirement accounts) has been shown to lead to social and civic engagement (DiPasquale & Glaeser, 1999). Studies have also showed that home ownership and savings accounts positively predicted economic mobility (Morillas, 2007). Participation in asset-building initiatives such as individual development accounts (IDAs) is associated with positive developments in well-being, including increased social inclusion (Lombe & Sherraden, 2008). Individuals involved in a large Individual Development Account (IDA) program in the US reported in in-depth qualitative interviews that they felt the increase in their savings had important cognitive and psychological effects, including: security, confidence, future orientation, hope, and civic responsibility (M. S. Sherraden et al., 2005). Homeownership was significantly higher among IDA participants compared to non-participants in longitudinal experimental study; higher educational attendance has also been found to be elevated among IDA participants, compared to non-participants (Grinstein-Weiss et al., 2013). Assets built through IDA programs have also been shown to be correlated to social development and lower family stress (Rothwell & Han, 2010a, 2010b). This literature review did not uncover research

on the relationship between assets and well-being from a Canadian perspective.

4.1 Assets and Child Well-Being.

4.1.1 Theory.

Broadly, scholars have proposed that asset holding positively affects child development *directly* by providing a cushion against economic shocks, and increasing the family level resources available to children (Grinstein-Weiss, Shanks, & Beverly, 2014). Asset holding has also been theorized to impact child development *indirectly* by mediating family stress through economic security and changing children's school-focused goals (Oyserman, 2013; Rothwell & Han, 2010b; Williams Shanks et al., 2010; Williams Shanks & Robinson, 2013). Grinstien-Weiss, Williams Shanks, and Beverly (2014) further distilled the theorized direct and indirect effects of assets of child development into four pathways.

First, assets have also been theorized to directly impact child well-being by buffering against economic shocks. Without a sufficient cushion to buffer against a sudden income or asset loss, families might be subjected to a series of negative events (Grinstein-Weiss et al., 2014). Those events, such as residential displacement, have the potential to negatively impact child development. The threat of a major income shocks may be a reality in many families with young children. Elliott, Friedline, and Nam (2013) examined data from the PSID and found that low-income children had a 55% probability of experiencing a minor income shock (a sudden loss of 25% or more of family income) and a 43% probability of experiencing a major income shock (a loss of 50% or more family income). Although comparable evidence from Canada on the probability of experiencing income shocks was unavailable, it is reasonable to suspect that many low-income Canadian families also experience high probabilities of income-shocks. Elliott, Friedline, and Nam (2013) suggested that liquid assets serve as a protective factor against the loss of homes and net worth after an income shock, which in turn relate to the investment

capabilities of parents to their children (Elliott, 2013). Assets smooth consumption for families, helping families avoid material hardship and maintain household stability if they experience an income shock (Sandstrom & Huerta, 2013; Sherraden, 1991). The importance of tangible assets in the form of housing is that they function as a proxy for family stability and quality of housing (Aratani & Chau, 2010; Sandstrom & Huerta, 2013; Sherraden, 1991).

Second, assets directly impact the level of resource and time investment parents are able to make in their children. Undoubtedly family income impacts the resources available to children, but scholars have theorized that wealth may be a better indicator of the long-term investments parents make in their children (Sherraden, 1991: Williams Shanks, 2007). For example, a family might invest in activities for their children with greater frequency if they don't have to worry about paying off significant debts or if they have investment income. Parents with higher levels of wealth might think differently about their children as well than those without wealth, as they may be able to view investments in their children from a perspective oriented towards the future (Williams Shanks, 2007). For example, if parents have high levels of assets, they might have high educational expectations, and invest early in their children's educational success.

Third, assets might indirectly impact child development by mediating economic stress (Rothwell & Han, 2010b). Williams Shanks and Robinson (2013) proposed a framework for understanding how assets interact with a child's context (factors like income, education, race/ethnicity, and family configuration) to impact the household stress context and in turn impact child well-being. Without a solid buffer against economic shocks, or with constant economic stress due to low savings, family-contexts can deteriorate. Grinstien-Weiss et al. (2014) theorize that assets buffer against the negative effects of economic stress, such as marital conflict, low marital warmth, and low parental nurturing. The family context that children grow up in dramatically affects their development, with some evidence that early childhood stress can

cause lifelong negative consequences (Hertzman & Boyce, 2010; National Scientific Council on the Developing Child, 2012).

Finally, assets may change attitudes and expectations that parents have for children, and that children have for themselves. Parents who save for higher education for their children may be more likely to expect that their children attend higher education (Elliott & Sherraden, 2013). Additionally, children may react to their parental asset holding or to their own asset accumulation through their own changing expectations. The theory of identity-based motivation, originating in psychological literature, posits that assets both directly and indirectly impact children's school focused goals through identity formation (Destin & Oyserman, 2009; Oyserman, 2013). Identity-based motivation theory asserts that assets and family resources are likely to impact children's decision-making regarding education in three identity-based ways: (1) if school feels relevant and congruent with a child's social identity, (2) if a child feels able to accomplish relevant behavioural tasks (like studying), and (3) if a child can interpret difficulty in a productive/important way.

4.1.2 Assets, child development, and family environment.

Home ownership has been shown to be related to higher math scores, higher reading achievement, and lower problem behaviour scores in children (Haurin, Parcel, & Haurin, 2002). Using longitudinal nationally representative data from the US, Williams Shanks (2007) showed that greater household wealth (net worth) was significantly negatively related to problem behaviour scores in school-aged children. Using data from the Community Advantage Panel, Grinstein-Weiss et al. (2010) found that homeowners, compared to renters, were more likely to show engaged parenting practices, such as reading to their children, being involved with school activities, participation in organized activities, and having lower screen or TV time. A recent study examining whether an asset-building child development account (CDA) program had an impact on children's social-emotional functioning found modestly significant benefits (Huang, Sherraden, Kim, & Clancy, 2014).

4.1.3 Assets and children's educational outcomes.

The study of how assets impact children has been mainly concerned with childhood educational outcomes and attainment, with a large number of studies finding independently positive effects of assets on educational outcomes (Destin & Oyserman, 2009, 2009; Elliott & Beverly, 2011; Elliott & Nam, 2012; Elliott & Sherraden, 2013; Friedline, Elliott, & Chowa, 2013; Huang et al., 2014; Huang, 2013; Y. Kim & Sherraden, 2011; Okech, Little, & Williams Shanks, 2011; Zhan & Sherraden, 2003). In 2011, Elliott, Destin and Friedline systematically reviewed 34 studies published on the connections between assets and children's education outcomes. They found generally consistent evidence across studies that household asset levels were significantly associated with attendance and graduation from university (Elliott, Destin, & Friedline, 2011). They found mixed results on the impacts of asset holding on reading scores, although net worth and liquid assets had a significant positive relationship with math achievement (Elliott et al., 2011). Many scholars have proposed that the relationship between economic resources and child educational achievement can be explained through parents' investments in their children (Kaushal, Magnuson, & Waldfogel, 2011). Other researchers have suggested that children's educational expectations are associated with their parents' socioeconomic statuses and designated savings for higher education (Cheatham & Elliott, 2013; Destin & Oyserman, 2009; Jacob & Linkow, 2011; Oyserman, 2013).

5. Child Poverty in Canada

Child poverty is usually measured through income, although the causes and consequences of child poverty are complex and cannot be reduced solely to a lack of income. Some have argued that these complications point to a need to view child poverty as an indicator of childhood disadvantage (McEwen, 2011). Income is important to child well-being and development, but is in no means a complete determinant of them (McEwen, 2011). Neighbourhood and school environments matter immensely to child development, as do family and parental interactions (Curtis, Dooley, & Phipps, 2004; Maggi, Irwin, Siddiqi, & Hertzman, 2010). Conger and Donnellan (2007) reviewed extant theory and evidence on how socioeconomic status (SES; in this case a combination of parental income, education, and occupation) influences child development through family processes. They proposed a model that incorporated both the social causation theory (which posits that SES impacts family stress processes and family investments in their children) and the social selection theory (which posits that child development is a result of the individual characteristics associated with differences in SES; Conger & Donnellan, 2007). They proposed that child development and well-being are a result of both social selection and social causation, meaning that income, social status, parental characteristics, and biology are all important to child outcomes (Conger & Donnellan, 2007).

Although it is likely that child development and well-being is the result of complex biopsycho-socioeconomic interactions, there is reason to think that the economic resources have a profound and independent effect on child development (Bradbury, Corak, Waldfogel, & Washbrook, 2012). Income poor children are more likely to: have lower health statuses (low birth weight, growth stunting, and disability), be signaled into child protective services, have lower cognitive ability (lower aptitude scores in reading, math, verbal ability, and cognition), attain lower levels of education than their non-poor peers, and have poor emotional or behavioural outcomes (Berger & Waldfogel, 2011; Brooks-Gunn & Duncan, 1997; Royal Society of Canada, 2012). Early childhood is a sensitive period of development for children, and adverse childhood experiences in early childhood often incur lifelong consequences (Brooks-Gunn & Duncan, 1997; Maggi et al., 2010; Royal Society of Canada, 2012). The severity of adverse childhood experiences, including the severity of poverty, has more serious and negative consequences for children (Magnuson & Votruba-Drzal, 2009; Royal Society of Canada, 2012). Some lifelong consequences associated with childhood poverty include: an increased likelihood of teen parenting, increased likelihood of criminal behaviour, lower levels of labour market participation, and adult mental health difficulties (Brooks-Gunn & Duncan, 1997; Heckman & Masterov, 2007; Royal Society of Canada, 2012).

5.1 Income Poverty in Families with Children.

Canadian children are more likely to be poor than the average Canadian; using the LIM threshold, the child poverty rate is 1-3 percentage points higher than the Canadian average (Corak, 2005; Statistics Canada, n.d.-b; UNICEF, 2012). There is a wealth of data that explores early childhood experiences through longitudinal research designs in Canada (including the Québec Longitudinal Study of Kindergarten Children, the National Longitudinal Survey of Children and Youth and the Québec Longitudinal Study of Child Development), but there appears to be little research on child poverty in particular. Recent work has shown that a minority of children in Canada are likely to be poor their entire childhood, and that marital status changes often result in large movements up or down the income distribution (Burton, Phipps, & Zhang, 2014). However, very little research was uncovered through this literature review that explored the connection between poverty and child well-being in Canada. Nonetheless, reducing child poverty has been on the policy agenda for some time in Canada; an all-party motion to eliminate child poverty was passed in the House of Commons in 1989, the same year that Canada signed the *Convention on the Rights of the Child* (Albanese, 2010). Chen and Corak (2008) found that the major contributing factors to the 1.3% decrease in child poverty in Canada from 1991 to 2000 were: labor market factors (such as increased earnings) and demographic factors. They also find that without these major factors contributing to a decrease in child

poverty, lowered government transfers to families would have increased total child poverty by 2.9% (W.-H. Chen & Corak, 2008). These findings correspond to child poverty rates across the world, which are related to family and social expenditures as a percentage of GDP (see Figure 3). The 13% of children in Canada living in relative poverty that Chen and Corak cite may overshadow important variation in poverty rates. Similar to prevalence estimates in many industrialized countries, Indigenous children, recently immigrated children, and children who live in female lone parent households are more likely to be poor (Albanese, 2010).



% of GDP spent on Family Support

Figure 3. Family related social expenditures and child poverty in OECD countries in 2011. Data are taken from the OECD's Social Expenditure Database (OECD, 2012). Switzerland and Turkey are dropped from this analysis because they did not have reported child poverty rates for 2011.

5.2 Asset Poverty in Families with Children.

There appears to be a complicated relationship between family type and asset poverty. The number of children in a family was found to be related to incrementally higher odds of being asset poor, compared to families without children in Canada; families with no children had lower rates of financial asset poverty (51.2%) compared to families with one child (55.67%; Rothwell & Haveman, 2013). Regression analyses using the same Canadian data from 2005 indicated that the odds of being financial asset poor were about 30% higher with each additional child (Rothwell & Haveman, 2013). In the US, families with children had higher rates of asset poverty regardless of family type (e.g. loneparent; Caner & Wolff, 2004). Rothwell and Haveman (2013) found that 81.2% of female lone parent headed families were financial asset poor, and 70.6% were net worth poor in Canada in 2005. In 1999 in the US, 58.5% of female headed households were net worth poor, and 73.7% were net worth poor minus home equity (Caner & Wolff, 2004). Aratani and Chau (2010) found that almost 80% of female lone parents in the US were liquid asset and net worth minus home equity poor. Female lone parents have higher rates of income poverty than other family types in most liberal-type welfare regimes (Raïq & Plante, 2013). Given the high rates of poverty among female lone parent families, it is perhaps unsurprising that this type of family is also more likely to be asset poor (Caner & Wolff, 2004). However, it is unclear why all families with children on average in the US were found to have higher rates of asset poverty regardless of family type (see Aratani & Chau, 2010 for a discussion on asset poverty in families with children). Further complicating the story of asset poverty and family type, Rothwell and Haveman (2013) found that female lone parent headed households were not more likely to be asset poor than other family types, after controlling for age, language, number of children, educational attainment and homeownership. Therefore, it may be more meaningful

to examine the independent effect of having children on asset poverty while controlling for sex and family type.

This literature review did not uncover additional research that attempted to explain why families with children might be more likely to be asset poor than those without children. Following the life-cycle hypothesis, parents of children under age 18 might have lower levels of asset accumulation because they are generally younger than those with older children. However, it would not explain why families with children, when controlling for family equivalent income and age, would be more likely to be asset poor than those without. Another explanation may be sourced in the family investment model, which suggests that parents of younger children choose to invest their income in their children directly, rather than save or store income. In addition to a lack of research examining why families might be more likely to be asset poor, very little literature examines how *asset poverty* (as opposed to asset holding) impacts child development outcomes. The scant information regarding predictors, correlates, and causes of asset poverty in families with young children represents both an empirical and theoretical gap in knowledge generally, and acutely so in Canada.

6. Social Welfare in Canada

6.1 Provincial Variation.

In Canada, a variety of policy mechanisms exist that are aimed at supporting parents and children, with significant provincial and jurisdictional variation. Means-tested cash benefits also vary significantly across provincial/territorial jurisdictions; welfare incomes for single parents varied by nearly \$5,000 across provinces in 2011 (National Council of Welfare, 2011). Canadian federal employment insurance policies ensure paid maternity and parental benefits to working parents generally. However, Quebec offers more generous benefits than the national average under its Quebec Parental Insurance Program (QPIP), which began in 2006. In most jurisdictions

in North America, early childhood education and childcare policies have been discussed and implemented on a piecemeal regional basis (Cerny, 2009; Heymann & Earle, 2011). Another example of Canadian social welfare jurisdictional variation is the highly subsidized universal childcare program implemented in Quebec in 1997, as a result of its multidimensional Family Policy (Albanese, 2010). As another salient example of provincial variation, in 2002, Quebec passed An Act to Combat Poverty and Social Exclusion (R.S.Q., chapter L-7). The Act, an unprecedented policy change in North America, aimed to reduce poverty through a variety of policy mechanisms, including: increasing EI benefits, improving the financial situation of working families, promoting work, improving access to housing, and offering a drug benefit plan to low-income individuals (Parliamentary Information and Research Service, 2007). This Act was closely followed by a similar comprehensive poverty reduction strategy in Newfoundland and Labrador in 2006 (Parliamentary Information and Research Service, 2007). Although significant provincial policy variation exists⁸ within Canada, analyses of poverty and well-being often aggregate Canadians together. This aggregation may not be able to shed light on how policy changes impact social welfare.

Canada falls under what is known as a residual social welfare framework (Titmuss, 1974); and is classified as a liberal-type welfare regime (Esping-Andersen, 1990). Although Canadian social welfare policies on average provide more supports to families than other liberaltype welfare regime countries (like the US or Australia), significant provincial variation exists within Canada. Recent work by Proulx, Faustmann, Raïq, & van den Berg (2011) advanced the

⁸ This brief review primarily focuses on differences between Quebec and the rest of Canada, however other jurisdictional differences are evident in many fields of social policy across Canada due to the long and complex history of federal-provincial relations (Graham, Swift, & Delaney, 2009; Rice & Prince, 2013).

argument that Canada has distinct provincial social welfare regimes, following Esping-Anderson's (1990) welfare regime typologies. The work by Proulx et al. (2011) found that Quebec sustained significant decreases in acute poverty (defined as 30% of the median income) over the period from 1990 to 2004. Furthermore, similar research found evidence that Quebec's model of social welfare in some ways more closely resembles the social-democratic regimes typically found in Nordic countries (Raïq, Bernard, & van den Berg, 2011). Work by Plante and van den Berg (2011) also found that after decomposing demographic differences, the high poverty rates evident in Quebec at the beginning of the millennium had disappeared compared to the rest of Canada by the end of the decade. Scholars have argued that the provincial poverty reduction strategies introduced in Québec and Newfoundland marked an important move away from liberal-type welfare regime policy mechanisms (Hudson & Close, 2012; Mondou & Montpetit, 2010). Longitudinal analyses of provincial differences can reveal whether these policy changes have important effects on poverty rates and well-being.

6.2 Asset-Building in Canada.

Like the United States, the history of formal governmental efforts to encourage, stimulate, and build assets for private individuals in Canada began with homesteading efforts in the late 19th century. Although designed as a way to help build the newly formed Canadian confederation, the *Dominion Lands Act* (1872) had an enduring legacy as an asset-building policy. This Act opened up large areas of land previously owned by Hudson's Bay Company for settlement to recent immigrants and citizens alike. This federal land granting policy—which promised a parcel of 160 acres for \$10—helped to settle Western Canada and was in effect for approximately 60 years (Hallowell, 2004). Land grants offered through the *Dominion Lands Act* largely benefitted white men, as white women were excluded from acquiring lands unless they were heads of family households (Kelley & Trebilcock, 1998). Additionally, the homesteading act helped to

permanently displace Métis from their traditional land, while also providing powerful coercion for Indigenous peoples to sign treaties relinquishing their claims on land (Kelley & Trebilcock, 1998). In the US, it is estimated that 1.5 million people benefitted directly from the *Homestead Act* (1862) (Williams Shanks, 2005). Although a comparative estimate for Canada is not available, it is probable that the effect of the *Dominion Lands Act* is similarly strong given that 56,381,000 acres were granted to homesteaders in Alberta, Manitoba, and Saskatchewan by 1928 (Axworthy, 2006). In the wake of World War II, the Canadian government also chose to encourage asset-building through unprecedented home mortgage programs for veterans with The Veterans Charter (Axworthy, 2006). These two major acts of capital transfers in Canada form the historical basis for policy instruments intended to build private wealth. Viewed from the stratification perspective of assets, the legacy of these policies has increased and underscored social inequalities in Canada that persist to this day.

