



# ESTIMATING THE COST OF RAISING CHILDREN

## Setting the Agenda for Canada

May 2017 - Final Report

**CAMPAIGN 2000**  
**END CHILD & FAMILY POVERTY**



The Muttart Foundation



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# Executive Summary

Understanding the true cost of raising a child in Canada has applications for a range of areas that are critical to our society's success, including family planning and budgeting, public policies affecting families, and other services directed at families. Because so many important areas rely on this information, accuracy is paramount. Thus, arriving at an estimate of the cost of raising a child should rely on state-of-the-art scientific and professional knowledge.

It is for this reason that concerns arose following the release of a 2013 report by the Fraser Institute. The Institute did not consider childcare or shelter costs and minimized transportation costs, resulting in an unrealistically low estimate of the total annual cost of raising children. Numerous complications do come into play when attempting to establish this cost—including identifying appropriate measures for well-being, determining what to include and exclude in the cost considerations, the availability of representative data, and even agreeing on what central question is being answered when estimating the costs. However, the exclusion of childcare and housing costs in the Fraser Institute's estimate prompted the development of this report.

We recognize the potential harm that poorly derived estimates can have on Canadian families. Our report examines the complexity of determining the costs of raising children, analyzes the three primary estimation approaches used today—the expenditure survey approach, equivalence scales and the budget standard approach—and considers the advantages and disadvantages of each.

Since each approach offers specific advantages and disadvantages in terms of determining the cost of raising a child, we recommend circumstances in which each is most valuable. Specifically, we recommend the following to more accurately and usefully capture the costs of raising a child:

1. **Develop a comprehensive, detailed Canadian standard budget, led by researchers and experts in household spending and with the participation of a range of parents from various cultural and income groups who have children of varying abilities.** This national standard budget should be adjustable by region, by family size and by special needs.
2. **Develop estimates based on the expenditure survey approach, incorporating the relevant range of categories related to goods and services consumed by children.** Statistics Canada's Survey of Household Spending should be expanded to provide more detailed data on child-related expenditures on childcare, housing, transportation and health care to achieve a clear picture of the cost of raising children.
3. **Develop cost estimates using both the budget standard approach and expenditure survey approach for families with various structures and incomes living in various demographic settings.** These estimates could then be used specifically for the purposes to which they are most suited.

Understanding the true cost of raising a child in Canada must be a societal imperative. The importance we place on this information demonstrates how our country values its families, its children and its future prospects. The services and financial supports we provide to families hinge on the accuracy of these estimates.

We call on individuals and institutions that seek accurate measures of the cost of raising a child to approach these data and their use deliberately to ensure that the best interests of children and their families are met. Acting on the aforementioned recommendations will help to ensure that Canada's services and policies reflect the true value of children in our society.

# Why this Analysis was Developed

Public statements on the cost of raising children are not trivial or unimportant. They underpin and justify political policies to support the middle class and those who want to join it. Fundamentally, how comprehensive and accurate estimates of the cost of raising children are indicates the value we place on children—not only as family members or future contributors to society, but also as distinct citizens who need material and other supports to experience their full rights and potential.

For these reasons, estimates of the cost of raising children must be based on state-of-the-art scientific and professional knowledge. They must also reflect our societal value of caring and our enlightened self-interest in children's optimal development as future productive citizens and workers. As Waldfogel (2006) states:

**To thrive children need not just food and material goods but care and affection that promotes health, cognitive development and social and emotional wellbeing. When all these needs are met, we all benefit and when they are not, society suffers (p. 26).**

Thus, in September 2013, when the Fraser Institute issued its *The Cost of Raising Children* report (Sarlo, 2013), many child welfare and poverty experts, including Campaign 2000: End Child and Family Poverty, the Childcare Resource and Research Unit, and academics from the Department of Family Social Sciences<sup>1</sup> and the Faculty of Social Work at the University of Manitoba

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<sup>1</sup> Now in the Department of Community Health Sciences.

became concerned. This concern was based on the unrealistic minimization of some expenditures, like transportation, and the exclusion of others, including the costs of childcare and shelter. These decisions resulted in unreasonably low estimates of the cost of raising children.

Such minimizations and exclusions serve no societal good. They do not reflect the best available knowledge or the values of caring and commitment to the healthy development of children. Of notable concern is that these unrealistically low estimates might be used to argue for fewer supports for children and their parents, which could adversely affect their quality of life. Therefore, with generous help from the Muttart Foundation, we have produced this document to put the Fraser Institute report in the context of the best available methodological approaches for estimating the cost of raising children and to recommend which approaches should be adopted in Canada.

The Fraser Institute offers that “there are vested interests in having high costs for raising children” (Sarlo, 2013, p. 46). We observe that there are also vested interests in having low costs—and eliminating the costs of childcare and housing results in unrealistically low estimates of the cost of raising children.

## Invitation

We hope to contribute to the discussion among Canadians—from parents to politicians to family researchers—as to how the cost of raising children should be estimated. Whether you bring experiential, professional or scientific expertise, we invite you to read this document and use it in your work and your attempts to influence public policy.



# Chapter One: Background

## Introduction

Children are often referred to as our society's future but it is important to recognize their inherent worth in the present—as individuals with opinions, rights, emotions and connections. It is broadly understood that children offer many benefits to their parents, their families and society as a whole. These include benefits to parents that are difficult to measure empirically, such as emotional pleasure or a sense of legacy as parents age. They also include measurable economic benefits, such as tax deductions, government transfer payments and additional household income if the child chooses to work and contribute to household expenses (Manitoba Agriculture, 2004b). Society benefits from children in the form of future labour force participants, caregivers, and taxes paid (Craig, 2007), including the future servicing of accumulated debt and contributions to the financing of social insurance payments (Folbre, 1994). It must be acknowledged, however, that the cost of raising children is not insignificant and has far-reaching impact. Having a clear understanding of these costs is, therefore, important for a range of personal and societal reasons.

**We will not report on or analyze particular cost estimates here, but rather focus on the methods used to derive them.**

At first glance, estimating the cost of raising a child seems quite straightforward, if not simple. In reality, there are so many complications that experts have been unable to agree on the best method. The three available approaches, summarized in Table 1, and various ways

of implementing them can lead to significantly different estimates, leaving a great deal of room for ideological and political disagreements. For example, the Fraser Institute (Sarlo, 2013) estimates the annual cost of raising a child in 2010 as between \$3,000 and \$4,500 depending on the age of the child, but *MoneySense* magazine estimates the average annual cost at \$12,824 in 2011 (Brown, 2015; Cornell, 2011).

Given this reality, this report has two purposes:

- **Describing and critically analyzing the strengths and weaknesses of the various methods of determining the costs that parents, guardians and other caregivers must bear in raising children; and**
- **Recommending how to better apply methods to estimate the cost of raising children in Canada.**

We will not report on or analyze particular cost estimates here, but rather focus on the methods used to derive them.

This analysis should provide a good idea of the validity and usefulness of the estimates based on the quality of the methods used to develop them.

In Chapter 2, we analyze in detail the three estimation approaches described in Table 1 and give examples of methods within each of these three types.

No estimate can ever be perfect, but we should attempt to get as close to perfection as we can. With that in mind, in Chapter 3 we conclude that different approaches are appropriate for different purposes and suggest important improvements in the collection of expenditure data. Specifically, we recommend the following actions to more accurately and usefully capture the costs of raising a child:



Table 1: Cost Estimation Approaches

Expenditure Survey	Equivalence Scales	Budget Standard
Uses information on what households actually spend to estimate the proportion of spending that is devoted to raising children.	Researchers determine how much additional income a household with a child needs to be as well off as a similar household without a child, based on differences in expenditure patterns.	A basket of goods and services that a household requires to meet the needs of a child is created and priced. Requirements are defined by scientific and professional norms in combination with expenditure data.