6.2.1 Canadian tax-preferred savings instruments.

In Canada, many tax-preferred savings instruments exist to encourage and assist Canadian families to save. The only federal matched savings tool explicitly targeting low-income families is the Canada Education Savings Grant (CESG), although tax-preferred savings tools are open to all (Robson, 2013). Provincial governments have implemented various matched educational saving programs similar to the CESG or in addition to the CESG, in Alberta, Saskatchewan, Quebec, and recently British Columbia.⁹ In her analysis of the 1999 and 2005

⁹ Details on the plans can be found on the CanLearn website

⁽http://www.canlearn.ca/eng/savings/provincial_incentives.shtml), the British Columbia government website

⁽http://www2.gov.bc.ca/gov/topic.page?id=25F4770A761640E99BDB035DD395BFD0), and

Surveys of Financial Security (SFS) Robson (2013) found that over half the total assets of household in the top quintile of net worth were a combination of tax preferred savings instruments, including Registered Retirement Savings Plans (RRSPs), Registered Education Savings Plans (RESPs), Registered Disability Savings Accounts (RDSPs) and Tax-Free Savings Accounts (TFSAs). Through follow-up focus group interviews with 42 individuals, Robson (2013) also found that those who identified as having low-income struggle to access these taxpreferred savings instruments.

Considerable efforts have been made to research and design asset-building initiatives for low-income individuals in Canada. For example, in 2000 the Social Research and Demonstration Corporation launched a large multi-site experimental IDA program for low-income individuals in 2000. Enrollees in this program, dubbed *learn\$ave*, were eligible for various matched savings incentives (up to 5:1) for educational training or business development. The *learn\$ave* final report concluded that the intervention helped low-income individuals save and meet educational objectives in a way that was cost effective for the government (Leckie, Hui, Tattrie, Robson, & Voyer, 2010). Eight matched-savings programs and savings bonds have been developed in Canada since 1998, many specifically targeted to low-income families (Leckie et al., 2010). However, the uptake rate for the CESG, which is targeted specifically to low-income families, is less than 50% (Government of Canada, 2013). Preliminary results from a study of Indigenous parents' perceptions of savings for their children, coordinated in partnership with a community organization by Blumenthal and Rothwell in 2012, may help describe the problem with uptake. Through in-depth and group interviews with 16 parents and caregivers, we found that parents reported the main barrier towards accumulating savings was a lack of information regarding

the Revenue Quebec website

(http://www.revenuquebec.ca/en/citoyen/situation/parent/autres_infos/iqee/default.aspx)

savings instruments (Blumenthal & Rothwell, 2014). Furthermore, the majority of the parents indicated that they were unaware of federal or provincial matched savings programs (Blumenthal & Rothwell, 2014). Simpson and Buckland (2009) examined SFS data and found significant evidence of multiple types of financial exclusion for low-income individuals. Buckland further (2010, 2012) argued that the low asset accumulation of low-income Canadian could not be reduced to an issue of financial literacy. Buckland draws on qualitative data gathered from interviews with low-income Canadians living in urban areas, and found that financial literacy needs vary across socioeconomic groups (2010). However, he argued that the relationship between poverty and financial security is mediated by financial exclusion caused by insufficient market and institutional mechanisms (Buckland, 2012).

6.2.2 A note on social assistance asset limits.

In North America asset limits are common elements in many means-tested social assistance programs (Hurst & Ziliak, 2006; O'Brien, 2008; Robson, 2008). Means-tests measure the income available to and economic resources of an applicant to social welfare benefits. These means-tests are often connected, whether indirectly or directly, to measures of poverty. The US is one of the only countries in the world that uses its official poverty line as a threshold for many means-tested benefits (Citro & Michael, 1995). An asset limit is the amount of property, savings, or other financial assets that an applicant to social benefits is allowed to have before being asked to spend it or sell it. Because of the residual nature of social welfare in Canada, cash assistance (means-tested social welfare) is only provided to those who have exhausted all other reasonable options for self-sufficiency. In Quebec, cash benefits for working age adults is dubbed, *aide financière de dernier recours*, making the assumptions of the benefit clear. Robson (2008) found that the "philosophical underpinnings of this approach are that scarce public resources shouldn't be misspent or wasted and that self-sufficiency and individual responsibility are always

preferable to dependency" (p. 1). While it could be argued that these policies exist to protect taxpayers from waste, asset limits may increased the economic insecurity of families that are already financially vulnerable. In Canada, the history of government means-tests have varied over time, but research on asset limits across the country found that no jurisdiction allows a social assistance beneficiary to have liquid assets in excess of \$3,000 (Robson, 2008). Alberta has the lowest liquid asset limits in the country, with \$402 in savings allowed for a single adult and \$876 allowed for a single parent (Robson, 2008). Through interviews with low-income welfare recipients in the US, O'Brien (2008) found that people identified that their low asset holdings were directly related to asset limits. After the reforms to welfare passed in the US in 1996 as the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), states were given greater control of some elements of benefit eligibility. Some states took the opportunity to lower their asset limits for means-tested cash benefits. Hurst and Ziliak (2006) compared PSID data pre and post-reform, and find that there was no significant rise in savings levels for welfare recipients in states where asset limits had been raised. Although findings regarding the effects of asset limits on the asset accumulation or financial security of low-income families is mixed, it is clear that asset limits function as a major disincentive to save (Robson, 2008).

7. Summary

The way in which poverty is defined and operationalized matters (Haveman, 2009a). Relative poverty measures tend to capture aggregate inequality, and absolute poverty measures may better capture acute economic hardship. Recall from Figure 1 that in Canada, the three unofficial measures of poverty (or low-income) yield different headcount ratios of poverty. Thus, policies that are targeted to reduce one ratio under the MBM may not reduce poverty under the LIM. Having many measures and conceptual understandings of poverty may be more helpful to policymakers in terms of tracking outcomes. Official poverty measures neglect the fact that the economic resources which impact family well-being include more than just income. In order to effectively design, target, advocate for, and measure the effect of policies that support children and families, more attention should be paid to the definition and measurement of household assets. Furthermore, while research abounds regarding the effects of income on child development and well-being, how assets impact child development and well-being has been relatively under-explored. In Canada, this research gap is profound; no known research has examined the independent effects of asset holding, let alone the interaction between child well-being and assets.

8. Research Questions

Evidence from Canada shows that families with no children have lower rates of financial asset poverty (51.2%) compared to families with one child (55.67%; Rothwell & Haveman, 2013). However, regression analyses indicated that the odds of being financial asset poor are about 30% higher with each additional child a family has (Rothwell & Haveman, 2013). In the US, research has shown that families with children compared to those without children have higher rates of asset poverty (Caner & Wolff, 2004; Haveman & Wolff, 2004). As described earlier, there is little evidence that examines the prevalence, correlates, and predictors of asset poverty for Canadian families on aggregate. Additionally, no research explored how assets impact child well-being in a Canadian context. Given the provincial variation that exists in social welfare regimes, asset building initiatives, and asset limits in Canada, it is possible that significant variation in asset poverty levels exist across Canadian jurisdictions for families. This study aims to close part of this enormous research gap by beginning to explore the prevalence, correlates, and predictors of asset poverty in Canadian families with children under the age of 18. In this thesis, I answer four main questions: (1) What is the prevalence of asset poverty for

72
families with children using different thresholds and different asset indicators? (2) How do these prevalence estimates vary by province? (3) Are economic families with children more likely to be asset poor than those without children? (4) What are the predictors of asset poverty for families with children versus those without children?

Chapter 3: Methodology

This study examined the following four distinct questions through bivariate and multivariate analyses: (1) What is the prevalence of asset poverty for families with children using different thresholds and different asset indicators? (2) How do these prevalence estimates vary by province? (3) Are economic families with children more likely to be asset poor than those without children? (4) What are the predictors of asset poverty for families with children versus those without children?

1. Data

I examined two cross-sections of microdata from the Survey of Financial Security (SFS) 1999 and 2005 collected by Statistics Canada. The SFS has the greatest depth of any Canadian dataset regarding the assets and liabilities of Canadians. The SFS collected information at the individual level for all household members on: demographics (except race/ethnicity), education level, immigration history, employment, and income. Information collected for household members over 25 years of age included pension plan benefits. For household members over 45, retirement information was collected. Asset and debt information were collected at the household level (Statistics Canada, 2005a). Pension, registered savings plan, savings deposited in a bank, mutual funds, stocks, bonds, value of real estate, vehicle value, and business equity are some examples of the asset information collected by the SFS. Debt information collected through the SFS included liabilities related to mortgages, credit lines, credit cards, student loans, and vehicle loans.

1.1 Survey of Financial Security

Like many Statistics Canada surveys, the cross-sectional SFS sampled households drawn "mostly" from the Labour Force Survey (LFS) sampling frame (Statistics Canada, 2001, p. 2). The target population of the LFS is composed of individuals aged 15 or older living in the ten provinces, excluding those living in institutions (like prisons or retirement homes), military or religious camps, or Indian reserves (Statistics Canada, 1999b, 2005b). The LFS does not count as its target population those who are homeless or who are representatives of foreign countries. Thus, the LFS sampling frame targets an estimated 98% of the Canadian population (Statistics Canada, 1999b, 2005b). The sampling strategy for the LFS is multistage because simple random sample is not possible. To ensure both feasibility and representativeness, the LFS sampling frame is stratified and clustered based on geographical area. A sample of households was drawn from each cluster was surveyed. The strata and clusters in the LFS frame are updated with changing Census information (Statistics Canada, 1999b). Selection of the SFS sample drawn from the LFS frame consisted of three steps: (1) selection of LFS clusters, (2) field listing of all addresses within the selected clusters, and (3) selection of households from the listing (Statistics Canada, 2005a). High-income households were drawn from a separate sampling frame that consisted of geographical areas defined as high-income. High-income households were oversampled to ensure representativeness of these families as they tend to own a "disproportionate share of net worth" (Statistics Canada, 2005a, p. 15). The total sample for 1999 included approximately 21,000 households drawn from the LFS frame, and 2,000 high-income households (Statistics Canada, 1999a). In 2005 approximately 7,500 households were drawn from the LFS frame, while 1,500 were drawn from high-income areas (Statistics Canada, 2005a).

Data was collected for the SFS during a personal interview with one household member aged 15 or older who responded on behalf of all household members. Follow-up was conducted with additional household members when necessary. Participation in both surveys was voluntary. Survey respondents were given the option of linking the income information contained in their tax return or in the Survey of Labour and Income Dynamics (SLID) to the SFS in order to reduce the response burden. In both the 1999 and 2005 SFS, over 80% of survey respondents gave their permission to link their tax data to the survey (Statistics Canada, 2001, 2005a). Values for missing data in key questionnaire fields were imputed in both the 1999 and 2005 surveys. In 1999, 24% of coded values for assets, and 4% of coded values for debts were imputed (Statistics Canada, 1999a). In 2005, 25% of assets and 3% of debts were imputed (Statistics Canada, 2005a). More information regarding the different imputation techniques utilized is available from Statistics Canada.

2. Sample

The unit of observation for this study was the family's major income earner. In Statistics Canada surveys, households are defined as economic families (or census families); these families include groups of individuals sharing a common dwelling who are related by blood, union, common-law or adoption (Statistics Canada, 2001). Economic families do not include unattached, unrelated individuals who share a dwelling (e.g. roommates). Following the literature on Statistics Canada data, I refer to economic families as simply "families."

To account for the oversampling and survey design, weights are provided for each SFS dataset so that the SFS data are representative of the Canadian population. Although there are different kinds of weighting techniques that have different motivations, the general idea of weighting is that a weight gives a sampled unit a value that represents *n* number of units in the general population. Probability weights are computed based on known characteristics of the underlying population, such as what percentage of people in a given population are male or how many people live in one-person households. Probability weights account for the inverse of the probability of being included in the sample from the population due to the sample design (Solon, Haider, & Wooldridge, 2013). The SFS probability weights account for some of the differences between the sample and the population in regard to province, age, sex, and household groups (Statistics Canada, 1999a, 2005a). The bootstrap replicate weights computed for the SFS are a

series of 1,000 weight variables created from survey design information not provided to SFS users, like the survey strata or primary sampling unit. Bootstrap replicate weights are needed to compute accurate estimates of statistical significance, via corrections in the standard error, with survey data and they also provide greater anonymity for multi-stage survey respondents who may be part of many strata (UCLA: Statistical Consulting Group, n.d.).

3. Measures

In order to explore the research questions parsimoniously, various dependent and independent variables were recoded and created from the SFS survey data. Four dependent asset poverty variables were constructed following the Haveman-Wolff method modified for Canadian data, with three of these variables directly replicated from Rothwell and Haveman (2013). Twelve independent variables were also constructed. Detailed information regarding the motivation and coding of these variables is given below and in Table 2.

3.1 Asset Poverty Dependent Variables

The Haveman-Wolff method conceives a family to be asset poor if they have insufficient assets to enable them to meet their basic needs for certain period of time (Haveman & Wolff, 2004). This type of conceptual measurement of poverty is based on the consumption model of assets, and more specifically the buffer-stock model (Nam, Huang, & Sherraden, 2008). Following the discussion on uni-dimensional measures of economic deprivation provided in Chapter 2, asset poverty thresholds were constructed through defining three key concepts: (1) what family-level economic resource would be used, (2) what time period should be measured, and (3) what threshold value should be defined. Four dependent variables were created based on two thresholds and two types of family-level economic resources.

Table 2Variable Construction and Breakdown

Name	Description	Values	Reference Category
Dependent Variables			
FA LICO	Financial assets based on a LICO threshold	0,1	Not asset poor
NW LICO	Net worth based on a LICO threshold	0,1	Not asset poor
FA LIM	Financial assets based on a LIM threshold	0,1	Not asset poor
NW LICO	Net worth based on a LIM threshold	0,1	Not asset poor
Independent Variables			
Children	Families with major income earners over 18 that also had household members ≤ 17	0,1	No children
Age category	Age of major income earner split into 5 categories	0,1,2,3,4	15-24 years old
Marital status & sex	Sex of major income earner and their binary marital status (married vs. all others)	0,1,2,3	Unmarried women
Education category	Major income earner's education level, split into four categories	0,1,2,3	Less than a high school diploma
Disability	1999: major income earner identifies they have a long-term disability; 2005: major income earner identifies they have a long-term disability at work, home, or elsewhere	0,1	No disability
Language	First language spoken and still understood	0,1	French or English
Immigration	History of immigration to Canada	0,1	Non-immigrant
Homeowner	Individuals that identified they owned their primary residence	0,1	Non-homeowners
Province	Four provinces used in previous analyses of income poverty: ON, QC, AB, BC were focused on	0,1,2,3	Quebec
Rural location	Individuals that identified they lived in a rural, suburban, or urban area	0,1	Urban or suburban area
Income	The log of income	Continuous	N/A
Worked last year full time	Whether the major income earner worked in the previous year to the survey on a full-time basis	0,1	Did not work full- time in the previous year

3.1.1 Family-level economic resources.

Economic resources were defined with two indicators of assets: financial assets and net worth. The first indicator included all liquid or financial assets. In the SFS 1999 and 2005, the variable that was used for the financial asset indicator variable was 'wastfinp' or the total amount of non-pension financial assets the family reported. Theoretically, these assets can be easily monetized and represent a family's "emergency fund" that would enable them to "get by" for a period of time (Haveman & Wolff, 2004, p. 151).

The second indicator was net worth: represented total financial assets plus durable assets minus total debts. The variables collapsed into durable assets were: the subtotal of deposits, non-RRSP (wastdept); the subtotal of bonds, non-RRSP (wastbond); the subtotal of stocks, non-RRSP (waststck); the subtotal of accumulation of mutual funds and investment funds, exclusive of RRSP (wamutual); the value of the principal residence (waprval); and the subtotal of all real estate other than the principal residence (wastrest). The variables collapsed into total debts were: the amount owed on the principal residence mortgage (wdprmor), other mortgage debts (wdstomor), line of credit debt (wdstloc), vehicle loan debt (wdstvhln), the subtotal of credit card debt (wdstcred), student loan debt (wdsloan), and other debts not already reported (wdstodbt). Net worth was a constructed indicator of the totals calculated by the aforementioned durable assets minus total debts. Net worth is the most commonly utilized indicator in asset poverty research (Nam et al., 2008). Net worth represents wealth as a store of value (or stored income) that can "be liquidated in a short period of time" and thus represents a source of potential consumption (Haveman & Wolff, 2004, p. 151).

3.1.2 Time period.

One theoretical motivation behind the measurement of asset poverty is that assets function as a buffer-stock, or emergency fund for families. The threshold for asset poverty is the amount of money a family would need to get by after a major income shock or event. The time period of reference for this kind of measure of asset poverty is in reference to a major income shock that is assumed to be job loss (Nam et al., 2008, p. 13). In many studies of asset poverty, a time period of three months is given as the amount of time that assets should be expected to cushion income losses (Haveman & Wolff, 2004, p. 150). Essentially the three-month window is a subjective judgment. Brandolini et al. (2010) cited research that shows the amounts of precautionary savings that could replace monthly income in the event of an income shock in different countries range from one to three months. Brandolini et al. found that some studies define a sixth-month reference period and Shapiro (2004) concurred that "one could argue just as reasonably for a six month standard" (p. 38). Replicating Rothwell and Haveman (2013), a three-month reference period was chosen.