1. Develop a comprehensive, detailed Canadian standard budget led by researchers and experts in household spending and with the participation of a range of parents from various cultural and income groups who have children of varying abilities. This national standard budget should be adjustable by region, by family structure and by special needs.
2. Develop estimates based on the expenditure survey approach, incorporating the relevant range of categories related to goods and services consumed by children. Statistics Canada’s Survey of Household Spending should be expanded to provide more detailed data on child-related expenditures on childcare, housing, transportation and health care to achieve a clear picture of spending on children.
3. Develop cost estimates using both the budget standard approach and expenditure survey approach for families with various structures and incomes, living in various demographic settings. These estimates could then be used specifically for the purposes to which they are most suited. We also discuss how the two estimates can be adjusted if there are discrepancies.

Complications in estimating the cost of raising a child can result in dramatically different estimates and the subject can become quite politicized. These complications occur for at least three important reasons.

## The Challenges of Estimation

Complications in estimating the cost of raising a child can result in dramatically different estimates and the subject can become quite politicized. These complications occur for at least three important reasons.

First, there is disagreement about how to define a household’s level of well-being, namely how much of which goods and services are needed for a child to be healthy and thriving. And how do we determine how much of a household’s expenditures are actually consumed by a child? For example, the Fraser Institute (Sarlo, 2013) does not attribute any shelter costs to children, while the United States Department of Agriculture (Lino, 2014; Lino, Kuczynski, Rodriguez, & Schap, 2017) includes the cost of an extra bedroom and the utilities and furniture required for it.

The second complicating factor is that broadly representative data are often not available to derive good estimates that allow for variations based on where a household is geographically located, differences in tastes and preferences, and any special characteristics of the child. For example, there are additional costs to living in northern and remote communities in Canada, to raising a child with a disability, or to meeting culturally derived food preferences.

The third complicating factor is that the simple question, “What is the cost of raising children?” can actually refer to four related but quite different questions (Browning, 1992): How do children affect a family’s expenditure patterns? How much do families need to spend on children? How much do families actually spend on children? And how much money do families with

children need to be as well off as comparable families without children?

Governments are not often transparent about what estimates, if any, they have used in making decisions, but a number of Canadian non-profit and public organizations have been transparent in their calculations of the cost of raising children.

## Why is the Cost of Raising Children Important?

Why is it important to understand these complications? The answer lies in the range of groups in Canadian society that have a stake in understanding the cost of raising children.

Parents, prospective parents and their families care because cost is a factor that may influence decisions about having children, how many to have, and the timing of births (Becker, 1960). These costs may be especially important in a labour market in which precarious work and uncertainty are increasing.<sup>2</sup> In this vein, Martin (2012) attributes decreased fertility in Canada to increasing costs of raising children, costs that are significantly driven by childcare costs. The collective effect of such personal decisions goes far beyond individual families, as it influences population replacement for the whole country and its regions.

Everyone who cares about the quality of life of Canada's children should be concerned about the cost of raising them because it is one of the key determinants of children's economic well-being. Organized groups that care about children's economic well-being include anti-poverty advocates, and health, education, psychological, home economics or human ecological,

2 Between 1989 and 2014, the percentage of Canadian workers who were either temporary employees or self-employed without employees increased from 13.7% of all workers to 21.8 % (Lewchuk and Dassinger, 2016).

and social work professionals. In a recent review of the research literature, Aber, Morris and Raver (2012, p. 2) found that "the consensus from this work is that there are "modest" positive effects of income on multiple domains of children's<sup>3</sup> development."

Estimating the cost of raising children is also of interest to those involved in making decisions regarding family welfare, such as family lawyers and courts determining child maintenance payments among separating and divorcing parents. Labour and management groups may implicitly or explicitly take into account changes in the cost of raising children when negotiating cost-of-living adjustment clauses in collective agreements. Financial planners and counsellors, family advisors, and those who work with families in various capacities also require such information to support family decision-making.

For example, the Financial Planning Standards Council and the Institut québécois de planification financière publish guidelines to assist their members to make financial projections for their clients that are free from bias (Bachand, Dupras, Jack, Laverdière & Longhurst, 2016). Accurate estimates of the cost of raising children could be incorporated into the guidelines to improve the ability of financial planners to project family costs.

Of course, the cost of raising children is also an important public policy consideration, especially for policies related to families (Bogensneider, 2014). The cost of raising children is important in setting eligibility for selective child benefits, determining poverty thresholds for families with children, and in setting benefit levels for various income transfer programs.

Governments are not often transparent about what estimates, if any, they have used in making these decisions, but a number of Canadian non-profit and public organizations have been transparent in their calculations of the cost of raising children.

Until 2004, Manitoba Agriculture produced the highly influential *Budget Guides* (Manitoba Agriculture, 2001, 2004b) that were used to estimate the cost of raising children. The Montreal Diet Dispensary (2015) has

3 These studies together show that income effects range from about .10-.20 of a standard deviation with [a] \$1,000 increase in family income for families at the low end of the income distribution. (Aber, Morris & Raver, 2012).





produced budget standard estimates of living costs since 1961. Both are transparent Canadian examples of the budget standard approach.

In 2013, the Fraser Institute used Manitoba Agriculture and Montreal Diet Dispensary information to release an estimate of the cost of raising children (Sarlo, 2013), which problematically excluded shelter and childcare costs, and thus was much lower than all other estimates. This report raised the profile of the issue and attracted critical reactions from advocacy organizations and the media.

## Political and Media Discussion

The cost of raising children was an important issue in the 2015 federal election. In its platform document, the Liberal party said, “We will give families more money to help with the high cost of raising their kids” (Liberal Party of Canada, 2015). The New Democratic Party described its childcare plan as a way to “make life more affordable for your family” (New Democratic Party of Canada, 2015).

Prior to the election, the Conservative Party of Canada announced income splitting for families with children and an enhanced Universal Child Care Benefit, a package that was seen as regressive for a number of reasons,

including that it favoured more affluent families (Battle, Torjman & Mendelson, 2015). Perhaps in anticipation of the criticism, then Finance Minister Joe Oliver had his department prepare a briefing note that argued that the cost of raising children had fallen as a percentage of total income between 1998 and 2013 (Smith, 2015). This briefing note was strongly criticized by the Liberal and New Democratic parties, which noted that the analysis did not include savings for post-secondary education, paid insufficient attention to the challenges facing lower- and middle-income families, and did not consider national variations in costs (Beeby, 2015).

Media attention is sometimes a useful indicator of the importance of an issue. In this regard, a database of major Canadian daily newspapers indicates that between 2013 and 2016, there were 2,767 articles mentioning the cost of raising children. In a 2016 article in the Vancouver newspaper *The Province*, Chan reported on the cost of raising children as a central rationale in advocacy for a living wage. *MoneySense* magazine (Cornell, 2011) has estimated the cost of raising children, and *Maclean's* magazine (MacMahon, 2013) has also described the experience of parents and discussed a range of estimates of the cost of raising children. The release of the Fraser Institute estimates (Sarlo, 2013) led to many articles.

A comprehensive analysis of political and media opinion is well beyond this report's scope, but these examples demonstrate the importance of the issue in Canadian discourse.

## Public Policy

Canadians have a vital interest in how the cost of raising children is estimated because this cost is relevant for many public policies that affect us all. Primary among these is establishing and evaluating the adequacy of programs, such as family benefits.



These supports include benefits that are meant to compensate parents partially for the costs of raising children, such as the income-tested Canada Child Benefit. Accurate estimates are necessary in order to understand the extent to which these benefits help families defray the costs of raising children.

Other family benefits, such as provincial and territorial social assistance benefits, are meant to cover household costs (Hick, 2014), in combination with other benefits and, sometimes, employment income and child support payments. Social assistance is a last-resort program for households with inadequate income and no other recourse. We cannot know if social assistance benefits for parents are adequate if we do not have a valid way to estimate the costs of raising a child. In addition, accurate estimates are necessary to ensure that children's requirements are adequately accounted for in calculating poverty thresholds. Without good estimates we cannot establish valid poverty lines for families with children, and we will not have accurate information about the rate or depth of poverty. An effective child poverty reduction policy is dependent on this information.

Accurate estimates of the cost of raising children are relevant for other public policy purposes as well. For example, as federal/provincial/territorial governments are currently developing a national childcare policy framework with common principles such as "affordability", a realistic assessment of the overall cost of raising a child is fundamental to determining what "affordability" means. Or when child and family service agencies place children in foster care, provincial and territorial governments must provide adequate funds to compensate foster parents for the costs of raising these children.

Similarly, there is a public interest in ensuring that children have adequate financial support in the event of marital dissolution. Therefore, the federal government has established child support guidelines, and these are based on estimates of the costs of raising children and parents' income.

It is beyond this report's scope to provide a complete description of how the cost of raising children factors into the formulation, implementation and evaluation of public policy, but it is clear by these examples that developing adequate methods for estimating this cost is vitally important.



# Chapter Two: The Cost of Raising Children Literature

The cost of raising children has been estimated in a number of academic studies and by a variety of public and private organizations, including the federal Department of Finance, Manitoba Agriculture, and *MoneySense* magazine.

Although substantial academic research on the cost of raising a child exists, there has been little agreement on how best to estimate the cost. Costing approaches that make sense in theory can be difficult to translate into practice, and practical approaches are not well connected to theory. The literature is somewhat perplexing, beginning with what question we are trying to answer when we estimate the cost of raising a child (Browning, 1992).

Despite the lack of agreement in the literature, some conclusions can be drawn:

- (a) Of the three types of costs parents incur, estimates of the cost of raising children largely only take into account out-of-pocket costs (direct costs);
- (b) Studies fall under one of three umbrellas: the expenditure survey approach, the use of equivalence scales, and the budget standard approach; and
- (c) Within the diversity of literature on the cost of raising children, the method used by the Fraser Institute (Sarlo, 2013) is an outlier.

In this chapter, we will review the types of costs parents incur in raising children and the three approaches for

estimating these costs. We will also contrast the budget standard approach used by the Fraser Institute with other studies that use the same approach. Where appropriate, examples will be provided of the use of costing approaches in Canadian public policy.

## What Costs do Parents Incur When They Have Children?

As Table 2 shows, there are three types of costs that parents incur in raising children: direct, indirect, and intangible costs (Buchegger & Zweimuller, 1992; Poland & Seth-Purdie, 2005).

Although all three domains are relevant, most of the literature produced by academic researchers, governments, non-profit organizations or the media focuses on direct costs. Intangible costs are rarely studied because even when they can be observed and measured (e.g, Buddelmeyer, Hamermesh, & Wooden, 2017), they are difficult to monetize. And it is challenging to determine and estimate the full scope of intangible costs.

Although there is substantial literature on indirect costs, they have received less attention than direct costs. Indirect costs are primarily excluded because they can be challenging to measure, but sometimes it's argued that they shouldn't be included, as noted in the box on page 11.



Table 2: Types of Costs that Parents Incur in Raising Children

Direct Costs	Indirect Costs	Intangible Costs
The explicit out-of-pocket monetary payments made to provide for children’s consumption, such as the cost of food, transportation, housing, etc.	The opportunity costs of children— basically the income forgone by parents to take care of their children (Buchegger & Zweimuller, 1992; Davies & Joshi, 1999; Gray & Chapman, 2001) as well as the costs of non-market household work and childcare (Apps & Rees, 2001; Koulovatianos, Schröder, & Schmidt, 2009).	Includes the physical and emotional sacrifices parents make, for example, lack of sleep and stress related to their children.

From a practical standpoint, estimating **indirect costs** has been quite challenging in the past, but it has become easier with the availability of appropriate data and established methods for estimating these costs. There is no one best method though, and challenges remain (Craig, 2007). For example, in a recent study that estimated both direct and indirect costs of raising children (Caiumi & Perali, 2015), the authors had to rely on expenditure data from 1995 and time data from 1989.

Within the diversity of literature on the cost of raising children, the method used by the Fraser Institute is an outlier.

Variables like the potential labour force participation and the incomes of individuals can’t be observed, so the opportunity cost of time caring for children is calculated using either regression analyses that compare the earning of individuals—almost always women—with and without children (e.g., Apps & Rees, 2001; Gray & Chapman, 2001; Hamermesh & Biddle, 1993) or simulation (Davies & Joshi, 1999).

Because of these challenges, including indirect costs in studies that estimate **direct costs** adds another layer

of complexity to a process that is, as we will see, not as straightforward as it appears at first glance.

It is worth noting that the Fraser Institute report (Sarlo, 2013) acknowledges that there are indirect or opportunity costs associated with children and that they are potentially high, but sees these costs as part of the costs of **having** a child as opposed to the costs of **raising** a child. They are not seen as relevant once the decision to have a child has been made. The Fraser Institute defines the cost of raising a child as the direct cost of child-related expenses, which it refers to as the “actual” costs (p. 1). It views these costs as a subset of the costs of having a child. This distinction is an interesting one: Both indirect costs (opportunity) and direct costs are seen as relevant in parents’ decisions to have children, but only direct costs are considered relevant in parents’ ongoing decisions in raising their children.

Regardless of the reasons driving the decision to exclude indirect costs from estimates of the cost of raising children, these opportunity costs are substantial (e.g., Apps & Rees, 2001; Craig, 2007), and their exclusion means that published estimates of the costs of raising children are underestimated.



## The Influence of Neo-Liberalism

Neo-liberalism, which is influenced by neo-classical economic theory, has provided a rationale for excluding time (indirect) costs from estimates of the cost of raising children.

Craig, a professor of sociology and social policy (2007) traces the negative consequences this perspective has had on valuing both childcare and the household work of (mostly) women.

Neo-liberalism views the decision of parents to have children as a private matter, and children themselves are seen as private, not public goods.

This perspective ignores the substantial benefits society accrues from children in the form of labour force participants, caregivers, taxes paid, and so on (Craig, 2007; Folbre, 1994).

# Examining the Three Major Approaches

Even though only direct costs are included in most of the cost of raising children literature, there is substantial variation in how these costs are estimated. Most studies fall into one of three approaches described in Table 1 : the *expenditure survey* approach, which measures the amount of money parents spend on children; the use of *equivalence scales* to compare families of different sizes and compositions; and the *budget standard* approach, which bases the cost on a basket of goods and services judged necessary to provide children with a particular standard of living.

Why is there so much variation in the methods used to estimate the direct costs of raising children? Because the cost of raising a child is not an entirely objective matter: The cost depends on factors such as the income parents have available for children and what economists term parents’ tastes and preferences for spending on their children. For example, for three otherwise similar families that value sports participation for their children, one might be paying for soccer, one for hockey, and one for hockey at an elite level. These differences (a) are the reason many parents find that published estimates of the cost of raising a child do not necessarily fit their personal experience, and (b) contribute to the difficulty in arriving at a generally accepted estimate of the cost of raising a child.

Even the question “how much does it cost to raise a child?” may be interpreted in different ways, including, as Browning (1992) states:

- (1) The positive question: How do children affect the expenditure patterns of a household?
- (2) The needs question: How much income does a family with children need compared to a childless family?
- (3) The expenditure question: How much do parents spend on their children?
- (4) The iso-welfare question: How much more income does a family with children require to be as well off as a family with no children? (p. 1440)

The first question on expenditure patterns focuses on how the spending patterns of families change once couples have children; the other three questions focus on different aspects of “how much” families spend on children. Most studies focus on these latter questions. To complicate matters, not all studies clearly identify which of these questions is being asked and answered. In addition, the same methods can be used to answer different questions (Browning, 1992).