3.1.3 Thresholds.

Based on the consumption model that informs this kind of asset poverty measurement, a family would be considered poor if it did not have enough assets to meet its basic needs for the three-month reference period. As discussed in Chapter 2, the concept of basic needs is particularly contentious among poverty researchers, policymakers, and families alike. The Haveman-Wolff measure of asset poverty eschews these discussions in some ways by adopting the most commonly used pre-existing national thresholds of income poverty, whether they are absolute or relative (see Azpitarte, 2012; K. Kim & Kim, 2013; Rothwell & Haveman, 2013). A measure of asset poverty for Canada developed by Rothwell and Haveman in 2013 defined an asset poverty threshold as one-fourth of the after-tax LICO threshold applicable to different family types. I replicate the LICO asset poverty threshold, and also add a LIM threshold. In 2005, the LICO after-tax threshold for a family of four living in an urban area was \$32,556 (Statistics Canada, 2006a). This type of family would be considered asset poor if it did not have \$8,139 in

assets (\$32,556/4). In 2005, the LIM threshold for a family with two adults and two children was \$29,208 (Statistics Canada, 2007). This type of family would be considered asset poor if it did not have \$7,302 in assets (\$29,208/4).

The specific logic coding of the four asset poverty variables flows from each of the three choices made above. If the amount of financial assets (FA) held by a family are above the one-fourth of LICO threshold, they are not FA poor, likewise if their FA are below the LICO threshold, they are FA poor. This concept was captured in a single binary variable wherein FA poor families were coded 1 and non-poor were coded 0, labeled here as FA LICO. The same logic applied with a LIM threshold and with net worth (NW), yielding the other three binary dependent variables FA LIM, NW LIM, and NW LICO.

3.2 Independent Variables

Because the survey instrument for SFS 1999 was relatively comparable with the 2005 instrument, all variables (unless noted) were drawn from the same survey question on both surveys. Reference categories for all regression analyses are the category of a given variable coded as 0.

Children.

The primary explanatory variable was the binary variable children (1/0). Families that identified they contained persons between 0 and 17 were coded as 1 and those that did not were coded as 0. A small number (< .01%) of families with a major income earner under the age of 18 were coded out of the analysis through this variable.

Age category.

The life-cycle hypothesis posits that asset accumulation follows an inverted U-shaped distribution as individuals move through the life course (Nam et al., 2008). Put another way, the theory holds that the relationship between asset accumulation and age is non-monotonic and non-

linear. Age would not be a particularly meaningful variable if were introduced into regression analyses as a continuous one. Thus, the variable age was divided into five ordinal categories: 15-24 years old (0), 25-34 years old (1), 35-49 years old (2), 50-65 years old (3), and 65 and older (4).

Marital status & sex.

Income poverty is related to both sex and marital status. Following the asset poverty research in the US, marital status was understood to be binary in this study. The effect of common-law relationships on asset resource sharing requires further study in jurisdictions where it is prevalent (e.g. Quebec). In the SFS dataset a family type variable exists, but does not identify the primary respondent's sex. In order to make the regression models more parsimonious, and to control for the gender effects entailed by limiting the sample to the major income earner, a categorical variable was created out of the two binary variables indicating the respondent's sex and marital status. In this variable, unmarried women were coded 0, unmarried men were coded 1, married men were coded 2, and married women were coded 3. If the major income earner indicated that they were living in a common-law union or that they were separated, they were coded as unmarried. Preliminary regressions were conducted with a null model (that is a model without any sex or marital status variables) and models with combinations of variables (e.g. family type; sex; married; and the categorical sex and married). The null model was tested against the various other models with likelihood ratio tests and Wald tests. The results indicated that of the family type variables, the categorical sex and married variable was the most parsimonious representation of the concept with the best model fit.

Education category.

The SFS has detailed information regarding individuals' education levels. To facilitate easier interpretation, the education variable was collapsed into four categories. Individuals who

did not have a high school diploma were coded 0, and those with a high school diploma were coded 1. Those with a post-secondary diploma or certificate (excluding those with a university diploma) were coded 2, and those with a university degree were coded 3.

Disability.

Because disability status is strongly linked to poverty (Braithwaite & Mont, 2009; Palmer, 2011), it was included as a control variable in the regression analyses. In the 1999 SFS the question "Does [the respondent] have any long-term disabilities or handicaps?" was posed (Statistics Canada, 2001). In 1999 the variable disability was coded 1 for an affirmative response to the above question and 0 for a negative response. In 2005, the above question was not asked to survey respondents. However in 2005, the question was not posed directly. A 2005 variable contained a category for "long-term disability or illness" in response to a question regarding the main activity of the individual (Statistics Canada, 2006b). In addition, the following question was posed: "Does a physical condition, mental condition or health problem reduce the amount or the kind of activity [the respondent] can do [...] at home [...] at work [...] in other activities?" (Statistics Canada, 2006b). The single responses to these four questions did not line up with the number of self-identified disabled individuals who responded to the 1999 question in unweighted cross tabulations. As it was unlikely that the proportion of the population that identified as having a limitation or having disability status changed markedly over six years, a variable was derived that was closer to the 1999 unweighted estimates. In the 2005 analysis, an individual was coded 1 as having a long-term disability if they experienced any limitation at home, work, or elsewhere and they identified their major activity as a long-term disability or illness. If they did not experience a limitation or had a different major activity, they were coded 0.

Language.

Language was a binary variable with a value of 1 indicating a language first spoken and still understood other than French or English and 0 indicating French, English or both. In both the SFS 1999 and 2005 the question, "What is the language that [the reference person] first learned at home in childhood and still understand?" (Statistics Canada, 2001, 2006b). Preliminary analyses (same procedure for the marital status and sex variable) indicated that binary variables French (1/0), English (1/0) and both French and English (1/0) were jointly significant,¹⁰ although were insignificant on their own as variables in the regression models. Based on these results, a choice was made to create a binary language variable, where individuals were coded 1 for language other than French or English and 0 for French, English or both French and English.

Immigration.

Immigration was a binary variable, with 1 = history of immigration to Canada and 0 = no history of immigration to Canada. Individuals were coded as having a history of immigration if they indicated citizenship from another country or if they identified that they had become a Canadian citizen through naturalization. This variable captured all first-generation immigrants to Canada, regardless of when they immigrated.

Homeowner.

In both the 1999 and 2005 SFS, respondents were asked, "Do you own this dwelling or do you pay rent?" (Statistics Canada, 2001, 2006b). In these questions, "you" referred to all family members in the household. Individuals were coded 1 if they answered yes to this question, and 0 if they answered that they rented or lived rent-free.

¹⁰ Whenever the term "significant" is stated in this manuscript, it is referring to the concept of statistical significance (i.e. wherein the value has at least a 95% probability of not being due to chance).

Province.

The SFS was carried out in ten provinces. To facilitate easier comparison of asset poverty rates in different provinces, four provinces were specifically focused on. These provinces may represent some of the more stark differences in types of provincial social welfare schemes, demographics, and regional characteristics across Canada. Further focusing on these four provinces follows the current literature on interprovincial comparisons (see Plante & van den Berg, 2011; Proulx, Faustmann, Raïq, & van den Berg, 2011; Raïq & Plante, 2013). In the categorical provincial variable, Quebec was coded 0, Ontario was coded 1, Alberta was coded 2, and British Columbia was coded 3.

Rural location.

To control for the effect of property values in different urban settings, the variable rural was included in the analyses. Rural location was a binary variable derived from a geographical variable included in the SFS dataset. Individuals were coded 1 as living in a rural area and 0 if they did not. This variable was included in analyses to control for the differential asset effects of living on or near farmland.

Income.

After-tax income was calculated in both SFS survey datasets. A small (< 1%) percent of individuals were reported to have negative after-tax incomes in both 1999 and 2005. Because income was highly skewed with many low values and a few high leverage outliers with high values, the variable was transformed. First, in order to ensure that negative and zero values were not dropped, they were recoded and given the value of 0.5. Second, the natural log was taken of the income variable. The resulting income variable does not have intuitive interpretability, however, a higher value of the log of income indicates higher income.

Worked last year full time.

The number of hours worked per week on average is associated with higher income (Fortin, Green, Lemieux, Milligan, & Riddell, 2012). Additionally, those who experienced a job loss or a change in hours worked in the previous year might be more likely to spend down their savings. In order to control for both the effects of unemployment and part-time work on asset poverty, a variable was created that captured both employment and hours worked. *Worked last year full time* was a binary variable derived from two survey questions. Individuals were asked how many weeks they worked in the previous year, and asked if they worked full time (30 hours or more a week). An individual was coded 0 if they worked less than 52 weeks or less than full-time. If an individual worked 52 weeks in the prior year full-time, they were coded as 1.

4. Procedure

Because demographic information in the SFS was collected for all individuals in a household, and asset information was collected at the household level, two data files (personal and economic family) were merged to yield a dataset with complete financial and personal information for each individual. This linked personal and economic data file was then limited to the families' identified major income earners, returning a final sample of 15,933 survey respondents in 1999 and 5,282 survey respondents in 2005. Both the probability weight and the replicate weight variables were used in all analyses of SFS data presented here to ensure the correct calculation of point estimates and their corresponding standard errors (Remler & Van Ryzin, 2011; UCLA: Statistical Consulting Group, n.d.). All analyses were conducted using version 13 of Stata (StataCorp LP, 2013).

4.1 Analytic strategy.

The analytic strategy reported here includes two major steps in response to the three research questions. First, bivariate statistics were calculated to assess the headcount ratios of families with and without children who were asset poor across Canada and in four provinces

using the LICO and LIM thresholds. Bivariate statistics reported the Chi-square statistics that were computed for cross-tabulations of independent variables and asset poverty. All bivariate estimates were conducted using normalized probability weights. Bivariate estimates answer the first two research questions: (1) What is the prevalence of asset poverty for families with and without children using different thresholds and different asset indicators; and (2) How do these prevalence estimates vary by province?

The second analytic strategy was composed of a series of multiple logistic regressions of two *types*. The first type of model was estimated in order to answer the third question: Are economic families with children more likely to be asset poor than those without children? In order to properly estimate the predictors of asset poverty for families, the population of interest was limited to those families with a major income earner under 65 who did not receive the majority of their income from retirement savings. These restrictions reduced the sample size to 12,120 in 1999 and 4,007 in 2005. After the four main provinces were introduced in the regressions, the sample size was reduced to 8,276 in 1999 and 2,924 in 2005. These models are referred to as the *pooled models*, because the model assumes that the variance (technically, the unconditional error variance) for those with children and those without children is the same. In other words, the pooled models assume that there are no systematic differences on observed characteristics between those who have children and those who do not, thus the variance between the two groups is pooled.

In the first type of regression model, the variable children was included with the other covariates that were added in hierarchical blocks. Hierarchical blocks of variables help isolate the effect of controlling for covariates on the coefficient of the main independent variable(s) of interest (Stock & Watson, 2011). The first three blocks were based on predictors of income poverty often found in research on family-level poverty rates, including education, social, and

demographic variables. In block one of the hierarchical models, the variable children was added. Block two contained a factor age category variable, with the reference category being age 18-24. Block three included: sex and marital status, education category, disability status, language other than English/French, and immigration. Reference categories for the variables were: unmarried women, no high school diploma, no disability, French/English, and non-immigrant. In block four economic and regional variables were added to the regression, including: homeownership, province, rural, the log of income, and working full time. Reference categories for block four were: non-homeowner, Quebec, urban, and working less than full time. For the pooled models, four dependent variables (FA LICO, FA LIM, NW LICO and NW LIM) were examined with four blocks of covariates, yielding 16 pooled logistic regression models for both the 1999 & 2005 SFS.

There might be good reason to question the assumption that the error variance is the same for families with children and families without children, as was evidenced by simple descriptive statistics (presented in Table 8). The second type of regression model examined the question: What are the predictors of asset poverty for families with children versus those without children? In order to investigate whether the predictors for families with children differed from those without children, families with children were separated from families without children, yielding two populations. These models are referred to as the *separate models*. The sample for families with children numbered 3,566 in 1999 and 1,128 in 2005. There were 4,710 families without children in 1999 and 1,796 in 2005. Logistic regression models were estimated for the two populations using the final group of covariates estimated for the pooled models. A total of four models (one for each dependent variable) were estimated for each population, yielding eight models with children separate for both 1999 & 2005.

Chapter 4: Results

The results are presented generally in the same order as the research questions. In general, results are also presented in chronological order; that is, results for the 2005 SFS follow the results for the 1999 SFS. First, I present bivariate data that compares headcount ratios of poverty for families with and without children, along with the Canadian total. I then present data that examines the headcount ratios for families with and without children in the four provinces: Quebec, Ontario, Alberta, and British Columbia. Third, I present results from the two types of multiple logistic regression models estimated. Descriptive statistics are presented for families with and without children. Results from the first type of model (pooled) are presented in Tables 9 through 16 examining financial asset poverty (LICO, then LIM) and net worth poverty (LICO, then LIM) for 1999 and 2005. Results for the second type of model (separate) are presented in Tables 17 and 18.

1. Bivariate Statistics

1.1 National Estimates of Asset Poverty for Families with Children

Descriptive statistics showing the headcount ratios of income and poverty are presented in Table 1, for families with and without children, as well as for the total population. In 1999, while 19.2% of all households were found to be income poor based on LICO thresholds, 34.7% were net worth poor (NW LICO), and 54.6% were financial asset (FA LICO) poor based on LICO thresholds. The pattern of higher asset poverty rates than income poverty rates was similar in 2005, with the LICO rate at 17.2%, NW LICO at 33.3%, and FA LICO at 52.8%. The LIM has fewer thresholds and is not adjusted by region. Some families who would be counted as poor under a LICO threshold may not be counted as poor under a LIM threshold and vice versa.

I find there was a lower incidence of poverty on aggregate when measured by the LIM threshold in both 1999 and 2005 for both income and assets. While 16.2% of Canadians were

LIM poor in 1999, 34.3% were NW LIM poor, and 53.7% were NW LIM poor. In 2005, these rates dropped; under a LIM threshold 15.6% of Canadians could be considered poor, 33.2% were NW LIM poor, and 51.7% are FA LIM poor. The estimates presented here of aggregate poverty rates using the LICO and LIM vary somewhat from official national estimates because the SFS sampling design is different than the SLID (the survey used estimates of national incidence of low-income). The descriptive statistics in Table 3 also vary slightly from those presented by Rothwell and Haveman (2013) because of sample selection. I used the major income earner as the unit of analysis (compared to the primary survey respondent); thus I obtained different unweighted sample sizes. In 1999, I had a total sample of 15,993 and 5,282 in 2005, while Rothwell and Haveman (2013) report a sample size of 10,442 in 1999 and 5,103 in 2005.

When economic families are dichotomized based on whether or not they have children, an interesting pattern emerged. Table 3 shows that all poverty rates in Canada fell between 1999 and 2005. The rate of financial asset poverty was higher for families with children (57.9% in 2005 under the LICO) than those without children (50.8% in 2005 under the LICO). Recall that financial assets are those that can be more easily liquidated or turned into cash than hard assets in an emergency. In 2005, a family of four living in an urban area would be considered asset poor if it did not have \$8,139 in assets under a LICO threshold (\$32,556/4); a family with two adults and two children would be considered asset poor if it did not have \$7,302 in assets under a LIM threshold (\$29,208/4). A slight majority of Canadian families with children (nearly 60%, or approximately 2,450,000 families) could not meet this emergency savings standard in 2005. However, when durable assets as well as liabilities were taken into account in a measure of asset poverty based on net worth, Canadian families with children fared better than the average. In 2005, 30.4% of families with children were net worth poor (NW LICO), compared to 34.4% of those without children. To facilitate easier interpretation, Figures 4 and 5 graphically express the

×		%		%		
			Families		Families	
	Total %	Weighted	with	Weighted	without	Weighted
	Poor	frequencies	Children	frequencies	Children	frequencies
		1999				
	(N = 12)	,216,255)	(n = 3,	904,606)	(n = 8, 3)	311,649)
Income Poor: LICO	19.2%	2,340,432	17.4%	680,742	20.0%	1,659,690
Income Poor: LIM	16.2%	1,978,238	16.2%	630,257	16.2%	1,347,981
Asset Poor: Net Worth LICO	34.7%	4,237,817	34.2%	1,336,578	34.9%	2,901,239
Asset Poor: Net Worth LIM	34.3%	4,189,080	34.0%	1,329,232	34.4%	2,859,848
Asset Poor: Financial Assets LICO	54.6%	6,664,428	63.1%	2,461,788	50.6%	4,202,640
Asset Poor: Financial Assets LIM	53.7%	6,554,113	62.7%	2,448,609	49.4%	4,105,504
	$\begin{array}{c c c c c c c c c c c c c c c c c c c $					
	(N = 13	,226,515)	(n = 3, '	736,020)	(n = 9,4	490,495)
Income Poor: LICO	17.2%	2,275,492	16.4%	613,119	17.5%	1,662,373
Income Poor: LIM	15.6%	2,066,017	15.3%	571,893	15.7%	1,494,124
Asset Poor: Net Worth LICO	33.3%	4,400,379	30.4%	1,133,863	34.4%	3,266,516
Asset Poor: Net Worth LIM	33.2%	4,383,947	30.4%	1,136,821	34.2%	3,247,126
Asset Poor: Financial Assets LICO	52.8%	6,981,892	57.9%	2,162,743	50.8%	4,819,149
Asset Poor: Financial Assets LIM	51.7%	6,839,499	56.5%	2,110,014	49.8%	4,729,485

Table 3Income and Asset Poverty Rates in Canada, 1999 and 2005



Figure 4. Income and Asset Poverty Rates in Canada, 1999



Figure 5. Income and Asset Poverty Rates in Canada, 2005

values in Table 3. As seen in Figures 4 and 5, the pattern of higher financial asset poverty and lower net worth poverty in families with children (compared to other families and the average) was visible in both 1999 and 2005. The use of both LICO and LIM thresholds revealed complex poverty rate patterns, particularly with respect to rate changes from 1999 to 2005. Overall, when single measures of income or asset poverty were used, the LIM or LICO threshold resulted in very similar rates of poverty.