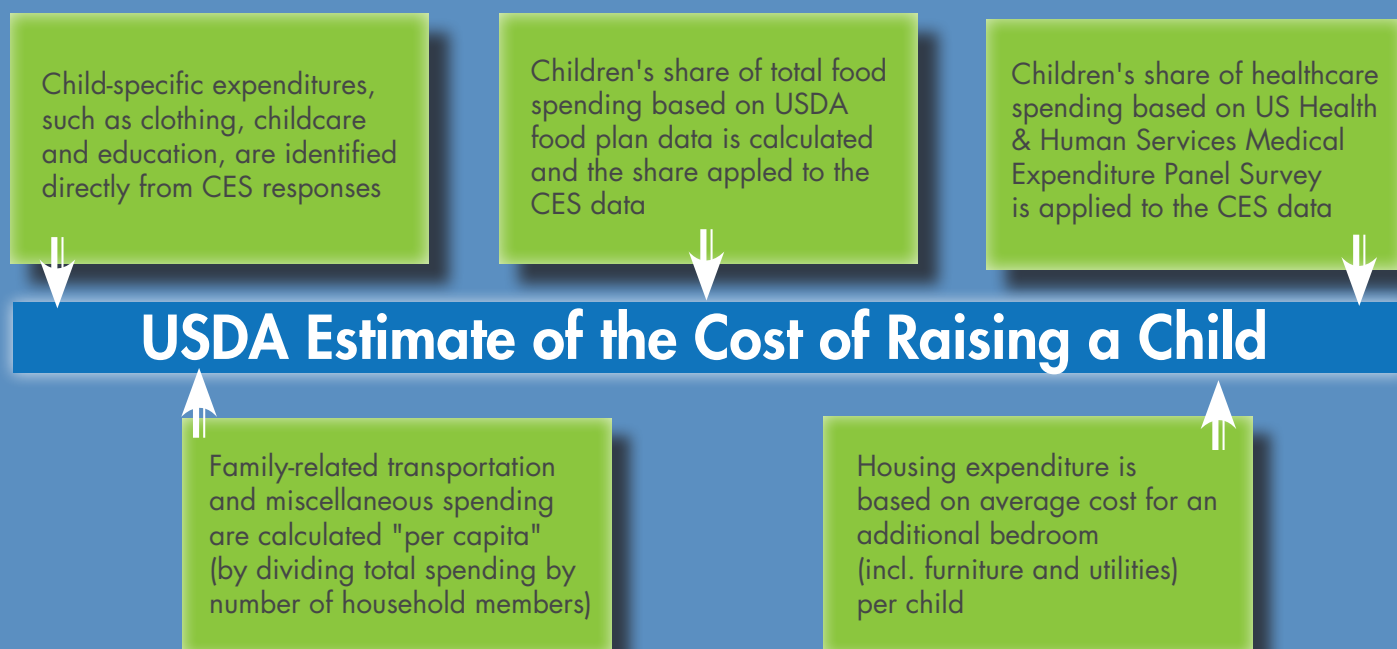
Furthermore, it is widely recognized that there is no single generally accepted approach (e.g., Gray, 2007; Nelson, 1993; Sarlo, 2013). Rather, there are a number of methods in use, each with its own assumptions, advantages, and disadvantages. Given the essential importance of the estimates that are produced, identifying and using the best methodology is crucial. We now take a closer look at each of the three main approaches, exploring the underlying theory or rationale, the advantages and disadvantages, and the problems and issues associated with each.

Table 3: Expenditure Survey Approach

How it Works	Advantages	Disadvantages
Household expenditure data are used to estimate the cost of raising children.	Uses actual expenditure data, thus mirroring how real families allocate spending.	Where expenditure data cannot be directly attributed to children, other approaches must be used to allocate spending on children (e.g., the USDA uses a per capita approach to allocate transportation and miscellaneous spending to children.)



Figure 1: USDA Estimate of the Cost of Raising a Child



## Expenditure Survey Approach

The expenditure survey approach answers the question "how much do parents spend on their children?" by using data on household expenditures to estimate the cost of raising children. Doing this is not a simple matter, however. Household expenditure surveys contain aggregate estimates of actual spending in various budget categories but not always specific information about on whose behalf the spending was incurred. So, while some categories can be attributed to the needs of children (e.g., children's clothing), it is not clear what portion of spending in other categories should be allocated to children.

The United States Department of Agriculture's (USDA) estimate of the cost of raising a child (Lino, 2014; Lino, Kuczynski, Rodriguez, & Schap, 2017) is perhaps the best known research that uses expenditure survey data. Published since 1960, the main source of the data is the interview portion of the annual US Consumer Expenditure Survey (CES).<sup>4</sup> The decisions used by the USDA to

4 The most recent USDA estimates—for 2015—are based on the 2011-15 CES, using the Consumer Price Index to inflate the estimates to 2015 dollars. Regression analysis is used to estimate the expenditures in a particular budget category as a function of household income, number of children, age of the youngest child, and, where data permits, region. These estimates are then allocated to children to arrive at the cost of raising a child (Lino et al., 2017). Separate estimates are generated for two-parent and single-parent families

allocate spending in the CES to children are summarized in Figure 1.

## Advantages and Disadvantages of the Expenditure Survey Approach

One of the advantages of the USDA methodology is that it provides estimates of the average actual amount spent on children and "thus mirror[s] values, norms, and standards via choices made by families spending at the given cost levels" (Edwards, Marr, & Gray, 1982). According to Morgan and Lino (1999), it also produces estimates that are more reasonable than those obtained by the Engel and Rothbarth methods explored in the next section. For example, Lino (2014) showed that the average proportion of household expenditures on children in two-parent families varied widely using Engel and Rothbarth methods when calculated using the Consumer Expenditure Survey data. The USDA 2013 estimates, however, were close to the average of these studies, a result that held for the USDA 2015 estimates (Lino, et al. 2017).

The expenditure shares for budget categories where spending cannot be directly attributed to children are research based. The budget shares used to allocate food and health care expenses in the CES data to children are derived from individual level data from

Table 4: Equivalence Scales (includes Engel Method, Rothbarth Method and Complete Demand System Method)

How it Works	Advantages	Disadvantages
Household expenditure data are used to determine how much more a family with children must spend to achieve a level of well-being equal to a childless family.	Engel and Rothbarth methods: Easy to estimate; account for incremental cost increases with the addition of new children; account for income effect.  Complete Demand System: Based on economic theory; accounts for income and substitution effects.	Engel and Rothbarth: The chosen measures may not be suitable proxies for well-being; do not directly estimate the actual costs of raising children.  Complete Demand System: Requires data detail that is often not fully available.

other U.S. government surveys. The choice to allocate housing expenses using the cost of an additional bedroom is based on analysis of the CES data showing that the number of bedrooms increases with the number of children in a family (M. Lino, personal communication, April 13, 2017).

The USDA cost of children methodology is criticized in various ways, however. Some take issue with the way costs are allocated to children in expenditure categories where direct estimates of the costs are not possible. For example, Kornrich and Furstenberg (2013) hold that when the estimates change, the change may be due to shifts in the costs of goods such as food and housing and to the allocation rules, not automatically to parents’ decisions on how much to spend on their children. Also, in practice, housing costs do not always increase with an additional child; an increase in cost may be incurred before the child is born. If we count only the expenditures people make after having children, we ignore the ones they incurred in anticipation of having children. Childless couples, for example, can decide to buy a bigger house before they have children, or parents can repurpose existing rooms in a house when they have a new child.

## Equivalence Scales Approach

Several methods of estimating the cost of raising children use equivalence scales to compare families of various sizes and compositions. These include the following three methods that we will examine in detail:

- Engel (or iso-prop<sup>5</sup>) method
- Rothbarth (or adult goods) method
- Complete demand system method

Each of these three methods relies on expenditure data to calculate the costs and answers the question “how much income does a family with children require to be as well off as a family with no children?” Sometimes they are also used to answer the question “how much do parents spend on their children?” (Browning, 1992).

### Equivalence Scales: Engel Method

The Engel method estimates the difference between the total spending of a couple with children and a childless couple, while holding their well-being at the same level. The original Engel model considered what families spend on food as an appropriate measure of the household’s well-being. This method assumes families with and without children are at the same level of satisfaction or utility when the proportion of income they spend on food is constant.

The Engel approach assumes that an increase in the number of children in the household leads to an increase in spending on necessities, such as food. As a result, if income remains constant, the share spent on food will increase and the family’s well-being will decline

5 Iso-prop is short for iso-proportional and is the term used when the comparison of expenditures is broader than in the Engel method.



compared to before they had children. Conversely, an increase in income while the number of family members remains the same means the share of income devoted to food decreases and family well-being increases.

In theory, the cost of raising children is calculated as the difference between the family's total expenditures before and after they had children, while holding the food share of income constant. In practice, the Engel method compares families with and without children at a point in time through the use of equivalence scales rather than comparing families before and after they have children.

The iso-prop method is a variation on the Engel method. In it, a basket of necessities, instead of food consumption alone, is used as a benchmark of standard of living. The composition of the basket of necessities is data driven, that is, based on available data at the time. For example, Watts (1967) used the spending categories of food, housing, clothing and transportation as necessities because those categories were available in the data he used.

## Equivalence Scales: Rothbarth Method

The Rothbarth method compares the spending of childless families and families with children on adult goods, such as adult clothing, alcohol or tobacco. Why only adult

goods? The rationale is based on the assumption that when people have children, they reduce their adult-related expenditures in favour of child-related expenditures if their income does not increase.

In comparing two families with similar incomes and expenditure levels, the couple without children is considered to be better off since they could spend their income on personal needs and wants. In this setting, the cost of raising children is calculated as the additional amount of spending the couple with children must incur in order to maintain their pre-child level of adult spending. As with the Engel approach, in practice, families with and without children are compared at a point in time rather than comparing families before and after they have children.

Both the Engel and Rothbarth approaches are based on the comparison of spending patterns of couples with and without children and both methods calculate equivalence scales. These scales provide an indirect approach to estimating the cost of raising a child (Lewbel & Pendakur, 2008; Morgan & Lino, 1999).

## Equivalence Scales: Complete Demand System Method

Instead of using food (Engel) or adult goods (Rothbarth) as proxies for household standard of living, the complete demand system method uses equivalence scales derived from consumer demand theory (e.g., Balli & Tiezzi, 2010; Caiumi & Perali, 2015, Douthitt & Fedyk, 1988, 1990; Garcia-Diaz, 2012; Micheleni, 2001; Phipps, 1998).

In a complete demand system, a system of equations is used to estimate how much families spend in each category of goods and services to capture the effect that changes in one category have on another (e.g., an increase in food consumption is accompanied by a decrease in expenditure in another category). How much families spend in each category can be affected by such factors as household composition, location, and prices. There are different statistical models and functional forms available for such systems, so researchers can choose forms that incorporate different assumptions about how households maximize the utility they get from household spending. Canadian research that has used complete demand systems includes Douthitt and Fedyk (1988, 1990) and Phipps (1998).



## Advantages and Disadvantages of Equivalence Scales

There are specific advantages and disadvantages to the three equivalence scale methods described above. The main disadvantage of the complete demand system is the amount of data needed for estimation of the system. Data sets often do not have detailed information on all relevant variables, and scholars have to adjust categories according to data availability (Michellini, 2001). However, the complete demand system method estimates the expenditure equations simultaneously and takes into account not only the income effect (as do the Engel and Rothbarth methods), but also the substitution effect that is caused by changes in relative prices of goods (Garcia-Diaz, 2012). Because it is based on the theory of consumer demand, many economists see the complete demand system method as superior to the Engel and Rothbarth methods.

The Engel and Rothbarth methods offer a few key advantages:

- They are relatively easy to estimate (Browning, 1992; Deaton & Muellbauer, 1986).

- They provide estimates of the marginal cost of adding a child to the family.
- They capture income effects, that is, how the demand for a good changes when families' purchasing power changes.

With regard to the income effect, the Rothbarth method suggests that because additional family members reduce the per person income in the household, the family will purchase less adult clothing, alcohol or tobacco (adult goods), which will make parents less happy. It assumes that if the family were given enough extra income, the household would restore its consumption of adult goods and restore the well-being of parents to the baseline level. The method ignores the fact that parents may not want to buy the adult goods any longer due to their higher price relative to children's goods or public goods.

"Marginal costs" recognizes what economists term "economies of scale", that is, the cost of each additional child is less than the one that preceded it because the family can pass along items from one child to the next, such as clothes, cribs and strollers. With the Engel and Rothbarth methods, families with children are compared to equivalent families without children and the additional expenditures are the marginal cost of children. However,



Lino (2014) notes that referring to these as marginal cost approaches is somewhat misleading because they compare families with and without children at a point in time and researchers would need to track the expenditures of the same families over time to obtain true estimates of marginal costs.

Criticisms of the Engel and Rothbarth approaches include the following:

1. **The use of food (Engel) and adult goods (Rothbarth) are not suitable proxies for well-being.**
2. **These approaches do not directly estimate the actual costs of raising children; they only estimate how much income households with children would require to achieve the level of well-being of a childless couple.**
3. **Neither approach is based on economic theory.**

As Sarlo (2013) notes, both Browning (1992) and Deaton and Muellbauer (1986) criticize using food expenditure as a valid comparator of the welfare of different households. Also, Deaton and Muellbauer (1986) cite Nicholson (1976) in arguing that the Engel approach overcompensates for the addition of a child to a household. They posit that the food share itself increases when a child is added to a household. Garvey, Murphy and Osikoya (2011) note this criticism may be less worrisome in developed countries where children intensively consume goods other than food.

On the other hand, these authors offer that food might not be a good proxy because food consumption has fewer economies of scale than other goods consumed by children—an argument for extending the model to other necessities, that is, using the iso-prop method (Garvey et al., 2011).

In the case of adult goods, critics object to the use of such goods as alcohol and tobacco as measures of household well-being (e.g., Browning, 1992; Garvey et al., 2011) because it suggests that adults consuming equal income shares of alcohol or tobacco have equal well-being. This assumption that households have the same preferences is hard to confirm in practice.

The Rothbarth model also does not account for the value parents derive from children's consumption of goods and services; behavioural changes in parents (i.e., adults who become parents may decrease consumption of alcohol and tobacco); or selection bias (i.e., individuals who receive high satisfaction from alcohol consumption may have a lower willingness or ability to have children). In addition,

the Rothbarth method does not account for the substitution effect: parents may decrease consumption of adult goods in favour of spending on children and still experience an increase in well-being.

A final criticism is that neither the Engel nor Rothbarth method is based on economic theory. However, Garvey and colleagues (2011) note that economists who level this criticism mean these methods are not based on neo-classical economic theory—that is, the single equations used in both approaches are not based on utility theory unless strong assumptions are made (Gray, 2007).

## The Budget Standard Approach

The budget standard approach answers the “needs question”: How much do families need to spend to raise their children? In this approach, a basket of goods and services that provides children with a particular standard of living is chosen (Collin & Campbell, 2008; Fisher, 2007; Sarlo, 2001; Saunders, et al., 1998; Stevens, 2011). Although the approach is often associated with a minimum subsistence or “basic needs” level (Fisher, 2007), a minimum that avoids neglect or abuse of children, any standard of living can be chosen for a standard budget. In creating its estimates of the cost of raising a child, the Fraser Institute (Sarlo, 2013) adapted estimates based on the budget standard approach.

Once the basket of goods and services representing the chosen level is created, the basket is priced and the total cost to purchase the basket is the cost of raising a child at that chosen standard—or what a family of a given size and composition needs to spend to raise a child at that standard. Because prices and the availability of goods and services can vary from location to location, the cost of the basket is most relevant to the location where it has been priced.

Often, the basket categories are determined by experts, such as professionals and academics, but consensual approaches that rely on input from members of the general public have also been developed (Fisher, 2007). In some cases, the basket categories are based on expenditure survey data, for example in Statistics Canada's Market Basket Measure.<sup>6</sup>

<sup>6</sup> Statistics Canada reviews data on spending habits to help determine what should be in the basket and in what quantities.

**Table 5: Budget Standard Approach**

How it Works	Advantages	Disadvantages
A basket of goods and services that would provide children with a particular standard of living is created and then priced.	Transparency (anyone can see what is in the basket) and flexibility (can scale to a chosen standard of living).	Subjectivity (who determines what goes in the basket); variances between the budget standards and actual household behaviour and expenditures.