1.2 Provincial Variance

Although asset and income poverty rates generally fell in Canada from 1999 to 2005, provincial variation was found to exist. Tables 4 through 7 display the results for cross tabulations of poverty and children by province; Table 4 presents results for Quebec, Table 5 presents results for Ontario, Table 6 presents results for Alberta; and Table 7 presents results for British Columbia. In terms of LICO poverty, Quebec (24.0%) and British Columbia (23.4%) had the highest rates in 1999. These rates fell by 2005 to 20.2% in Quebec. Poverty based on the LIM fell in Quebec from 19.9% in 1999 to 17.3% in 2005. Table 4 finds that Quebec's poverty rates were higher than the Canadian averages (in the right hand column) on every measure in both 1999 and 2005. However, the story of poverty rates in Quebec was complex. Income poverty rates fell in Quebec from 1999 to 2005, but asset poverty rates either rose or remained static. For families with children in Quebec, the rates of FA poverty were the highest in the nation. Nearly 69% (68.9) of families with children were FA LICO poor in 2005, slightly above the rate of 68.3% in 1999. Net worth poverty rose in Quebec from 1999 to 2005; for families with children the rate of NW LICO poverty increased from 37.9% in 1999 to 42.4% in 2005. On average families in Canada with children had lower rates of poverty than those without children, but in Quebec the patterns were reversed. Families with children had two to twelve percentage point higher asset poverty rates, compared to families without children.

			%		%			
			Families		Families			
	Total %	Weighted	with	Weighted	without	Weighted	National	Weighted
	Poor	frequencies	Children	frequencies	Children	frequencies	average	frequencies
			1999)				
	(n = 3,	112,593)	(n = 9	952,495)	(n = 2,	160,098)	(N = 12)	,216,255)
Income Poor: LICO	24.0%	746,316	20.8%	198,377	25.4%	547,939	19.2%	2,340,432
Income Poor: LIM	19.9%	618,779	19.1%	181,772	20.2%	437,007	16.2%	1,978,238
Asset Poor: Net Worth LICO	38.1%	1,185,230	37.9%	361,013	38.2%	824,217	34.7%	4,237,817
Asset Poor: Net Worth LIM	37.3%	1,161,515	37.5%	356,832	37.3%	804,683	34.3%	4,189,080
Asset Poor: Financial Assets LICO	59.1%	1,839,955	68.3%	650,637	55.1%	1,189,318	54.6%	6,664,428
Asset Poor: Financial Assets LIM	57.7%	1,796,297	67.8%	645,720	53.3%	1,150,577	53.7%	6,554,113
			2005	5				
_	(n = 3,	358,060)	(n = 8	370,308)	(n = 2,)	487,752)	(N = 13)	,226,515)
Income Poor: LICO	20.2%	678,584	17.5%	152,568	21.1%	526,016	17.2%	2,275,492
Income Poor: LIM	17.3%	580,265	17.0%	147,674	17.4%	432,591	15.6%	2,066,017
Asset Poor: Net Worth LICO	40.6%	1,364,311	42.4%	368,993	40.0%	995,318	33.3%	4,400,379
Asset Poor: Net Worth LIM	40.4%	1,357,064	41.6%	361,632	40.0%	995,432	33.2%	4,383,947
Asset Poor: Financial Assets LICO	59.7%	2,004,295	68.9%	599,735	56.5%	1,404,560	52.8%	6,981,892
Asset Poor: Financial Assets LIM	58.4%	1,961,902	66.4%	577,906	55.6%	1,383,996	51.7%	6,839,499

Table 4Income and Asset Poverty Rates in Quebec, 1999 and 2005

			%		%			
			Families		Families			
	Total %	Weighted	with	Weighted	without	Weighted	National	Weighted
	Poor	frequencies	Children	frequencies	Children	frequencies	average	frequencies
			1999					
	(n = 4, -1)	480,038)	(n = 1,4	473,838)	(n = 3,	006,200)	(N = 12)	,216,255)
Income Poor: LICO	15.5%	693,754	16.0%	235,235	15.3%	458,519	19.2%	2,340,432
Income Poor: LIM	12.4%	557,510	14.1%	207,676	11.6%	349,834	16.2%	1,978,238
Asset Poor: Net Worth LICO	33.6%	1,504,120	32.8%	483,547	34.0%	1,020,573	34.7%	4,237,817
Asset Poor: Net Worth LIM	33.3%	1,493,367	32.7%	481,729	33.7%	1,011,638	34.3%	4,189,080
Asset Poor: Financial Assets LICO	52.0%	2,330,015	59.9%	882,726	48.1%	1,447,289	54.6%	6,664,428
Asset Poor: Financial Assets LIM	50.9%	2,280,399	59.6%	878,031	46.7%	1,402,368	53.7%	6,554,113
			2005	5				
	(n = 4, -1)	927,890)	(n = 1,4	491,884)	(n = 3, -1)	436,006)	(N = 13)	,226,515)
Income Poor: LICO	14.9%	735,764	15.0%	224,437	14.9%	511,327	17.2%	2,275,492
Income Poor: LIM	13.4%	661,125	12.0%	178,913	14.0%	482,212	15.6%	2,066,017
Asset Poor: Net Worth LICO	28.2%	1,391,240	21.8%	325,592	31.0%	1,065,648	33.3%	4,400,379
Asset Poor: Net Worth LIM	28.2%	1,391,620	22.4%	333,590	30.8%	1,058,030	33.2%	4,383,947
Asset Poor: Financial Assets LICO	48.5%	2,377,735	49.5%	738,003	47.7%	1,639,732	52.8%	6,981,892
Asset Poor: Financial Assets LIM	46.8%	2,304,329	47.2%	704,728	46.6%	1,599,601	51.7%	6,839,499

Table 5Income and Asset Poverty Rates in Ontario, 1999 and 2005

			%		%			
			Families		Families			
	Total %	Weighted	with	Weighted	without	Weighted	National	Weighted
	Poor	frequencies	Children	frequencies	Children	frequencies	average	frequencies
			1999)				
	(n = 1,	157,243)	(n = 4	00,926)	(n = 7	756,317)	(N = 12,216,255)	
Income Poor: LICO	16.7%	192,774	13.9%	55,581	18.1%	137,193	19.2%	2,340,432
Income Poor: LIM	14.3%	165,124	12.4%	49,888	15.2%	115,236	16.2%	1,978,238
Asset Poor: Net Worth LICO	31.2%	361,027	29.1%	116,639	32.3%	244,388	34.7%	4,237,817
Asset Poor: Net Worth LIM	30.8%	355,988	28.6%	114,817	31.9%	241,171	34.3%	4,189,080
Asset Poor: Financial Assets LICO	51.7%	598,197	57.6%	230,765	48.6%	367,432	54.6%	6,664,428
Asset Poor: Financial Assets LIM	50.5%	584,741	57.4%	230,029	46.9%	354,712	53.7%	6,554,113
			2005	5				
	(n = 1,	329,407)	(n = 4	08,880)	(n = 9	920,527)	(N = 13)	,226,515)
Income Poor: LICO	16.9%	225,210	16.8%	68,733	17.0%	156,477	17.2%	2,275,492
Income Poor: LIM	14.0%	185,394	16.0%	65,329	13.9%	120,065	15.6%	2,066,017
Asset Poor: Net Worth LICO	37.5%	497,826	35.0%	143,194	38.5%	354,622	33.3%	4,400,379
Asset Poor: Net Worth LIM	37.0%	491,442	35.0%	143,194	37.8%	348,248	33.2%	4,383,947
Asset Poor: Financial Assets LICO	54.8%	728,080	59.0%	241,078	52.9%	487,002	52.8%	6,981,892
Asset Poor: Financial Assets LIM	52.3%	695,606	57.5%	234,891	50.1%	460,715	51.7%	6,839,499

Table 6Income and Asset Poverty Rates in Alberta, 1999 and 2005

			%		%			
			Families		Families			
	Total %	Weighted	with	Weighted	without	Weighted	National	Weighted
	Poor	frequencies	Children	frequencies	Children	frequencies	average	frequencies
			1999)				
	(n = 1,	684,538)	(n = 4	91,378)	$(n = 1, \dots, n = 1)$,193,160)	(N = 12)	,216,255)
Income Poor: LICO	23.4%	394,917	19.2%	94,485	25.2%	300,432	19.2%	2,340,432
Income Poor: LIM	18.7%	314,592	17.2%	84,500	19.3%	230,092	16.2%	1,978,238
Asset Poor: Net Worth LICO	36.7%	617,320	36.4%	178,598	36.8%	438,722	34.7%	4,237,817
Asset Poor: Net Worth LIM	36.1%	607,888	36.3%	178,112	36.0%	429,776	34.3%	4,189,080
Asset Poor: Financial Assets LICO	52.8%	890,111	64.2%	315,464	48.2%	574,647	54.6%	6,664,428
Asset Poor: Financial Assets LIM	51.9%	873,961	62.8%	308,783	47.4%	565,178	53.7%	6,554,113
			2005	5				
	(n = 1,	821,137)	(n = 4	83,589)	(n = 1)	,337,548)	(N = 13)	,226,515)
Income Poor: LICO	22.2%	404,291	22.2%	107,126	22.2%	297,165	17.2%	2,275,492
Income Poor: LIM	20.3%	370,461	21.9%	106,025	19.7%	264,436	15.6%	2,066,017
Asset Poor: Net Worth LICO	34.3%	623,960	29.1%	140,913	36.1%	483,047	33.3%	4,400,379
Asset Poor: Net Worth LIM	33.9%	616,407	29.1%	140,913	35.6%	475,494	33.2%	4,383,947
Asset Poor: Financial Assets LICO	50.1%	912,666	58.3%	281,760	47.2%	630,906	52.8%	6,981,892
Asset Poor: Financial Assets LIM	49.3%	897,153	58.8%	284,289	45.8%	612,864	51.7%	6,839,499

Table 7Income and Asset Poverty Rates in British Columbia, 1999 and 2005

Ontario's rates, presented in Table 5, show that Ontario had the lowest rates on the vast majority of measures in both 1999 and 2005 compared both to national averages and other provinces. For example, in 2005 28.2% of all Ontarians were NW LICO poor, compared to the national average of 33.3%. Notably, rates of net worth and financial asset poverty (with either LIM or LICO) for families with children in Ontario dropped by more than ten percentage points from 1999 to 2005. A similar drop in net worth poverty for families without children was not evident.

Alberta also had low poverty rates in both asset and income measures compared to national and provincial averages. However, families with children experienced a three-percentage point increase in LICO income poverty rates from 1999 to 2005 in Alberta (from 13.9% to 16.8%), while rates fell for families without children (from 18.1% to 17.0%). The rates of asset poverty based on net worth in Alberta were the lowest net worth rates among the provinces examined. Table 6 shows that 29.1% of families without children in Alberta were net worth poor (LICO) compared to 32.3% of families without children in 2005. Although these rates were the lowest in the country, a slight rise in both FA and NW asset poverty occurred in Alberta from 1999 to 2005. Among all families in Alberta, 31.2% were NW LICO poor in 1999, while 37.5% were NW LICO poor in 2005; 51.7% were FA LICO poor in 1999 and 5.8% were FA LICO poor in 2005.

Although previous research by Chawla (2004) on wealth in Canada identified British Columbia as having the highest mean wealth of all the provinces, I found that British Columbia (Table 7) did not have the lowest rates of asset poverty in Canada. Income poverty rates based on the LICO and LIM rose for families with children in British Columbia over 1999 to 2005, much like Alberta. Asset poverty rates decreased markedly for families with children from 1999 to 2005. In 1999, 36.3% of families with children were NW LICO poor and 64.2% were FA LICO poor; these rates decreased by 2005 to 29.1% and 58.3% respectively. While asset poverty rates were lower for families without children than those with children in both 1999 and 2005, notable decreases for non-children families were not evident in British Columbia over the time period.

2. Regression Estimates

2.1 Descriptive Statistics

Table 8 presents demographic information for families with and without children across Canada. The variables listed in Table 6 were included in the multiple logistic regression analyses. These tabulations show that families with children were statistically significantly different than those without children in terms of the major income earner's age, sex, marital status, education, immigration history, language spoken other than English, and whether or not they worked full time in the previous year. The majority of families with children had major income earners aged between 35-49 who were married men in both 1999 and 2005. Major income earners in families with children had notably higher rates of full time work during the previous year than those without children (approximately 70% compared to 43% respectively). Families with children also had higher education levels, proportion of rates of homeownership than those without children.

Table 8Descriptive Statistics for Families with and without Children

	% Families		% Families			
	without	Weighted	without	Weighted		
	Children	frequencies	Children	frequencies	X^2	p-value
		1999 (N = 1)	12,216,255)			
	(n = 8,)	311,649)	(n = 3,	904,606)		
Marital Status and Sex					1100000.0	< 0.001
Unmarried Women	30.5%	2,537,884	17.6%	686,874		
Unmarried Men	31.3%	2,602,171	12.4%	485,548		
Married Men	30.4%	2,530,346	52.9%	2,063,815		
Married Women	7.7%	641,248	17.1%	668,369		
Age Category					2600000.0	< 0.001
15-24	7.1%	593,766	3.1%	122,189		
25-34	16.5%	1,374,622	26.0%	1,015,369		
35-49	23.2%	1,925,301	60.8%	2,375,607		
50-64	27.5%	2,285,929	9.2%	361,154		
65+	25.3%	2,105,031	0.8%	30,287		
Education Category					200000.0	< 0.001
Less than high school	25.6%	2,123,919	14.3%	556,568		
High School diploma	19.7%	1,634,519	22.4%	875,831		
Post-secondary certificate/diploma	37.5%	3,119,874	42.6%	1,663,414		
University diploma	17.2%	1,433,337	20.7%	808,793		
Disability	18.8%	1,566,724	6.7%	259,681	310000.0	< 0.001
Language	16.3%	1,352,593	21.4%	835,643	48000.0	< 0.001
Immigrant	19.8%	1,646,311	24.8%	966,771	39000.0	< 0.001
Province					14000.0	< 0.001
Quebec	26.0%	2,160,098	24.4%	952,495		
Ontario	36.2%	3,006,200	37.7%	1,473,838		
Alberta	9.1%	756,317	10.3%	400,926		
British Columbia	14.4%	1,193,160	12.6%	491,378		
Homeowner	55.2%	4,585,494	68.9%	2,692,173	210000.0	< 0.001
Rural	14.7%	1,221,775	18.8%	732,259	32000.0	< 0.001
Work Full Time	43.0%	3,574,966	70.6%	2,757,514	810000.0	< 0.001

Table 8 continued

Descriptive Statistics for Families with and without Children

	% Families		% Families			
	without	Weighted	without	Weighted		
	Children	frequencies	Children	frequencies	X^2	p-value
		1999 (N =	12,216,255)	-		-
	(n = 8,3)	611,649)	(n = 3, 9)	904,606)		
Marital Status and Sex					1100000.0	< 0.001
Unmarried Women	30.5%	2,537,884	17.6%	686,874		
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65+	25.3%	2,105,031	0.8%	30,287		
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Disability	18.8%	1,566,724	6.7%	259,681	310000.0	< 0.001
Language	16.3%	1,352,593	21.4%	835,643	48000.0	< 0.001
Immigrant	19.8%	1,646,311	24.8%	966,771	39000.0	< 0.001
Province					14000.0	< 0.001
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Rural	14.7%	1,221,775	18.8%	732,259	32000.0	< 0.001
Work Full Time	43.0%	3,574,966	70.6%	2,757,514	810000.0	< 0.001

2.2 Regression Results

Tables 9 through 16 present results of hierarchical multiple logistic regression models predicting the four types of asset poverty (FA LICO, FA LIM, NW LICO, and NW LIM) in both 1999 and 2005. The threshold differences between LICO and LIM did not yield meaningful differences in regression coefficients in any of the models. To properly estimate the predictors of asset poverty for families through logistic regression analysis, the population of interest was limited to those families with a major income earner under 65 who did not receive the majority of their income from retirement savings. These restrictions reduced the sample size to 12,120 in 1999 and in 2005. After the four chosen provinces were introduced in the regressions in the final block of variables, the sample size was reduced to 8,276 in 1999 and 2,924 in 2005.

For models that predicted financial asset poverty (Tables 9, 10, 11, and 12) I found that families with children were more likely to be financial asset poor regardless of threshold and control variables added to the regression. Table 9, examining 1999 SFS data, shows that if a family had children, they had about 20% higher odds of being FA LICO poor than those without children, without controlling for covariates (OR = 1.21, p < .001). When block two (containing the categorical age variable) was added to Model 2, the odds of a family with children being FA LICO poor remained the same, although with each increasing age category the odds of being asset poor decreased by 50-20%. In other words, controlling for age, families with children are 1.2 times more likely to be asset poor than those without children (OR = 1.21, p < .001). A family with a household head aged 50-64 is 80% less likely to be poor than a household headed by someone aged 18-24 controlling for children in Model 2 (OR = 0.22, p < .001). In Model 3, the third block of variables was added, containing socio-demographic variables. Age remained a strong predictor of asset poverty, and the odds ratio for families with children increased from 1.21 to 1.57 after controlling for sex and marital status, education, disability, language,

Table 9				
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Predictors of Asset Pover	ty Based on Financia	Assets with LICO 2	Threshold, Pooled Model 1999
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	Мо	del 1	Mo	del 2	Мс	odel 3	Мо	del 4
	Beta Coef	ORs						
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Block One								
Children	0.19***	1.21***	0.19***	1.21***	0.45***	1.57***	0.6***	1.83***
	(0.05)	(0.06)	(0.05)	(0.07)	(0.06)	(0.1)	(0.07)	(0.13)
Block Two								
Age Category								
25-34			-0.93***	0.39***	-0.67***	0.51***	-0.29	0.75
			(0.14)	(0.06)	(0.15)	(0.08)	(0.17)	(0.13)
35-49			-1.36***	0.26***	-1.14***	0.32***	-0.53**	0.59**
			(0.14)	(0.04)	(0.15)	(0.05)	(0.17)	(0.1)
50-64			-1.65***	0.19***	-1.53***	0.22***	-0.84***	0.43***
			(0.14)	(0.03)	(0.15)	(0.03)	(0.18)	(0.08)
Block Three								
Sex and Marita	ll Status							
Unmarried m	ien				-0.15	0.86	-0.04	0.96
					(0.08)	(0.07)	(0.09)	(0.09)
Married men					-0.7***	0.5***	-0.18*	0.84*
					(0.07)	(0.03)	(0.09)	(0.07)
Married worr	nen				-0.65***	0.52***	-0.29**	0.75**
					(0.09)	(0.05)	(0.11)	(0.08)
Education Cate	egory							
HS diploma					-0.59***	0.55***	-0.42***	0.66***
					(0.08)	(0.05)	(0.1)	(0.07)
PS certificate	e/diploma				-0.84***	0.43***	-0.62***	0.54***
					(0.08)	(0.03)	(0.09)	(0.05)
University di	ploma				-1.54***	0.22***	-1.27***	0.28***
					(0.09)	(0.02)	(0.11)	(0.03)
Disability					-0.52***	0.6***	-0.17	0.84
					(0.1)	(0.06)	(0.12)	(0.1)
Other Languag	ge				-0.2*	0.82*	-0.27**	0.76**
					(0.1)	(0.08)	(0.1)	(0.08)
Immigrant					0.23*	1.26*	0.12	1.13
					(0.09)	(0.12)	(0.1)	(0.12)

	Mod	lel 1	М	lodel 2	М	odel 3	M	odel 4
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Block Four					_			
Homeowner							-0.98***	0.38***
							(0.07)	(0.03)
Province								
Ontario							-0.09	0.91
							(0.08)	(0.07)
Alberta							-0.14	0.87
							(0.09)	(0.08)
British Columb	bia						-0.11	0.89
							(0.09)	(0.08)
Rural							0.03	1.03
							(0.09)	(0.1)
Income (log)							-0.24**	0.78**
							(0.08)	(0.06)
Work Full Time							-0.23**	0.79**
							(0.08)	(0.06)
Constant	0.36***	1.43***	1.6***	4.95***	3.48***	32.42***	5.05***	156.***
SE	(0.03)	(0.05)	(0.13)	(0.66)	(0.26)	(8.28)	(0.7)	(110.)
Unweighted N	121	20	1	2120	1	2120	8	276
Weighted N	9647	/240	96	647240	96	47240	82	89005
Pseudo R-square	0.0)2		0.03		0.09	().13
AIC	12915	959.9	125	65944.2	118.	35993.7	972	0262.9
BIC	12915	988.1	125	66014.6	118.	36190.9	9720555.4	
LR Chi-square								
test	2053	7.64	370)559.34	110	0527.86	143	5361.59

 Table 9 continued

 Predictors of Asset Poverty Based on Financial Assets with LICO Threshold, Pooled Model 1999

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. * p < .05. ** p < .01. *** p < .001.

and immigration ($p \le .001$). Unmarried men had lower, but statistically insignificant even odds of being financial asset poor compared to unmarried women, while married men and women had statistically significantly lower odds of financial asset poverty (OR = 0.50, p < .001; OR = 0.52, p<.001, respectively). Higher education levels were associated with statistically significantly lower odds of financial asset poverty. Major income earners who held university diplomas had approximately 80% lower odds of asset poverty than those who hadn't graduated high school (OR =0.22, p < .001). Interestingly, families whose primary income earner reported a disability were about 40% less likely to be asset poor than those who did not (p < .001). Growing up speaking a language other than French or English was also related to lower odds of asset poverty (OR = 0.82, p < .05). However, Model 3 showed that immigrants were more likely to be FA LICO poor than nonimmigrants after controlling for covariates (OR = 1.26, p < .05). In Model 4, economic and regional variables were added to the regression. The odds ratio on the children variable changed, with the standard error becoming larger (SE = 0.13) indicating greater variance of the estimate. Although the standard error on the point estimate changed, families with children with children were still statistically significantly more likely than those without children to be FA LICO poor (OR = 1.83, p <.001). After controlling for economic variables, age category became less significant as a predictor of asset poverty. Those aged 25-34 had even odds of being asset poor, while those aged 35-49 were 40% less likely to be FA LICO poor (OR = 0.59, p < .05) and those aged 50-64 were about 60% less likely to be asset poor (OR = 0.43, p < .001). Sex and marital status became less significant in Model 4 as well, with only married men (OR = 0.84, p < .05) and married women (OR = 0.75, p < .05) remaining with statistically significantly lower odds of FA LICO poverty than unmarried women. Education level maintained a statistically significantly strong association with of financial asset poverty, however disability status no longer predicted FA LICO poverty in Model 4. Immigration also no longer predicted asset poverty in Model 4, but language other than French/English became a

stronger predictor of lower FA LICO poverty odds (OR = 0.76, p < .01). Homeownership, unsurprisingly, was strongly related to lower odds of financial asset poverty (OR = 0.38, p < .001). Province was found in Model 4 to be unrelated to FA asset poverty. Although previous research on this dataset has found that income is not perfectly or strongly correlated strongly with wealth (Robson, 2013), Model 4 shows that for each unit increase in the log of income, the odds of asset poverty statistically significantly decreased (OR = 0.78, p < .01). Full time work also was strongly related to low odds of asset poverty (OR = 0.79, p < .01).

The dependent variable in Table 10 is FA LIM poverty. Estimates of FA LIM poverty showed some variability across Canadian provinces, and between families who have children versus those who do not. Table 10 shows that meaningful differences in the odds of being financial asset poor based on a LIM threshold were not present compared to the FA LICO models. The only difference in the odds ratios presented in Table 10 was that the final block 4 model (Model 8) predicted only married women as having lower likelihoods of asset poverty compared to unmarried women (OR = 0.80, p < .05).

Tables 11 and 12 present FA LICO and FA LIM models for 2005, and the general story of higher odds of asset poverty for families with children remained similar to 1999 estimates. However, the odds ratios on some variables changed in 2005. Unlike in 1999, the odds ratios on the children variable were statistically insignificant in the base models 13 and 17, and second block models 14 and 18. After controlling for variables in blocks 3 and 4, age category was no longer related to asset poverty. Those with disabilities were more likely to be asset poor than those without (OR = 1.41, p < .05). Living in a rural area reduced the likelihood of being FA LICO poor by 25% (OR = 0.74, p < .05). Additionally, working full time was found to be unrelated to asset poverty in 2005

107

U	Model 5		Model 6		Мо	Model 7		Model 8	
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block One									
Children	0.22***	1.25***	0.23***	1.25***	0.47***	1.6***	0.62***	1.86***	
	(0.05)	(0.06)	(0.06)	(0.07)	(0.06)	(0.1)	(0.07)	(0.13)	
Block Two									
Age Category									
25-34			-0.82***	0.44***	-0.55***	0.58***	-0.16	0.86	
			(0.14)	(0.06)	(0.14)	(0.08)	(0.17)	(0.14)	
35-49			-1.21***	0.3***	-1.***	0.37***	-0.37*	0.69*	
			(0.14)	(0.04)	(0.14)	(0.05)	(0.17)	(0.12)	
50-64			-1.47***	0.23***	-1.37***	0.25***	-0.67***	0.51***	
			(0.14)	(0.03)	(0.15)	(0.04)	(0.18)	(0.09)	
Block Three									
Sex and Marital	Status								
Unmarried m	en				-0.13	0.88	-0.02	0.98	
					(0.08)	(0.07)	(0.09)	(0.09)	
Married men					-0.63***	0.53***	-0.13	0.88	
					(0.07)	(0.04)	(0.09)	(0.08)	
Married wom	en				-0.57***	0.56***	-0.22*	0.8*	
					(0.09)	(0.05)	(0.11)	(0.09)	
Education Categ	ory								
HS diploma					-0.57***	0.56***	-0.38***	0.68***	
	/ 1* 1				-0.09	-0.05	(0.1)	(0.0/)	
PS certificate	diploma				-0.86***	0.42***	-0.63***	0.53***	
T T · · · · ·	1				-0.08	-0.03	(0.1)	(0.05)	
University dij	ploma				-1.6***	0.2***	-1.3^{***}	0.2/***	
D: 1.114					-0.09	-0.02	(0.11)	(0.03)	
Disability					-0.52***	0.59***	-0.18	0.84	
Others Learners					-0.1	-0.00	(0.12)	(0.1)	
Other Language					-0.24*	0.78°	-0.5^{**}	$0./4^{**}$	
T					-0.1	-0.08	(0.11)	(0.08)	
Immigrant					0.22*	1.25*	0.12	1.13	
					-0.09	-0.12	(0.11)	(0.12)	

Predictors of Asset Poverty Based on Financial Assets with LIM Threshold, Pooled Model 1999

Table 10

	Model 5		Model 6		Μ	Model 7		Model 8	
	Beta Coef	ORs	Beta Coet	f ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block Four									
Homeowner							-0.95***	0.39***	
							(0.07)	(0.03)	
Province									
Ontario							-0.08	0.92	
							(0.08)	(0.08)	
Alberta							-0.15	0.86	
							(0.09)	(0.08)	
British Columbia	pia						-0.09	0.91	
							(0.09)	(0.08)	
Rural							0.15	1.17	
							(0.09)	(0.1)	
Income (log)							-0.24**	0.78**	
							(0.07)	(0.06)	
Work Full Time							-0.26**	0.77**	
							(0.08)	(0.06)	
Constant	0.31***	1.36***	1.41***	4.1***	3.3***	27.06***	4.82***	124.4***	
	(0.04)	(0.05)	(0.13)	(0.55)	(0.24)	(6.58)	(0.69)	(86.01)	
Unweighted N	12120		12120		12120		8276		
Weighted N	10452144		10452144		10452144		9058913		
Pseudo R-square	0.00		0.03		0.08		0.13		
AIC	14244636.4		13862894.9		12843307.7		10571700.4		
BIC	14244664.8		13862965.7		12843506.0		10571994.8		
LR Chi-square									
test	27975.75		323808.25		1078287.32		1406330.74		

Table 10 continued

Predictors of Asset Poverty Based on Financial Assets with LIM Threshold, Pooled Model 1999

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. * p < .05. ** p < .01. *** p < .001.
	M	odel 9	Mo	del 10	Mo	del 11	Mo	del 12
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Block One			_				_	
Children	-0.03	0.97	-0.01	0.99	0.38***	1.47***	0.52***	1.68***
	(0.09)	(0.09)	(0.1)	(0.1)	(0.11)	(0.16)	(0.13)	(0.21)
Block Two								
Age Category								
25-34			-0.63*	0.53*	-0.24	0.79	0.03	1.03
			(0.25)	(0.14)	(0.26)	(0.2)	(0.32)	(0.33)
35-49			-1.13***	0.32***	-0.83***	0.44***	-0.21	0.81
			(0.22)	(0.07)	(0.23)	(0.1)	(0.3)	(0.24)
50-64			-1.33***	0.26***	-1.***	0.37***	-0.29	0.74
			(0.23)	(0.06)	(0.24)	(0.09)	(0.32)	(0.24)
Block Three								
Sex and Marital S	tatus							
Unmarried men					-0.08	0.92	0.04	1.04
					(0.13)	(0.12)	(0.16)	(0.16)
Married men					-0.91***	0.4***	-0.36*	0.7*
					(0.13)	(0.05)	(0.17)	(0.12)
Married women					-0.8***	0.45***	-0.38*	0.68*
					(0.15)	(0.07)	(0.18)	(0.12)
Education Catego	ry							
HS diploma					-0.56***	0.57***	-0.38	0.69
					(0.17)	(0.1)	(0.21)	(0.15)
PS certificate/di	ploma				-0.78***	0.46***	-0.49**	0.61**
					(0.16)	(0.07)	(0.19)	(0.12)
University diplo	oma				-1.44***	0.24***	-1.15***	0.32***
					(0.16)	(0.04)	(0.2)	(0.06)
Disability					0.52***	1.68***	0.34*	1.41*

(0.12)

-0.17

(0.16)

0.37*

(0.15)

(0.2)

0.84

(0.14)

1.45*

(0.22)

(0.15)

-0.4*

(0.19)

(0.18)

0.34

(0.21)

0.67*

(0.12)

(0.25)

1.41

 Table 11

 Predictors of Asset Poverty Based on Financial Assets with LICO Threshold, Pooled Model 2005

Other Language

Table 11

continued

Predictors of Asset Poverty Based on Financial Assets with LICO Threshold, Pooled Model 2005

U	Moe	del 9	Мо	odel 10	M	odel 11	Мо	odel 12	
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block Four									
Homeowner							-1.02***	0.36***	
							(0.14)	(0.05)	
Province									
Ontario							-0.26	0.77	
							(0.14)	(0.1)	
Alberta							-0.12	0.89	
							(0.18)	(0.16)	
British Colu	umbia						-0.24	0.78	
							(0.16)	(0.13)	
Rural							-0.31*	0.74*	
							(0.16)	(0.12)	
Income (log)							-0.4**	0.67**	
							(0.13)	(0.09)	
Work Full Time							0.03	1.03	
							(0.13)	(0.14)	
Constant	0.37***	1.44***	1.36***	3.89***	2.01***	7.44***	5.97***	390.9***	
	(0.05)	(0.07)	(0.22)	(0.84)	(0.27)	(1.98)	(1.29)	(504.5)	
Unweighted N	40	07	2	1007		4007	2	2924	
Weighted N	1045	2144	104	452144	10	452144	90	58913	
Pseudo R-square	0.	00		0.02	0.10			0.15	
AIC	14161	057.0	1382	21389.9	12777640.1		10393057.8		
BIC	14161085.3		1382	13821460.7		12777838.4		10393352.2	
LR Chi-square test	592	2.14	340	265.21	1384033.01		1400606.01		

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. * p < .05. ** p < .01. *** p < .001.

- 1	-1	-1
- 1		
_	_	_

Table 12						
Predictors of Asset Poverty	Based on	Financial Assets	s with	LIM	Threshold.	Pooled]

Predictors of Ass	set Poverty Base	d on Financial A	Assets with LIM T	Threshold, Pool	ed Model 2005			
	Мо	del 13	Мо	del 14	Mo	odel 15	Mo	odel 16
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Block One								
Children	-0.05	0.96	-0.01	0.99	0.36**	1.44**	0.48***	1.61***
	(0.09)	(0.09)	(0.1)	(0.1)	(0.11)	(0.16)	(0.12)	(0.2)
Block Two								
Age Category								
25-34			-0.73**	0.48**	-0.35	0.7	-0.13	0.88
			(0.26)	(0.12)	(0.26)	(0.18)	(0.32)	(0.28)
35-49			-1.26***	0.28***	-0.98***	0.37***	-0.44	0.65
			(0.23)	(0.06)	(0.24)	(0.09)	(0.31)	(0.2)
50-64			-1.43***	0.24***	-1.14***	0.32***	-0.54	0.58
			(0.23)	(0.05)	(0.24)	(0.08)	(0.32)	(0.18)
Block Three								
Sex and Marita	l Status							
Unmarried n	nen				-0.07	0.93	0.03	1.03
					(0.13)	(0.12)	(0.16)	(0.16)
Married mer	n				-0.84***	0.43***	-0.34*	0.71*
					(0.13)	(0.06)	(0.16)	(0.12)
Married wor	men				-0.71***	0.49***	-0.34	0.71
					(0.15)	(0.07)	(0.17)	(0.12)
Education Cate	gory							
HS diploma					-0.62***	0.54***	-0.43*	0.65*
					(0.17)	(0.09)	(0.21)	(0.14)
PS certificat	e/diploma				-0.84***	0.43***	-0.57**	0.56**
	*				(0.16)	(0.07)	(0.19)	(0.1)
University d	iploma				-1.5***	0.22***	-1.19***	0.3***
2	1				(0.16)	(0.04)	(0.2)	(0.06)
Disability					0.53***	1.7***	0.34*	1.4*
v					(0.12)	(0.2)	(0.15)	(0.21)
Other Languag	e				-0.14	0.87	-0.33	0.72
0 0					(0.16)	(0.14)	(0.19)	(0.13)
Immigrant					0.25	1.29	0.23	1.26
8					(0.15)	(0.19)	(0.17)	(0.22)

	Moo	del 13	Μ	odel 14	Mo	del 15	Mo	odel 16	
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block Four									
Homeowner							-0.93***	0.39***	
							(0.14)	(0.06)	
Province									
Ontario							-0.26	0.77	
							(0.14)	(0.1)	
Alberta							-0.19	0.83	
							(0.18)	(0.14)	
British Columbia							-0.18	0.83	
							(0.15)	(0.13)	
Rural							-0.22	0.8	
							(0.15)	(0.12)	
Income (log)							-0.31*	0.73*	
							(0.13)	(0.09)	
Work Full Time							-0.09	0.91	
							(0.13)	(0.12)	
Constant	0.32***	1.38***	1.41***	4.11***	2.12***	8.29***	5.26***	193.4***	
	(0.05)	(0.07)	(0.22)	(0.9)	(0.27)	(2.21)	(1.25)	(241.8)	
Unweighted N	40	007		4007	2	007	4	2924	
Weighted N	104:	52144	10	452144	104	10452144		58913	
Pseudo R-square	0	.00		0.03	0.10		0.15		
AIC	14244636.4		138	13862894.9		12843307.7		10571700.4	
BIC	14244664 8		138629657		12843506.0		10571994.8		

Table 12 continuedPredictors of Asset Poverty Based on Financial Assets with LIM Threshold, Pooled Model 2005

1220.49

LR Chi-square

test

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. * p < .05. ** p < .01. *** p < .001.