In Canada, the Montreal Diet Dispensary uses the budget standard approach in its annual estimate of budgets that meet basic needs (Montreal Diet Dispensary, 2015). Winnipeg Harvest and the Social Planning Council of Winnipeg also use it to estimate the income needed to purchase a “fair, modest and acceptable living level” (Winnipeg Harvest & the Social Planning Council of Winnipeg, 2012, p. 6). Manitoba Agriculture used it until 2004 to provide estimates of family living costs (Manitoba Agriculture 2004a, 2004b) and Statistics Canada still uses it in its Market Basket Measure (MBM), one of three alternative measures of low income. The Fraser Institute (Sarlo, 2013) used both the Montreal Diet Dispensary and the Manitoba Agriculture figures as the starting point for its estimate of the minimum income required to meet basic needs.<sup>7</sup>

Although the approach is often associated with a minimum subsistence or “basic needs” level (Fisher, 2007), a minimum that avoids neglect or abuse of children, any standard of living can be chosen for a standard budget.

<sup>7</sup> For the Fraser Institute estimate, two of the largest categories of expenditure, housing and childcare, were removed from the Manitoba Agriculture (2004b) and Montreal Diet Dispensary inventory of expenditures and the estimates based on the Manitoba Agriculture data were inflated to 2010 dollars using the all-items consumer price index (Sarlo, 2013).

## Examples of the Budget Standard in Use

### Manitoba Agriculture’s Budget Guides

Manitoba Agriculture’s (2001, 2004a, 2004b) estimate of the cost of raising a child has been highly influential in subsequent Canadian work using budget standard approaches. Most recently, it was used in 2015 to provide an estimate to then federal Finance Minister Joe Oliver (Beeby, 2015; Rabson, 2015). Because of its influence, this particular approach is detailed here.

Manitoba’s *Budget Guides*, produced by Manitoba Agriculture’s Home Economics Section, was an inventory of goods and services that were priced each year in urban and rural locations in the province. The purposes of *Budget Guides* included:

- (a) Establishing guidelines for “a cost of living which reflects a quality of life Manitoba families would consider as meeting their needs” (Manitoba Agriculture, 2001, p. 1);
- (b) Providing guidelines for professionals who offer financial counselling and those who require information on costs of living in legal matters such as separation and divorce; and
- (c) Helping families to develop their own household budgets and in projecting the costs of insurance, retirement and changes in their life course or lifestyle.

*Budget Guides* was based initially on detailed cost survey work done by the Social Planning Council of Metropolitan Toronto to create its guide for family budgets, produced between 1964 and 1983 (Manitoba Agriculture, 2001). The Social Planning Council used expert and specialist judgment to determine levels of living and the goods and services necessary to create a standard for families with moderate incomes. Manitoba Agriculture’s Home



Table 6

## Expenditure Categories in Manitoba Agriculture's Estimates of the Cost of Raising a Child

Food  
Clothing  
Health care

Personal care  
Recreation, reading, gifts  
School needs

Transportation  
Childcare  
Shelter, furnishings and household operations

Economics section, whose expertise encompassed housing, clothing, food and nutrition, and family resource management, adapted this standard for use in *Budget Guides*. The staff also consulted with outside experts and urban and rural women through advisory panels (J. Schellenberg, personal communication, October 14, 2015).

People received training and conducted the pricing around the same time each year to minimize seasonal fluctuations in prices. Three prices were obtained for most items, then averaged. National prices were used where such prices existed. The detailed cost estimates were published annually by the Home Economics section and were used to generate the *Family Living Costs* and *Costs of Raising a Child* fact sheets (Manitoba Agriculture 2004a, 2004b).

### Statistics Canada's Market Basket Measure of Low Income

Statistics Canada developed the Market Basket Measure (MBM) of low income at the request of federal, provincial and territorial ministers responsible for social services. The MBM was designed to supplement the low-income cut off (LICO) and low income measure (LIM), with the aim of analyzing the levels of child poverty and the effect of government social assistance programs (Collin & Campbell, 2008; Hatfield Pyper, & Gustajtis, 2010; Statistics Canada, 2013; Stevens, 2011).

The basic MBM budget is calculated for a two-parent, two-child family (ages 9 and 13) and uses a set of multipliers to adjust for differences in family composition. These multipliers account for economies of scale; that is, while household needs increase with the addition of each member, these needs do not increase proportionately.<sup>8</sup>

<sup>8</sup> The square root scale used in the MBM multiplier is one of three equivalence scales in use internationally (OECD, n.d.). Although equivalence scales are the result of informed decisions based on the results of economic modeling, at heart, the choice of a particular value for an equivalence scale is arbitrary (Wolfson, Evans & OECD, 1989).

These adjustments do not explicitly account for the expenditures on children (as the *Budget Guides* estimates do); rather, like the LICO and LIM measures, children are considered to be in low income in the MBM if their family is in low income (Income Statistics Division, 2015; Murphy, Zhang & Dionne, 2012).

The MBM consumption basket is intended to represent a "modest, basic standard of living between subsistence and social inclusion" (Hatfield et al., 2010, p. 6) and includes food; clothing and footwear; personal care; reading, recreation and entertainment; school supplies; transportation; shelter; household needs and furnishings; and basic telephone service. To be included in the basket, goods and services have to be consumed by 70% of reference families nationally and in at least seven of the ten provinces accounting for two-thirds of the national population. As well, the goods and services in the consumption basket have to materially add to the social and economic inclusion and the quality of life of households (Hatfield et al., 2010).

### Advantages and Disadvantages of the Budget Standard Approach

The key advantages of the budget standard approach are transparency and flexibility. The basket of goods and services can be easily evaluated and possible changes made if it is found inadequate. Provided the budget's creators have clearly documented which goods and services were chosen, the quantities, and how these items were priced, it is easy to understand what is and is not included in the estimate and to illustrate what the chosen standard of living looks like (Fisher, 2007). Hatfield and colleagues (2010) note that the MBM was developed because the use of a basket of goods and services in a low-income measure was thought to provide a "more



intuitive and transparent measure of low income” (p. 1). Fisher (2007) notes that even critics of the budget standard approach acknowledge its worth “in illustrating in a concrete and evocative way what it actually means to be on these income levels” (Callan & Nolan as cited in Fisher, 2007, p. 4). The flexibility of the approach means it is easy to add or remove items that a user—whether interested parents or policy makers—thinks should or shouldn’t be included.

The disadvantages of the budget standard approach can include (a) subjectivity and (b) differences between the budget standards and actual household behaviour and expenditures. The latter has been noted for budgets based on minimum standards of living and can be problematic in one of two ways. First, budget standards based on subsistence or minimum cost criteria may impose “unrealistic expectations on the low-income families for whom they are developed” (Fisher, 2007, p. 5). A food budget based on minimum cost, for example, might provide the minimum nutrients necessary for survival, but may not be composed of foods people would be willing to eat, particularly on a long-term basis. Second, if the expenditure patterns of the particular group for whom the budget standard is created are followed too closely in setting the basket, needs can be underestimated because the target population doesn’t have the income to buy what is needed (Fisher, 2007).

Input from the target group in setting the budget standard can mitigate both problems.

Subjectivity can be a problem with the budget standard approach because the composition of the consumption basket depends on the decisions of the individual or team that creates it, in terms of the standard of living that should be achieved, which goods and services should be included to meet the standard, and where they should be priced. Having the appropriate expertise in selecting the basket of goods and services is important because a number of different, feasible alternatives exist in many categories to meet a chosen standard. For example, many different food combinations can meet the health and nutritional requirements of adults and children of different ages.

In the case of *Budget Guides*, the food inventory was based on one constructed by the Ontario Ministry of Health using the current nutrition recommendations at that time and Canada’s Food Guide to Healthy Eating (Manitoba Agriculture, 2001). In the case of the MBM, the 2008 National Nutritious Food Basket designed by the Office of Nutrition Policy and Promotion at Health Canada defined food composition.<sup>9</sup>

9 The National Nutritious Food Basket is an inventory of about 60 foods that together represent a nutritious diet for people of various ages. It was created using the current Dietary Reference Intakes, Canada’s Food Guide and data on food consumption from the Canadian Community Health Survey (Health Canada, 2009).

The definition of standard of living can range from one covering very basic needs of families (such as an essential minimum of goods and services) to a standard of living allowing for basic social inclusion (such as basic physical necessities and participation of children in sports, art or other clubs) to a higher standard of living. Fisher (2007) provides a detailed overview of work on the budget standard approach produced in Anglophone countries, including the USA, Canada, Ireland, Great Britain, Australia, and New Zealand.

To overcome the subjectivity problem, some researchers have used what has been called a consensual budget standards approach, where expert opinion is supplemented with input from the general population—in particular, participants from the low-income population, who serve as consultants in the estimation process (Fisher, 2007).

Finally, baskets need to be updated regularly to ensure they continue to be relevant, in terms of content and current prices. The composition may need to change over time to reflect changing consumption patterns or changing societal definitions of need. Although the basket can be adjusted by changes in the cost of living, after a while, the question of the continued relevance of the content of the basket must be raised. For example, the Home Economics section of Manitoba Agriculture had recognized the need to update its basket well before it was last priced in 2004 (J. Schellenberg, personal communication, October 21, 2015). Since 2004, consumption standards have continued to change. For example, cell phones and computers have become more popular, and cheaper clothing has led to changes in how much of it people consume. Thus, when the Fraser Institute (Sarlo, 2013) and the federal Department of Finance (Beeby, 2015; Rabson, 2015) estimate the cost of raising a child by adjusting the Manitoba Agriculture estimates for inflation since 2004, important underlying changes in consumption patterns are missed.

**A consensual approach – where expert opinion is supplemented with input from the general population, including low-income individuals – helps to overcome subjectivity problems.**

## Summary of Approaches

In summary, a variety of approaches to estimating the cost of raising a child exist, yet there is no one generally accepted “best method”. Even when costs are confined to direct costs, there is no agreement among academics or professionals on which of the approaches should be used. Thus, it is important to decide why an estimate of the cost of raising a child is needed: Is it important to know how much families should spend on children (the needs question), how much parents actually spend on their children (the expenditure question), or how much additional income a family with children needs to be as well off as one without children (the iso-welfare) question? Once the purpose is determined, one can pick a method of calculating the costs that answers the question being asked, keeping in mind not only the advantages of the method chosen, but also its limitations. We now turn to the categories of expenditure that are included in estimates of the cost of raising a child.

## Which Expenditure Categories are Relevant?

Generally, there is agreement across studies from Canada, Australia and the United States that estimates of the cost of raising a child include the following categories: food, clothing, health care, education, personal care, transportation, childcare, and housing. Furnishings and household operations are either included in the shelter estimates (Manitoba Agriculture, 2004b; Cornell, 2011) or appear as separate categories (Phillips, Li, & Talyor, 2013). Personal care does not appear as a separate category in either the Australian or US estimates, however each of these studies has an “other necessities” (Phillips et al., 2013) or “miscellaneous goods and services” (Lino, 2014) category.

The Fraser Institute report provides two sets of estimates of the costs of raising a child, one set based on estimates of expenses at a basic needs level calculated by the Montreal Diet Dispensary and the other set based on the Manitoba Agriculture (2004b) estimates, inflated to 2010



dollars.<sup>10</sup> These estimates are provided for a 4-year-old girl and a 12-year-old boy. In both sets of estimates, childcare and housing, furnishings and household operations costs were excluded. The result of these exclusions is shown in Figure 2: the estimates of the cost of raising a child based on the Manitoba Agriculture estimates, adjusted for inflation range from \$6,786 to \$10,038, but when childcare and housing costs are eliminated, the adjusted expenses range from \$2,916 to \$5,083.

Among the reports specifically aiming to estimate the cost of raising a child, the Fraser Institute (Sarlo, 2013) is alone in excluding the costs of childcare and housing, furnishings and household operations. These omissions, particularly the omission of childcare costs, were criticized at the time the report was released (Barnes, 2013; McInturff, 2013; Schirle, 2013). There was also

<sup>10</sup> The Montreal Diet Dispensary does not provide separate estimates of the cost of raising a child per se. Instead, it provides estimates of costs in various expenditure categories by gender and age of the individual. The Fraser Institute (Sarlo, 2013) aggregates the costs it believes to be relevant to arrive at its estimate of the cost of raising a child from the Montreal Diet Dispensary report.

criticism of the handling of transportation expenses. These exclusions and the minimization are addressed further here.

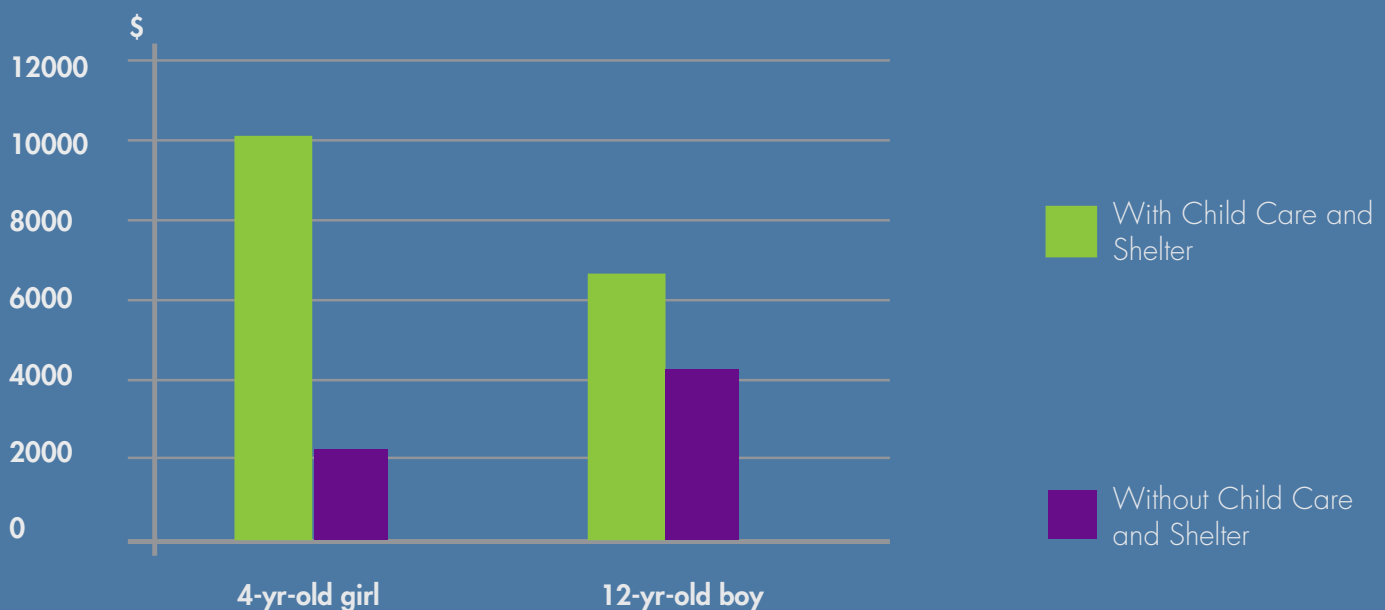
## Childcare

The Fraser Institute report is atypical in its exclusion of childcare as part of the cost of raising children. It argues that because childcare expenses are relevant only to those families that choose to purchase childcare, they should not be included in estimates of the costs of raising a child. However, the evidence shows that childcare costs are relevant to the majority of Canadian families with young children. In 2014, dual-earner families constituted about 69% of couple families with children 16 years of age and younger, and in most (75%) of these families both parents worked full time (Uppal, 2015). In 2012, an estimated 1.7 million children aged 0-12 had an employed mother (Friendly, Halfon, Beach, & Forer, 2013).