382968.01

1402573.21

1798818.67

Tables 13 to 16 present the results of pooled model estimates of net worth poverty, based on LICO and LIM thresholds in 1999 and 2005. Major differences were not found between LICO and LIM thresholds, although major differences in predictors of asset poverty based on net worth and asset poverty based on financial assets exist. Families with children were found to be significantly less likely to be asset poor with the first two blocks of variables. For example, families with children were found to have statistically significantly lower odds of NW LICO poverty in the first two types of models in 1999 (OR = 0.68, p < .001; OR = 0.65, p < .001, respectively). After block 4 variables were added to the regression, families with children were twice as likely as families without children to be net worth (NW LICO) poor, holding constant for covariates (OR = 1.99, p < .001). Older age categories and higher education categories were significantly less likely to be net worth poor in both LIM and LICO models. Table 13 shows that those who spoke a language other than French or English were significantly less likely to be NW LICO asset poor (OR = 0.62, p < .01). Much like the financial asset models, homeownership significantly and negatively predicted asset poverty (OR = 0.02, p < .001). Living in a rural area was associated with a negative likelihood of asset poverty (OR = 0.71, p < .05). Those who worked full time had a 34% lower likelihood of net worth asset poverty based on LICO (OR =0.66, p < .001). Table 14, predicting NW LIM poverty, shows many of the same patterns.

114

	Mo	del 17	Model 18		Mo	del 19	Model 20	
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Block One								
Children	-0.38***	0.68***	-0.43***	0.65***	0.01	1.01	0.69***	1.99***
	(0.05)	(0.03)	(0.05)	(0.04)	(0.06)	(0.06)	(0.1)	(0.2)
Block Two								
Age Category								
25-34			-1.26***	0.28***	-0.96***	0.38***	-0.20	0.82
			(0.14)	(0.04)	(0.15)	(0.06)	(0.21)	(0.17)
35-49			-2.13***	0.12***	-1.85***	0.16***	-0.81***	0.44***
			(0.14)	(0.02)	(0.15)	(0.02)	(0.21)	(0.09)
50-64			-2.73***	0.07***	-2.48***	0.08***	-1.24***	0.29***
			(0.14)	(0.01)	(0.16)	(0.01)	(0.21)	(0.06)
Block Three								
Sex and Marit	tal Status							
Unmarried i	men				-0.27**	0.76**	-0.06	0.94
					(0.08)	(0.06)	(0.12)	(0.11)
Married me	n				-1.39***	0.25***	-0.12	0.89
					(0.07)	(0.02)	(0.12)	(0.11)
Married wo	men				-1.27***	0.28***	-0.4*	0.67*
					(0.1)	(0.03)	(0.16)	(0.11)
Education Ca	tegory							
HS diploma	L				-0.31***	0.73***	-0.06	0.94
					(0.09)	(0.07)	(0.13)	(0.12)
PS certification	te/diploma				-0.62***	0.54***	-0.39**	0.68**
					(0.08)	(0.04)	(0.12)	(0.08)
University of	liploma				-0.96***	0.38***	-0.92***	0.4***
					(0.1)	(0.04)	(0.16)	(0.06)
Disability					-0.78***	0.46***	-0.24	0.78
					(0.1)	(0.05)	(0.16)	(0.13)
Other Langua	ige				-0.19	0.83	-0.48**	0.62**
					(0.11)	(0.09)	(0.15)	(0.09)
Immigrant					0.45***	1.57***	-0.06	0.94
					(0.1)	(0.16)	(0.14)	(0.13)

Table 13Predictors of Asset Poverty Based on Net Worth with LICO Threshold, Pooled Model 1999

Table 13 continued

Predictors of Asset Poverty Based on Net Worth with LICO Threshold, Pooled Model 1999

	Mo	del 17	Me	odel 18	Mo	odel 19	Mo	del 20	
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block Four			_		_				
Homeowner							-3.82***	0.02***	
							(0.11)	(0.00)	
Province									
Ontario							-0.03	0.97	
							-0.12	-0.12	
Alberta							-0.03	0.98	
							-0.14	-0.13	
British Columb	oia						0.01	1.01	
							-0.14	-0.14	
Rural							-0.34*	0.71*	
							-0.14	-0.10	
Income (log)							-0.12	0.89	
							-0.06	-0.05	
Work Full Time							-0.42***	0.66***	
							-0.1	-0.07	
Constant	-0.25***	0.78***	1.65***	5.23***	3.82***	45.71***	4.34***	76.79***	
	(0.03)	(0.02)	(0.13)	(0.69)	(0.25)	(11.39)	-0.64	-48.82	
Unweighted N	12	2120	1	2120	1	2120	8	276	
Weighted N	964	47240	96	647240	96	47240	828	89005	
Pseudo R-square	0	0.01		0.09		0.17	0	0.50	
AIC	1291	6269.1	118	06876.8	108	10815186.9		5618404.6	
BIC	1291	6297.2	118	06947.2	10815384.0		5618697.2		
LR Chi-square									
test	789	43 75	118	8342.05	218	0049 94	5563	674 91	

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. p < .05. ** p < .01. *** p < .001.

116

	Mod	lel 21	Mod	lel 22	Moo	del 23	Model 24	
	Beta Coef	ORs						
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Block One								
Children	-0.37***	0.69***	-0.42***	0.66***	0.02	1.02	0.69***	2.***
	(0.05)	(0.03)	(0.06)	(0.04)	(0.06)	(0.07)	(0.1)	(0.2)
Block Two								
Age Category								
25-34			-1.19***	0.3***	-0.88***	0.41***	-0.09	0.91
			(0.15)	(0.04)	(0.16)	(0.06)	(0.22)	(0.2)
35-49			-2.06***	0.13***	-1.78***	0.17***	-0.71**	0.49**
			(0.15)	(0.02)	(0.15)	(0.03)	(0.22)	(0.11)
50-64			-2.66***	0.07***	-2.41***	0.09***	-1.14***	0.32***
			(0.15)	(0.01)	(0.16)	(0.01)	(0.22)	(0.07)
Block Three								
Sex and Marital	l Status							
Unmarried me	en				-0.26**	0.77**	-0.03	0.97
					(0.08)	(0.06)	(0.12)	(0.11)
Married men					-1.37***	0.26***	-0.11	0.9
					(0.07)	(0.02)	(0.12)	(0.11)
Married wom	en				-1.27***	0.28***	-0.41*	0.66*
					(0.1)	(0.03)	(0.16)	(0.11)
Education Cate	gory				× /	. ,		
HS diploma					-0.32***	0.72***	-0.1	0.91
1					(0.09)	(0.07)	(0.13)	(0.11)
PS certificate	/diploma				-0.63***	0.53***	-0.42***	0.65***
					(0.08)	(0.04)	(0.12)	(0.08)
University dir	oloma				-0.99***	0.37***	-0.95***	0.39***
J - 1	L				(0.1)	(0.04)	(0.16)	(0.06)
Disability					-0.77***	0.46***	-0.24	0.78
- J					(0.1)	(0.05)	(0.16)	(0.13)
Other Language	e				-0.19	0.83	-0.47**	0.63**
	-				(0.11)	(0.09)	(0.15)	(0.09)
Immigrant					0.42***	1.52***	-0.09	0.91
8					(0 1)	(0.16)	(0.14)	(0.13)

Table 14Predictors of Asset Poverty Based on Net Worth with LIM Threshold, Pooled Model 1999

Table 14 continued

Model 23 Model 21 Model 22 Model 24 Beta Coef ORs Beta Coef ORs Beta Coef ORs Beta Coef ORs (SE) (SE) (SE) (SE) (SE) (SE) (SE) (SE) **Block Four** Homeowner -3.76*** 0.02*** (0.1)(0.) Province 0.02 Ontario 1.01 (0.12)(0.12)Alberta -0.02 0.98 (0.13)(0.13)British Columbia 0.01 1.01 (0.14)(0.14)-0.28* 0.75* Rural (0.14)(0.11)-0.13* 0.88* Income (log) (0.06)(0.05)-0.39*** 0.68*** Work Full Time (0.07)(0.11)-0.27*** 0.76*** 1.56*** 4.78*** 3.74*** 41.88*** 4.31*** 74.72*** Constant (0.03)(0.02)(0.14)(0.66)(0.25)(47.3)(10.35)(0.63)8276 Unweighted N 12120 12120 12120 Weighted N 9647240 9647240 9647240 8289005 Pseudo R-square 0.01 0.09 0.17 0.49 AIC 12891491.8 11808720.3 10822567.5 5722344.6 BIC 12891519.9 11808790.7 10822764.7 5722637.1 LR Chi-square 73773.52 1156551.03 test 2142721.75 5430949.99

Predictors of Asset Poverty Based on Net Worth with LIM Threshold, Pooled Model 1999

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. * p < .05. ** p < .01. *** p < .001.

Tables 15 and 16 present the models predicting net worth poverty for 2005. In these models, the covariates were not as strong predictors of asset poverty as the 1999 estimates. Families with children are 1.64 times as likely to be net worth asset poor (based on LICO) and 1.69 times as likely to be asset poor (based on LIM) in 2005 (p < .05). Like the 1999 results, Table 13 shows that families with children were found to be significantly less likely to be NW LICO asset poor with the only first two blocks of variables added to the regressions. Families with children were found to have statistically significantly lower odds of NW LICO poverty in the first two types of models in 1999 (OR = 0.60, p < .001; OR = 0.58, p < .001, respectively). Once all covariates are added to the regression in Model 28, those aged 50-64 had a 61% lower likelihood of being poor compared to those aged 18-24 (OR = 0.39, p < .05). Like previous regressions, education category, language, and homeownership were found to be significantly related to lower odds of asset poverty. However, in the 2005 models, income, rural location, and working full time were not related to net worth asset poverty. Notably, living in the province of Ontario was associated with 37% lower odds of being net worth asset poor (LICO) in 2005 (p < .05).

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Table 15	
Predictors of Asset Poverty Based on Net Worth with LICO Threshold, Pooled Model 2005	

	Model 25		Mod	lel 26	Moo	lel 27	Model 28		
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block One									
Children	-0.5***	0.6***	-0.55***	0.58***	-0.01	0.99	0.5*	1.64*	
	(0.09)	(0.06)	(0.11)	(0.06)	(0.13)	(0.13)	(0.21)	(0.35)	
Block Two									
Age Category									
25-34			-1.06***	0.35***	-0.61*	0.54*	0.12	1.13	
			(0.25)	(0.09)	(0.26)	(0.14)	(0.42)	(0.47)	
35-49			-2.11***	0.12***	-1.84***	0.16***	-0.4	0.67	
			(0.23)	(0.03)	(0.24)	(0.04)	(0.39)	(0.26)	
50-64			-2.71***	0.07***	-2.45***	0.09***	-0.93*	0.39*	
			(0.25)	(0.02)	(0.26)	(0.02)	(0.4)	(0.16)	
Block Three								. ,	
Sex and Marital	l Status								
Unmarried me	en				-0.21	0.81	0.1	1.1	
					(0.14)	(0.11)	(0.2)	(0.22)	
Married men					-1.64***	0.19***	-0.31	0.74	
					(0.15)	(0.03)	(0.24)	(0.18)	
Married wom	en				-1.15***	0.32***	-0.06	0.95	
					(0.17)	(0.05)	(0.28)	(0.27)	
Education Cate	gory								
HS diploma					-0.84***	0.43***	-0.75**	0.47**	
					(0.16)	(0.07)	(0.24)	(0.11)	
PS certificate/	/diploma				-1.06***	0.34***	-0.64**	0.52**	
					(0.18)	(0.06)	(0.24)	(0.12)	
University dip	oloma				-1.58***	0.21***	-1.66***	0.19***	
					(0.17)	(0.04)	(0.27)	(0.05)	
Disability					0.68***	1.96***	0.14	1.15	
-					(0.14)	(0.28)	(0.2)	(0.22)	
Other Language	е				-0.31	0.73	-1.17***	0.31***	
0 0					(0.18)	(0.13)	(0.27)	(0.08)	
Immigrant					0.51**	1.66**	0.27	1.3	
8								(a a ()	

Table 15 continued

Predictors of Asset Poverty Based on Net Worth with LICO Threshold, Pooled Model 2005

	Model 25		Mo	odel 26	M	odel 27	Model 28		
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block Four									
Homeowner							-4.11***	0.02***	
							(0.22)	(0.)	
Province									
Ontario							-0.46*	0.63*	
							(0.19)	(0.12)	
Alberta							0.1	1.11	
							(0.26)	(0.29)	
British Columbia						-0.14	0.87		
							(0.21)	(0.18)	
Rural							-0.05	0.95	
							(0.26)	(0.24)	
Income (log)							-0.15	0.86	
							(0.08)	(0.07)	
Work Full Time							-0.14	0.87	
							(0.18)	(0.16)	
Constant	-0.3***	0.74***	1.54***	4.66***	2.48***	11.97***	4.65***	104.5***	
	(0.05)	(0.04)	(0.22)	(1.03)	(0.26)	(3.17)	(0.82)	(86.27)	
Unweighted N	40	07	2	4007		4007	, ,	2924	
Weighted N	1045	2144	104	452144	10-	452144	90	58913	
Adjusted R-									
square	0.0	01		0.11		0.23		0.55	
AIC	13781	681.0	1232	27406.9	107	83916.8	548	36301.3	
BIC	13781	709.3	1232	27477.7	107	84115.1	548	86595.7	
LR Chi-square									
test	1390	10.28	159	3290.38	313	6798.47	664	5855.05	

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. p < .05. ** p < .01. *** p < .001.

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Table 16					
Predictors of Asset	Powerty Rased	n Net Worth	with IIM T	hreshold	Pooled Mode

Predictors of Ass	et Poverty Base	d on Net Worth	with LIM Thresh	old, Pooled Mo	del 2005			
	Мо	del 29	Мо	del 30	Мс	odel 31	Мо	del 32
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Block One								
Children	-0.49***	0.61***	-0.52***	0.59***	0.02	1.02	0.53*	1.69*
	(0.1)	(0.06)	(0.11)	(0.06)	(0.13)	(0.13)	(0.21)	(0.35)
Block Two								
Age Category								
25-34			-1.13***	0.32***	-0.69**	0.5**	-0.07	0.93
			(0.25)	(0.08)	(0.25)	(0.13)	(0.43)	(0.4)
35-49			-2.19***	0.11***	-1.93***	0.14***	-0.64	0.53
			(0.24)	(0.03)	(0.24)	(0.04)	(0.42)	(0.22)
50-64			-2.79***	0.06***	-2.52***	0.08***	-1.13**	0.32**
			(0.25)	(0.02)	(0.26)	(0.02)	(0.43)	(0.14)
Block Three	~							
Sex and Marital	Status							
Unmarried m	ien				-0.18	0.83	0.14	1.15
					(0.14)	(0.12)	(0.2)	(0.23)
Married men					-1.63***	0.2***	-0.32	0.73
					(0.14)	(0.03)	(0.23)	(0.17)
Married worr	nen				-1.13***	0.32***	-0.04	0.96
					(0.17)	(0.06)	(0.28)	(0.26)
Education Categ	gory				0.02***	0 1 1 ** *	0 7**	0 5**
HS diploma					-0.83***	0.44^{***}	-0.7**	0.5**
DC	. / 1: 1				(0.16)	(0.07)	(0.24)	(0.12)
PS certificate	e/diploma				-1.05^{***}	0.35^{***}	-0.6**	0.55^{**}
TT.:					(0.18)	(0.00)	(0.23)	(0.13)
University di	pioma				-1.5/	(0.04)	-1.39^{***}	(0.05)
Dischilit					(0.17)	(0.04)	(0.25)	(0.05)
Disability					(0.14)	(0.27)	(0.1)	(0, 21)
Other Language					(0.14)	(0.27)	(0.19)	(0.21) 0.25***
Other Language	5				-0.29	0.73	-1.03	(0.00)
Immigrant					(0.10)	(0.14)	(0.20)	(0.07)
mingrant					(0.18)	(0.28)	(0.21)	(0.21)
					(0.18)	(0.20)	(0.23)	(0.51)

Table 16 continued

	Model 29		M	odel 30	Мс	odel 31	Model 32		
	Beta Coef	Beta Coef ORs		ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Block Four			_						
Homeowner							-3.97***	0.02***	
							(0.22)	(0.)	
Province									
Ontario							-0.42*	0.66*	
							(0.2)	(0.13)	
Alberta							0.09	1.1	
							(0.25)	(0.27)	
British Columbia							-0.15	0.86	
							(0.21)	(0.18)	
Rural							-0.04	0.96	
							(0.26)	(0.25)	
Income (log)							-0.15	0.86	
							(0.08)	(0.07)	
Work Full Time							-0.11	0.9	
							(0.18)	(0.16)	
Constant	-0.32***	0.73***	1.6***	4.93***	2.53***	12.52***	4.64***	103.4***	
	(-0.05)	(-0.04)	(-0.22)	(-1.1)	(-0.26)	(-3.28)	(0.81)	(83.69)	
Unweighted N	40	007		4007	4	1007	2	.924	
Weighted N	1045	52144	10	452144	104	152144	90	58913	
Pseudo R-square	0.	.01		0.12	(0.23	().53	
AIC	13773	3190.7	122	66105.6	107:	10756950.4		5642683.8	
BIC	13773	3219.0	122	66176.4	107:	10757148.7		5642978.3	
LR Chi-square									
test	1298	379.68	163	1636970.75		3146143.95		6470280.65	

Predictors of Asset Poverty Based on Net Worth with LIM Threshold, Pooled Model 2005

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. p < .05. ** p < .01. *** p < .001.

The models presented in Tables 9-16 showed clearly that families with children had higher odds of asset poverty than those without children, but they did not answer the question of what the predictors are for these particular families. Separate regressions were run with the final blocks of variables to tease out these differences, if they existed. Because meaningful differences were not exposed between the LICO and LIM thresholds, the models presented in Tables 17 and 18 only present odds of asset poverty for LICO thresholds. The LIM models are available upon request. Table 17 displays results from four regression models. In 1999 and 2005, families with children had similar predictors of asset poverty compared to their childless family counterparts. The age category variables were significantly related to lower odds of asset poverty in 1999, but in 2005 this relationship was not evident. Homeownership and education levels higher than a non-high school graduate leaving were highly associated with lower probabilities of being financial asset poor. For families with children, the odds of being financial asset poor were significantly lower if the language first spoken was neither French nor English (*OR* = 0.73 in 1999; *OR* = 0.61 in 2005, *p* < .05).

		19	99		2005				
	Mode	el 33	Mode	el 34	Mode	el 35	Mod	el 36	
	Families w	/ Children	Families w/	o Children	Families w	/ Children	Families w	/o Children	
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	
Age Category	· ·			· ·	· ·	· ·	· · ·	· · ·	
25-34	0.1	1.11	-0.42*	0.65*	-1.1	0.33	0.07	1.07	
	(0.39)	(0.43)	(0.2)	(0.13)	(2.26)	(0.75)	(0.35)	(0.37)	
35-49	-0.27	0.76	-0.56**	0.57**	-1.36	0.26	-0.08	0.92	
	(0.38)	(0.29)	(0.19)	(0.11)	(2.25)	(0.58)	(0.33)	(0.3)	
50-64	-0.63	0.53	-0.89***	0.41***	-1.14	0.32	-0.27	0.76	
	(0.41)	(0.22)	(0.2)	(0.08)	(2.27)	(0.72)	(0.34)	(0.26)	
Sex and Marital Status							``´´		
Unmarried men	0.01	0.99	-0.02	0.98	0.32	1.38	0.01	1.00	
	(0.18)	(0.18)	(0.11)	(0.11)	(0.37)	(0.51)	(0.18)	(0.18)	
Married men	-0.09	0.92	-0.22	0.80	-0.20	0.82	-0.38	0.69	
	(0.15)	(0.14)	(0.12)	(0.09)	(0.29)	(0.24)	(0.22)	(0.15)	
Married women	-0.4*	0.67*	-0.17	0.84	-0.36	0.70	-0.27	0.77	
	(0.17)	(0.12)	(0.15)	(0.13)	(0.32)	(0.22)	(0.24)	(0.18)	
Education Category							``´´		
HS diploma	-0.35*	0.71*	-0.46***	0.63***	-0.09	0.92	-0.52*	0.59*	
*	(0.17)	(0.12)	(0.14)	(0.09)	(0.35)	(0.32)	(0.26)	(0.16)	
PS certificate/diploma	-0.42*	0.66*	-0.73***	0.48***	-0.32	0.72	-0.56*	0.57*	
-	(0.16)	(0.11)	(0.12)	(0.06)	(0.33)	(0.24)	(0.24)	(0.14)	
University diploma	-1.10***	0.33***	-1.33***	0.27***	-1.08**	0.34**	-1.14***	0.32***	
	(0.18)	(0.06)	(0.15)	(0.04)	(0.35)	(0.12)	(0.26)	(0.08)	
Disability	-0.29	0.75	-0.14	0.86	0.38	1.47	0.32	1.38	
·	(0.2)	(0.15)	(0.16)	(0.14)	(0.32)	(0.46)	(0.18)	(0.24)	
Other Language	-0.2	0.82	-0.31*	0.73*	-0.16	0.85	-0.5*	0.61*	
	(0.17)	(0.14)	(0.14)	(0.1)	(0.32)	(0.27)	(0.24)	(0.15)	
Immigrant	0.00	1.00	0.18	1.20	0.18	1.20	0.41	1.50	
_	(0.17)	(0.17)	(0.13)	(0.16)	(0.3)	(0.36)	(0.23)	(0.34)	

Table 17Predictors of Asset Poverty Based on Financial Assets (LICO), Separate Models, 1999 and 2005

Table 17 continued

Predictors of Asset Poverty Based on Financial Assets (LICO), Separate Models, 1999 and 2005

		19	199		2005				
	Mode	el 33	Mode	el 34	Mod	el 35	Mod	el 36	
	Families w	/ Children	Families w	o Children	Families w	/ Children	Families w	o Children	
	Beta Coef	ORs							
	(SE)								
Homeowner	-1.02***	0.36***	-0.97***	0.38***	-1.21***	0.3***	-0.98***	0.38***	
	(0.13)	(0.05)	(0.1)	(0.04)	(0.28)	(0.08)	(0.17)	(0.06)	
Province									
Ontario	-0.20	0.82	-0.02	0.98	-0.56*	0.57*	-0.11	0.89	
	(0.12)	(0.10)	(0.11)	(0.11)	(0.24)	(0.14)	(0.17)	(0.15)	
Alberta	-0.26	0.77	-0.05	0.95	-0.12	0.88	-0.16	0.85	
	(0.14)	(0.11)	(0.12)	(0.11)	(0.34)	(0.3)	(0.21)	(0.18)	
British Columbia	-0.04	0.96	-0.14	0.87	-0.33	0.72	-0.22	0.80	
	(0.14)	(0.13)	(0.12)	(0.11)	(0.28)	(0.2)	(0.2)	(0.16)	
Rural	0.06	1.06	-0.02	0.98	-0.09	0.91	-0.41*	0.66*	
	(0.14)	(0.15)	(0.12)	(0.12)	(0.25)	(0.23)	(0.2)	(0.13)	
Income (log)	-0.32*	0.73*	-0.24**	0.79**	-0.31	0.73	-0.44*	0.64*	
	(0.15)	(0.11)	(0.09)	(0.07)	(0.22)	(0.16)	(0.17)	(0.11)	
Work Full Time	-0.4**	0.67**	-0.15	0.86	-0.03	0.97	0.03	1.03	
	(0.13)	(0.09)	(0.11)	(0.09)	(0.22)	(0.21)	(0.18)	(0.18)	
Constant	6.43***	622.2***	4.95***	140.8***	6.72*	830.3*	6.33***	560.6***	
SE	(1.46)	(910.2)	(0.81)	(113.9)	(3.03)	(2517.8)	(1.66)	(928.1)	
Unweighted N	35	66	47	10	11	28	17	96	
Weighted N	3267	/150	5021	855	3196	6066	5862	2847	
Pseudo R-square	0.1	12	0.1	13	0.	15	0.	16	
AIC	3773	740.0	59190	084.1	36830	075.4	6650	896.2	
BIC	37740	0.000	59193	5919352.6		3683334.9		6651167.9	

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. p < .05. ** p < .01. *** p < .001.

Predictors of Asset Poverty Ba	used on Net Worth	(LICO), Sep	parate Models, .	1999 and 2005	5			
		1	999			2	005	
	Model	37	Mode	el 38	Mode	1 39	Model 40	
	Families w/ Children		Families w/o Children		Families w/ Children		Families w/o Children	
	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs	Beta Coef	ORs
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)
Age Category								
25-34	0.28	1.32	-0.35	0.71	-1.64	0.19	0.34	1.40
	(0.43)	(0.57)	(0.27)	(0.19)	(1.38)	(0.27)	(0.44)	(0.62)
35-49	-0.54	0.58	-0.81**	0.44**	-1.99	0.14	-0.27	0.76
	(0.43)	(0.25)	(0.25)	(0.11)	(1.35)	(0.18)	(0.40)	(0.31)
50-64	-1.01*	0.36*	-1.32***	0.27***	-3.09*	0.05*	-0.74	0.48
	(0.47)	(0.17)	(0.25)	(0.07)	(1.53)	(0.07)	(0.41)	(0.20)
Sex and Marital Status								
Unmarried men	0.26	1.30	-0.17	0.84	-0.14	0.87	0.17	1.19
	(0.2)	(0.26)	(0.14)	(0.12)	(0.53)	(0.46)	(0.24)	(0.29)
Married men	0.14	1.16	-0.31	0.73	-0.40	0.67	-0.24	0.79
	(0.19)	(0.22)	(0.17)	(0.12)	(0.42)	(0.28)	(0.31)	(0.25)
Married women	-0.23	0.80	-0.48*	0.62*	-0.38	0.69	0.26	1.30
	(0.23)	(0.18)	(0.24)	(0.15)	(0.45)	(0.31)	(0.40)	(0.52)
Education Category								
HS diploma	0.15	1.16	-0.19	0.83	-1.08*	0.34*	-0.74*	0.48*
-	(0.20)	(0.23)	(0.18)	(0.15)	(0.52)	(0.18)	(0.30)	(0.14)
PS certificate/diploma	0.12	1.13	-0.78***	0.46***	-1.04*	0.35*	-0.56	0.57

(0.07)

0.25***

(0.05)

0.83

(0.15)

0.46***

(0.07)

0.25***

(0.05)

(0.48)

-1.79***

(0.52)

0.32

(0.39)

-0.92*

(0.40)

-0.34

(0.36)

(0.17)

0.17***

(0.09)

1.37

(0.53)

0.4*

(0.16)

0.71

(0.26)

(0.29)

-1.66***

(0.34)

0.07

(0.24)

-1.24***

(0.35)

0.45

(0.34)

(0.17)

0.19***

(0.06)

1.08

(0.26)

0.29***

(0.10)

1.57

(0.54)

Table 18Predictors of Asset Poverty Based on Net Worth (LICO), Separate Models, 1999 and 2005

(0.19)

-0.22

(0.24)

-0.18 (0.22)

-0.58*

(0.24)

-0.22

(0.23)

University diploma

Disability

Immigrant

Other Language

(0.21)

0.80

(0.2)

0.84

(0.19)

0.56*

(0.13)

0.8

(0.19)

(0.16)

-1.38***

(0.21)

-0.19

(0.18)

-0.78***

(0.16)

-1.38***

(0.21)

Table 18 continued

Predictors of Asset Poverty Based on Net Worth (LICO), Separate Models, 1999 and 2005

		19	99		2005					
	Mode	el 37	Mode	el 38	Mod	el 39	Mod	el 40		
	Families w	/ Children	Families w/	o Children	Families w	/ Children	Families w	/o Children		
	Beta Coef	ORs	Beta Coef ORs		Beta Coef	ORs	Beta Coef	ORs	ORs	
	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)	(SE)		
Homeowner	-3.82***	0.02***	-0.22	0.80	-4.28***	0.01***	-4.13***	0.02***		
	(0.16)	(0.00)	(0.22)	(0.18)	(0.48)	(0.01)	(0.29)	(0.00)		
Province										
Ontario	-0.24	0.79	0.13	1.14	-0.81*	0.44*	-0.34	0.71		
	(0.17)	(0.13)	(0.16)	(0.19)	(0.37)	(0.17)	(0.25)	(0.18)		
Alberta	-0.23	0.80	0.12	1.13	0.18	1.20	-0.01	0.99		
	(0.17)	(0.14)	(0.19)	(0.21)	(0.45)	(0.54)	(0.32)	(0.31)		
British Columbia	-0.12	0.89	0.14	1.15	-0.63	0.54	0.08	1.09		
	(0.19)	(0.16)	(0.18)	(0.21)	(0.37)	(0.2)	(0.27)	(0.29)		
Rural	-0.21	0.81	-0.50*	0.61*	-0.20	0.82	0.07	1.07		
	(0.18)	(0.15)	(0.22)	(0.13)	(0.40)	(0.33)	(0.37)	(0.40)		
Income (log)	-0.07	0.93	-0.13	0.88	-0.11	0.90	-0.20	0.82		
	(0.08)	(0.08)	(0.08)	(0.07)	(0.23)	(0.21)	(0.10)	(0.09)		
Work Full Time	-0.60***	0.55***	-0.36*	0.70*	-0.34	0.71	-0.06	0.94		
	(0.15)	(0.08)	(0.15)	(0.10)	(0.32)	(0.23)	(0.22)	(0.21)		
Constant	3.84***	46.49***	4.74***	113.9***	7.29**	1467.6**	4.71***	110.8***		
SE	(0.95)	(44.13)	(0.87)	(99.02)	(2.72)	(3984.5)	(1.06)	(117.3)		
Unweighted N	35	66	47	10	11	28	17	96		
Weighted N	3267	/150	5021	855	3196	5066	5862	2847		
Pseudo R-square	0.4	46	0.5	52	0.:	55	0.:	55		
AIC	22716	543.7	32868	352.8	1774′	793.0	3645	954.4		
BIC	22719	2271903.7		3287121.4		1775052.5		3646226.1		

Note. Standard errors are in parentheses; reference categories are detailed on pages 85-86 and in Table 2 on page 76. p < .05. ** p < .01. *** p < .001.

Odds ratios of net worth poverty for families with children and families without children (2005) are presented in Figures 6 and 7. Point estimates and standard errors of these odds ratios are presented in Table 18. The patterns of predictors of net worth asset poverty for families with and without children were similar in 1999 and 2005. The only notable difference was that for families with children, living in Ontario was associated with a lower likelihood of net worth poverty (OR = 0.44, p < .05). To emphasize the differences between predictors of asset poverty and LICO poverty, two additional logistic regression models were run. These models have a binary income poverty (based on LICO thresholds) dependent variable, and include all block 4 variables, except for the log of income, as covariates. Figures 8 and 9, presented directly after Figures 6 and 7, show that the predictors of asset poverty were different than the predictors of income poverty. All family types with children (married or unmarried men and married women) were significantly less likely to be income poor compared to unmarried women. Unlike the asset poverty models, working age adults with and without children were less likely to be income poor. Immigrants have insignificantly higher odds of net worth poverty, but immigrants had significantly higher odds of income poverty regardless of if they have children (OR = 3.28, p <.05) or if they do not have children (OR = 2.98, p < .001).







Figure 7. Odds ratios of net worth asset poverty (based on LICO thresholds) in 2005. Note: this figure shows part two of Models 39 and 40.



Figure 8. Odds ratios of income poverty (based on LICO thresholds) in 2005. Note: this figure shows part one of a logistic regression model not presented in a table. Full results are available upon request.



Figure 9. Odds ratios of income poverty (based on LICO thresholds) in 2005. Note: this figure shows part two of a logistic regression model not presented in a table. Full results are available upon request.

Odds Ratios of Income Poverty

Chapter 5: Discussion

1. Measurement and Predictors of Asset Poverty

Different poverty measures result in substantially different conclusions about the welfare of Canadian families. I find that measures based on income yield lower rates of poverty compared to measures based on assets. Following previous work done in diverse contexts (Caner & Wolff, 2004, 2004; Haveman & Wolff, 2004; Kim & Kim, 2013; Shapiro, 2004; Shapiro & Oliver, 2006), I find that the asset poverty rates presented here yield rates twice to three times greater than income measures. Unlike measures of income poverty, families with children are at greater risk of being financial asset poor than those without children. Immigrant families are at far greater risk of being income poor, but have lower odds of asset poverty. These differences underscore the need for multiple measures of economic deprivation. A focus only on income in poverty measurement may minimize the economic hardships and insecurities that many Canadian families face. Although there is a growing focus on social exclusion in Canadian antipoverty policies, these policies typically measure their impact through income. However, there are many reasons to expand the traditional examination of poverty through income by also examining assets. A focus on asset poverty is also a useful lens for understanding child development and well-being. Assets help smooth consumption when a family experiences an income shock, and represent an emergency fund for families (Nam, Huang, & Sherraden, 2008). Assets are also theorized to be important for the long-term social and economic development of families (Sherraden, 1991). For example, assets provide opportunities that extend beyond simply the value of stored income. Assets can perpetuate inequalities across generations (Shapiro, 2004), and are theorized to be a better indicator of long-term well-being (Caner & Wolff, 2004; Nam et al., 2008; Oliver & Shapiro, 1990; Shapiro, 2004). Income alone often cannot help individuals take financial risks that might improve their long term well-being such as: furthering their

education, starting a business, or buying a home. Furthermore, assets help families develop socioeconomically through increased capacities and choices. Sherraden (1991) theorized that asset holding has distinct psychological effects, including future orientation. Williams Shanks (2007) argued that, "the individual attitudes and long-term perspective that allow parents to accumulate and maintain wealth are also the attitudes and perspective that allow them to plan for their children's futures and provide opportunities that make them more likely to achieve success as they enter adulthood" (p. 98). For these reasons, my findings of high levels of financial asset poverty evident in families with children should be of special concern to those who are interested in the well-being of Canadian children.

1.1 Families with Children.

The economy in Canada during the six-year period between the SFS 1999 and 2005 was fairly strong. Income poverty rates for families with children were generally lower than both the Canadian average and the average for families without children in both 1999 and 2005 with both thresholds (LICO and LIM). This may be because of the high rates of full time work and homeownership in families with children (see Table 8). But the pattern of lower poverty for families with children does not consistently hold when poverty measures are based on assets. As shown in Figures 4 and 5, the rates of net worth poverty for families with children are slightly lower than for those without children, and the rates of financial asset poverty among families with children. Aratani and Chau (2010) also showed that families in the US had lower rates of net worth poverty (~33%) and higher rates of financial asset poverty (~55%). Assuming that the Aratani and Chau data and methodology are roughly comparable to mine, I find that a higher proportion of Canadian families with children are asset poor compared to American families with children. As has been discussed by Rothwell and Haveman (2013), Canada has slightly

higher rates of asset poverty than the US'. One possible explanation for the higher rates of asset poverty observed in Canadian families compared to American families may be related to weaker incentives to save due to a stronger social welfare system. For example, employment insurance and welfare incomes are on average more generous in Canada than the US. Another explanation might be the lower tuition rates and possibly stronger financial assistance schemes for higher education in Canada. However, countries with far stronger social insurance policies, such as Finland, showed higher rates of saving than Canada (Brandolini, Magri, & Smeeding, 2010). It remains unclear why Canadians on average, and Canadian families in particular, have higher rates of asset poverty than some comparable countries (Brandolini et al., 2010; Rothwell & Haveman, 2013). Overall, the relationship between social welfare programs and private asset accumulation is inconclusive (see Gornick, Sierminska, & Smeeding, 2009), and more research is needed to tease out the effects of social insurance programs on savings rates in OECD countries.

After controlling for covariates, families with children were also twice as likely on average to be asset poor than those without children. However, rates of asset poverty (based on both LIM and LICO) *decreased* from 1999 to 2005. By 2005, the rates of net worth asset poverty for families with children (30.4%) dipped below the rates of their childless peers (34.2%). The lower rates of net worth asset poverty across Canada seen in 2005 compared to 1999 are surprising in light of the growing average household debt to income ratio. In 2011, the average household held \$1.50 in debt to each dollar they earned (Chawla, 2011). Examining evidence from the 2009 Canadian Financial Capability Survey, Chawla and Uppal (2012) find that debts were more likely to be carried by young homeowners, young families, the better educated, and those with high incomes. These puzzling findings would seem to indicate that families with children would be even more likely to have high amounts of debt that might lower their overall net worth. Perhaps the lower rates of net worth asset poverty for families with children in 2005 compared to 1999 are not indicative of lower levels of debt, but rather higher levels of tangible asset holding (like rising home equity).

Some surprising results were found in both the pooled and separate regression models. In Tables 13-16 the odds of net worth asset poverty for families with children change with the introduction of various blocks of covariates. These changes are dramatic. At first, when no covariates are entered into the models, families with children have significantly lower odds of being net worth asset poor. However after the fourth block of variables is included in the regressions, families with children have higher odds of asset poverty compared to those without children (e.g. Table 13, Model 20, OR = 1.99, p < .001). The significant reversal in odds ratios in the final net worth asset poverty models may be due to variables that are highly correlated with both asset poverty and families with children, including homeownership and working full time. These variables are also associated with higher odds of financial asset poverty, however, it appears that having children is significantly predictive of FA poverty no matter the covariates that are included in the models. Another surprising finding is that age category plays out differently in 1999, 2005, net worth, and financial asset poverty models. In 1999, age category is not significantly predictive of financial asset poverty but is significantly predictive of net worth poverty when block four variables are included. In 2005, age category is less significant for both dependent variables, remaining significant only for families with household heads aged 50-64 (see Tables 15 and 16). In the separate regression models (where families with children and without children are separated), a similar story emerges. It is unclear if these differences are due to sample size or some unobserved characteristics of the samples.

Explanations for higher asset poverty rates in families with children compared to those without children include: the life cycle hypothesis, the child investment proposition (or family

investment model), and low levels of financial literacy. Across most of the regression models, families with older household heads are less likely to be asset poor, a finding that supports the life cycle hypothesis. When predictors of asset poverty for families with children are examined separately from families without children, age does not emerge as a significant predictor. However, there is less variation in age categories within these two groups compared to between the two groups. In the pooled models, age emerges as a consistent and negative predictor of asset poverty. This lines up with what the life cycle hypothesis would predict, as well as the buffer stock model of savings in relation to age (Milligan, 2005; Nam et al., 2008). Families with younger household heads (18-24) may be more likely to have younger children, and have higher odds of asset poverty than older household heads. This finding might support the lifecycle hypothesis of saving, or the family investment model.

Financial asset poverty is particularly high in families with children (over 60% of families are FA LICO poor), indicating that many families do not have significant emergency funds on hand or savings for future oriented goals. Overall, the high odds of financial asset poverty (see Tables 9-16) in families with children, even after controlling for income, lend some support to the parental investment model. It is plausible that parents are choosing to invest their income in their family and children's current level of well-being over longer-term concerns, expecting a reward on investment. Research shows that parents with greater levels of income invest more in their children (Reardon, 2011), and parents may be choosing to invest their income in immediate opportunities for their children rather than saving. Although this type of family investment might reap developmental rewards for children, it might also be associated with increased insecurity. Evidence from the US showed that families who experience severe income shocks are likely to draw on assets to maintain household stability (Elliott, Friedline, & Nam, 2013). Without financial assets to draw upon, the 60% of families in Canada that are FA

poor might be at risk of having to leverage tangible assets (such as a home) in the case of an emergency. The loss of a home represents significant loss of overall family and household stability (Sandstrom & Huerta, 2013). Furthermore, the results of this study show that many Canadian families are not financially prepared to assist their children in attending post-secondary educational institutions. In an increasingly specialized labour market, the skills provided through post-secondary education are requisite. These skills also reap rewards for young adults throughout their lifetimes, and represent a significant determinant of higher wages (Boudarbat, Lemieux, & Riddell, 2010). Research from the US found that college savings are associated with children's aspirations for and attendance at higher educational institutions, particularly for socioeconomically disadvantaged groups (Cheatham & Elliott, 2013; Elliott & Nam, 2012). Although the accessibility and cost of higher education in the US may be different than it is in Canada, tuition costs have risen steeply in most provinces over the past ten years (with Quebec and Newfoundland as outliers; Wright, Walters, & Zarifa, 2013). Given the high rates of asset poverty, it is unclear how families in Canada are preparing for the economic burdens of higher education costs for their children. Student loan debts are rising, and there is increasing evidence that recent graduates are having difficulties meeting their repayment requirements (Wright et al., 2013). Many interventions exist in Canada to encourage parents to save for education. However the eligible family uptake rate for an intervention targeted towards low-income families, the Canada Education Savings Grant, is less than 50% (Government of Canada, 2013). More research is needed in a Canadian context regarding how parents perceive and plan for educational savings for their children.

Financial knowledge, functioning, and well-being are tied to the socioeconomic context of individuals. Low income and socioeconomically disadvantaged families struggle to save (Barr & Blank, 2009; Shapiro, 2004). This study finds that higher education levels are strongly

associated with negative odds of being asset poor. This is not a surprising finding; those who can access institutional constructs that promote savings are more likely to save, and those who access these constructs are often socioeconomically advantaged. Chawla and Uppal (2012) find that financial literacy levels rise with each septile of household debt. However, the relationship between financial literacy and asset levels is far more complicated than just having knowledge. Financial education efforts may not recognize that financially insecure individuals have impeded access to financial institutions (Johnson & Sherraden, 2007). Buckland's work with low income Canadians shows that these individuals are not struggling with a lack of financial literacy so much as structural factors that impeded their capability to save. The findings of this study support the idea that low savings levels are not strongly related to income, and that other factors are at play. This finding has both important implications for further research and for policy. It is possible that at least one of these factors is related to financial capability. Financial capability focuses on combining behavioural economics, financial literacy, and institutional access to create opportunities for individuals to increase their longer-term financial security (Buckland, 2010, 2012; Johnson & Sherraden, 2007; Mullainathan & Shafir, 2011). Evidence from a randomized control trial of savings prompts attached to an online tax filing software has supported the idea that institutional access and behavioural economic principles significantly impact how and when people save (Grinstein-Weiss, Ariely, Key, & Holub, 2014).

1.2 Provincial Differences

When examining simple frequencies of poverty, there appears to be wide provincial variation in poverty rates and trends for families with children and families without children, within the four provinces examined. For example, in Quebec families with kids have higher rates of all forms of asset poverty in both 1999 and 2005, but in Ontario a more complicated pattern was uncovered. In 1999, families with kids in Ontario had slightly lower rates of net worth

poverty and much higher rates of financial asset poverty than those without children (approximately 29% to 32% and 57% to 48% respectively). However by 2005, families with children saw their financial asset poverty rates fall by nearly ten percentage points. Logistic regression analyses indicated that the odds of asset poverty were not significantly greater in any province compared to the odds of asset poverty in Quebec. However, when families with children are separated from families without children in two different regression models (Tables 17 and 18), it appears that families with children living in Ontario have 66% lower odds of being net worth asset poor compared to families in Quebec in 2005 (p < .05). Compared to families with kids in Quebec, families with kids in Ontario had 43% lower odds of being financial asset poor in 2005 (p < .05). However, these lower odds may not be the result of provincial characteristics per se. They may be due to different demographic and economic distributions among parents in Ontario that cannot be fully controlled for in logistic regression when group variance is clustered. Work on provincial income poverty rates by Plante and van den Berg (2011) showed that after controlling for systematic differences in the prevalence of more or less vulnerable household types, poverty rates in the three other provinces examined (Ontario, Alberta, and British Columbia) were three to four percentage points higher than Quebec's. Thus, caution should be used when interpreting the provincial frequencies presented in Tables 4-6, and the odds-ratios presented in Tables 17 and 18.

In Quebec, the passage of *An Act to Combat Poverty and Social Exclusion* (R.S.Q., chapter L-7) in 2002 signaled a change in North American social welfare system conceptualization and response to poverty. Some have found evidence, and pushed the idea of "Quebec exceptionalism" or outlier status in terms of addressing poverty (Proulx, Faustmann, Raïq, & van den Berg, 2011; Raïq, Bernard, & van den Berg, 2011). However, the Quebec Act, Family Policy or subsequent poverty policy documents have not explicitly discussed the role of

assets in welfare, and the province continues to have a relatively tepid focus on asset-based social policies. Governmental efforts to define and measure asset poverty or wealth inequality are not apparent. The often cited Quebec Index of Material and Social Deprivation, developed by Pampalon and Hamel of the *Institut national de santé publique du Québec*, measures six dimensions of social and material deprivation, including income (Pampalon, Hamel, Gamache, & Raymond, 2009; Pampalon & Raymond, 2000). It does not measure any forms of assets or wealth. While the acknowledgement of social exclusion in the Act and subsequent policy documents indicates that Quebec views poverty multi-dimensionally, the income-consumption paradigm of measuring poverty is dominant. The lack of focus on wealth can thus be seen as an important missing element to Quebec's provincial poverty reduction strategies.

1.3 Notes on Measurement

A significant portion of this thesis examined the differences between LICO and LIM thresholds of asset poverty. I find that the two the asset-based thresholds do not produce meaningfully different headcount ratios. For example, in 2005 33.3% of Canadians were net worth poor by a LICO threshold, and 33.2% were poor by a LIM threshold. The LICO represents a quasi-relative measure of income poverty with 36 thresholds for different family and community sizes. The LIM is a purely relative measure of income poverty with seven thresholds influence the determination of the asset thresholds I use in this study, however they do not mean that the asset thresholds I use are quasi-relative or relative. Relative or quasi-relative thresholds would take into account the overall distribution of assets in the population. When the LICO and LIM are transformed to form thresholds for asset poverty, they become more like absolute measures, although they remain adjusted for family and community size. This transformation of the LICO and LIM into

quasi-absolute measures of asset poverty may be why the two thresholds produce strikingly similar results in terms of rates of poverty.

2. Limitations

The results presented in this thesis examine asset poverty from a quasi-absolute perspective, and only index poverty based on a headcount ratio. Poverty researchers have levied serious critiques of the headcount ratio and absolute thresholds in the past (Brady, 2003; Citro & Michael, 1995; Niemietz, 2011; Ravallion, 2010a, 2010b). Absolute thresholds coupled with headcount ratios are poverty measurement techniques that help tell an important part of the story about asset poverty, but they do not tell the entire story. The absolute asset-based measures I use in this study do not explore inequality among the asset poor, depth of poverty, or the average gap between the asset poor and the median asset level. Given that wealth has a highly skewed distribution (Chawla, 2004; Oliver & Shapiro, 1990; Robson, 2013), and that wealth inequality is greater than income inequality (Chawla, 2008; Oliver & Shapiro, 1990), more attention should be paid to defining a measure of asset poverty that captures dimensions of *relative* poverty. Measurements of asset poverty, whether they conceptually originate in the consumption model, assets-for-development perspective, or the social stratification perspective, generally use the same type of methodology (Nam et al., 2008). Many studies use the Haveman-Wolff method to estimate asset poverty. While this measure has many strengths, it is unable to shed light on relative asset poverty, the depth of asset poverty, or dimensions of asset inequality. More theoretical work should be done to operationalize different measures of asset poverty stemming from other theoretical perspectives such as the social stratification or assets-for-development perspective.

There are a number of methodological limitations to the analyses presented here. First, the data is not longitudinal, and no casual inferences can be made whatsoever. Second, the SFS does not have demographic information on the racial or ethnic characteristics of respondents. Although race has been strongly associated with asset poverty in the US, for the time being, analysis of this question cannot be explored with extant data in Canada. Third, some of the variables presented in regression analyses are moderately collinear, leading to very high pseudo- R^2 statistics and very high odds ratios on the constant term. Perfect collinearity happens when one variable perfectly predicts the value of another variable. However, none of the common diagnostic tests for collinearity confirmed that problematic collinearity existed within the regression. Further, the majority of the variables included in this study are standard in many poverty studies. Standard errors on coefficients of interest were not exceedingly large, variables were not dropped from regressions, square root variance inflation factor (VIF) statistics were not large, the unweighted models passed link tests, and correlation tables indicated low to moderate correlations among variables. The VIF statistics did indicate that one of the variables (homeownership) included in the various models was above the rule of thumb for acceptable values (which is in general a value of 2). Regardless, collinearity may be an overblown methods problem in the social sciences, with rules of thumb on what are tolerable VIF statistics being unnecessarily rigid (Armstrong, 2013; Stine, 1995). The fourth limitation of these analyses may be that there is insufficient variation in variables, leading to imprecision in estimation. This lack of variation comes from the survey design and the chosen model specifications. The 2005 SFS has one-third of the sample size as 1999. The weights make the smaller sample representative, but weights cannot recreate sampling variation. These sampling differences may be leading to systematic bias within the 2005 estimates. When families with children are separated from families without children, another significant loss of variation occurs (recall the descriptive statistics presented in Table 8). Loss of variation can lead to unreliable and biased estimators. A related issue is that the models assume that families, nested in provinces, have similar error

variance between and within those provinces. This assumption may not be warranted, and may lead to biased estimates. The fifth limitation is that some of the variables were not coded uniformly across the 1999 and 2005 SFS datasets. An example of this is the disability variable. Unweighted estimates of the variable indicated that it was comparable to 1999, but weighted estimates revealed that this was not true. Finally, the results presented here are preliminary, and further work is required to check the robustness and sensitivity of findings.

3. Future Work

There are many avenues for future work. First, the estimates presented in Tables 9 through 16 pool the variance among groups that are likely to have different error variances, such as families with and without children, and those who live in different provinces. Tables 17 and 18 attempted to isolate the effects of having children, by examining predictors of asset poverty in families with children separately from families without children. But, as noted above, the way in which this was conducted does not control for the loss of variation in the two groups, nor does it control for the systematic differences between provinces. Thus, this method may not be meaningful in terms of properly describing the probabilities of being asset poor. Further analyses should explore the compositions of asset poverty for families with children within different provinces. Second, the work should be extended with more recent data. The 2012 SFS was just released; future work should explore how predictors of asset poverty remained the same or changed from 2005. Since 2005, more provinces have implemented poverty action plans, and it will be interesting to examine if income and asset poverty rates in provinces have changed from 2005. Third, analyses here unsurprisingly revealed that demographic differences exist among families with and without children. These differences cannot be completely controlled for within any statistical model, but particularly within multiple logistic regression analyses. The Blinder-Oaxaca decomposition technique, isolates the explained and unexplained group differences in an

outcome variable (Jann, 2008). Future work could use the Blinder-Oaxaca decomposition technique to expose if differences in asset poverty are due to children, province, or other group status. Propensity score matching (PSM) might also help to isolate the impact of having children on the probabilities of being asset poor, by matching the two groups (individuals with and without children) on a set number of important characteristics. This method (PSM), if done correctly with assumptions met, effectively creates a control group within the dataset (Rosenbaum & Rubin, 1985; Rubin & Thomas, 2000). Other techniques to explore asset poverty in families with children that could be applied include multi-level modeling, structural equation modeling, or structural casual modeling (Pearl, 1998, 2009; Stock & Watson, 2011).

4. Policy Implications and Conclusion

There are at least three main policy implications of this work. First, given the widespread financial asset poverty in Canadian families with children, policies and programs that encourage savings among families should be explored. These programs should focus on low- to moderate-income families, as they might experience the most hardship associated with low assets. In her review of tax preferred savings instruments, Robson (2013) concluded that the policy supports for asset and wealth building largely support those who are already relatively financially secure. A similar policy focus should be paid to those who are financially vulnerable. The *learnSave* program showed that targeted savings interventions for low-income individuals are cost effective for the government in the long-term (Leckie, Hui, Tattrie, Robson, & Voyer, 2010). Programs that could help Canadian parents save include IDAs, universal progressive child development accounts, or universal RESPs. A focus on the accessibility of these programs would help target them to the families that need them the most. Second, programs that have associated assets tests should be revised. Asset tests may have a relationship with asset poverty, particularly for very vulnerable children and families. From the perspective of social justice, it is untenable that

families who are in need of government short-term income assistance must leverage their longterm well-being by liquidating assets. Elimination of asset tests can help families protect their emergency funds, as well as invest in the future of their children. Furthermore, encouraging families to plan ahead through accumulation of assets is likely in agreement with the state's long-term financial interests. Third, a focus on the financial capabilities of young families is warranted. The study showed that younger families were more likely to be asset poor. Because savings practices start at a young age, a program that focuses on both the financial literacy and financial access of youth is needed. Financial capability programs that target youth have been shown to be effective and relatively low-cost (Loke, Libby, & Choi, 2013).

In my field placement as a youth protection delegate I worked with a family who, while struggling economically, identified that they had strong higher educational goals for their children. Wanting to support their aspirations in a more tangible way, I introduced them to the Canada Learning Bond (CLB), which offers up to \$2,000 in tax-free educational funds for lowincome children. Neither they nor any of the caseworkers on my youth protection team had heard of the program. Uptake of this program and other governmental asset building programs by lowincome individuals is low. It may be that programs like the CLB are not properly targeted to the most economically insecure families. The politics of uptake of programs also may be a factor. Nonetheless, in order for social workers to advocate for and better target programs to financially struggling families, social work research needs to first identify who these families are. Social work is a discipline that is called to make real improvements in the well-being of vulnerable individuals, and measurement of economic deprivation is of particular importance to the effectiveness of our efforts. The importance of poverty measurement to designing programs and tracking the effects of policies that are effective in reducing economic hardships is not stressed enough.
The work presented in this thesis makes a first step toward closing a large research gap regarding the measurement and predictors of asset poverty in Canadian families with children. The implications of financial insecurity and economic deprivation for child development are potentially grave. But many measures of poverty only take into account income. Although income may be important for families to maintain their living standards, assets might provide a way for families to develop. Assets are a crucial factor in the long-term well-being of children and families. Thus, the policy and practice implications of the work presented in this thesis are wide and potentially far-reaching. By exploring the likelihood of asset poverty in families with children, the work begins to open the conversation in Canada on the importance of assets to child well-being. In examining the prevalence of asset poverty across four provinces, the work presented here adds to a growing conversation on the importance of local policy innovations to serve the unique needs of each province. Importantly, the work presented here may inform an advocacy movement calling for an increase in opportunities to develop the capabilities of and social supports to families.

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