Moreover, it can be argued that the cost of childcare captures, albeit imperfectly, the opportunity costs of children.<sup>11</sup> As noted previously, it is difficult to estimate

<sup>11</sup> We are grateful to an anonymous reviewer for making this point

**Figure 2: Comparing Cost Estimates from Manitoba Agriculture and Fraser Institute**



Source: Manitoba Agriculture, (2004b) and the Fraser Institute (Sarlo, 2013)

and include the indirect costs of children in cost estimates. However, for families that do not purchase childcare, childcare costs are a measure of their opportunity costs.

Arguments on the need for childcare continue to be framed around women's, rather than couples', labour force participation, even though in two-parent families most children who have an employed mother also have an employed father, and children of same-sex couples may have two employed mothers or two employed fathers. Although the employment rates of mothers have been increasing, there continues to be a societal expectation that when one parent stays home to care for children, that parent will be the mother. As well, because women's incomes continue to be lower than men's on average, if a couple considers only income (and not, for example, benefits packages or lifetime earnings projections) when deciding who stays home to parent, it is most often the lower wage earner, that is, the mother, who reduces or drops out of labour force participation.

Although not all families with children who need childcare will choose to purchase it, it is difficult to disentangle how many of these families are "choosing" to provide this care themselves (e.g., having another family member care for children or working opposite shifts to cover off childcare) when the demand for licensed childcare spaces far exceeds the supply and the cost of both regulated and unregulated care can be substantial. For example, in Manitoba, one

of the few jurisdictions where parents can search for licensed childcare spaces online, the waiting list for such spaces numbered 11,411 in March 2015, not counting requests for places for children not yet born (Healthy Child Manitoba, 2015). And whereas Québec, Manitoba and Prince Edward Island have capped fees for childcare,<sup>12</sup> the costs to parents are much higher in the remaining Canadian provinces. Macdonald and Friendly (2016) report median full-day fees in Canadian cities ranging from \$785 to \$1,649 per month for infant care, \$620 to \$1,375 for toddler care, and \$570 to \$1,150 per month for pre-schooler care. Eliminating the childcare expenditure category from estimates of the cost of raising a child substantively lowers the estimates, making them unrealistic for and detrimental to Canadian families.

Because women's incomes continue to be lower than men's on average, if a couple considers only income (and not, for example, benefits packages or lifetime earnings projections) when deciding who stays home to parent, it is most often the lower wage earner, that is the mother, who reduces or drops out of labour force participation.

## Shelter

In the case of housing, furnishings and household operations, the Fraser Institute contends that with the possible exception of low-income parents who are renting an apartment and may have to move from a one-bedroom to a two-bedroom apartment when they have a child, most families live in owner-occupied housing. The Fraser Institute sees housing as an investment and holds that the costs should be assigned to the parents, not the child. It also holds that the costs

<sup>12</sup> In Québec, the cap is \$7.55 per day, regardless of the age of the child, for families with net family income of \$50,545 or less; the fee increases gradually with family income above \$50,545 (Finances Québec, 2016). The cap is \$651 per month for infant care, \$451 for toddler care and \$451 for pre-school care in Manitoba and \$738 per month for infant care, \$608 for toddler care and \$586 for pre-schooler care in Prince Edward Island (Macdonald & Friendly, 2016).







of any shared goods, such as household furnishings and equipment, are due to the lifestyle choices of parents and should not be attributed to children.

However, parents often make housing decisions with family size in mind. They may purchase a house that is larger than currently needed, or because economic circumstances are favourable (e.g., low interest rates) because they expect to have children and need or want the extra space in the future. They may choose to buy in a less expensive neighbourhood to get that additional space, or they may buy in a more expensive neighbourhood in order to access better schools. Also, in general, parents expect each of their children to have their own room (CMHC, 2007).

In their estimates of the cost of raising children, Douthitt and Fedyk (1990) found an increase in the probability of home ownership of about 28% when a first child was added to a family. Lino (2014) notes that the USDA's use of the cost of an additional bedroom to estimate the cost of housing is a conservative estimate because it does not account for parental decisions to purchase larger homes, purchase homes with particular amenities, or pay more to live in particular communities in anticipation of having children. Saunders and colleagues (1998) also note that where housing has been left out of European budget standard approaches, it has been left out because variability makes it difficult to construct a single, representative housing standard.

## Transportation

The Fraser Institute holds that if private vehicle costs increase when couples become parents, the increase is due to the lifestyle choice of the parents, not to the presence of children. The Institute allows that in some cases public transportation might be relevant. This argument is an interesting one: The transportation costs are attributed to the shift to a parental lifestyle, but the children who caused the lifestyle shift are not seen as the reason costs have changed.

Transportation is not included in the Fraser Institute estimates based on the Montreal Diet Dispensary numbers, but it is included in the estimates based on the Manitoba Agriculture (2004b) numbers for a 12-year-old boy, perhaps because the cost of a transit pass is the basis for the Manitoba Agriculture numbers.<sup>13</sup> Notes in the text accompanying the Manitoba Agriculture estimates, however, clearly state that transportation costs can increase when families have children due to increased variable costs of car ownership, and public transportation may not be an option in rural and remote communities (Manitoba Agriculture, 2004b).

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13 In the Budget Guides (Manitoba Agriculture and Food, 2001), on which the Cost of Raising a Child fact sheet is based, both car ownership and operation and public transportation costs are estimated.





## The cost of post-secondary education

The cost of post-secondary education has generally not been included in estimates of the cost of raising a child. Most estimates do not include costs beyond the age of 17 or 18, so any costs incurred for post-secondary education are not estimated. An exception is the work of Phillips and colleagues (2013) who estimated the costs of children in Australia from birth until age 24. Moreover, saving for post-secondary education was not included in any of the estimates of the cost for raising a child reviewed for this report.

Not all children will go on to post-secondary studies, including technical training, but those who do can face significant costs. For example, over the past 10 years, undergraduate tuition fees rose by almost 40% (Statistics Canada, 2016), far exceeding the rate of inflation. Increasingly, young people are living with their parents well into their 20s, and many face the double burden of high debts for student loans and a precarious job market. In 2011, 42% of 20-29 year-olds (1.8 million young adults) lived with their parents, up from 27% in 1981 (Milan, 2016). Both parents and their young adult children contribute financially to post-secondary education, and the financial picture can be complicated (Yanchuk Oleksy & Battams, 2016).

As education beyond high school becomes increasingly important for securing the future well-being of Canadians, we believe the inclusion of the savings component for post-secondary education in estimates of the cost of raising a child is warranted.

**Not all children will go on to post-secondary studies, including technical training, but those who do can face significant costs. For example, over the past 10 years, undergraduate tuition fees rose by almost 40% (Statistics Canada, 2016), far exceeding the rate of inflation.**

Data on contributions to Registered Education Savings Plans are currently collected in the Survey of household Spending; further questions on savings goals and amounts in the survey would give a clearer picture of the financial resources families are accumulating for the post secondary education of children.

# Chapter Three: Conclusions and Recommendations

As we have explained, the three major approaches to calculating the costs of raising children—expenditure survey, equivalence scales, and budget standard—differ in methodology, underlying assumptions and data used. As a result, these approaches may lead to different estimates, whether they are expressed in monetary terms or as equivalence scales (Lino, 2014).

Depending on the functional form of models and available data, even estimates produced by the same method can differ across regions, family compositions, income groups and time periods. Lino (2014), for example, showed that various equivalence scales calculated by the Rothbarth method for an American family with one child resulted in anywhere from 24 to 32 per cent of a family's income directed toward raising the child.

The literature proposes that one possible solution to working with divergent methods is averaging across different estimates to develop a single number (Gray, & Stanton, 2010; Whiteford, 1985). Researchers who suggest averaging recognize the advantages and disadvantages of the different approaches to estimating the cost of raising children.

They suggest that since social research and social policy require estimates but no single optimal method exists to arrive at these estimates, averaging the estimates is the most reasonable way to combine the advantages of several methods (Whiteford, 1985). In addition, some disadvantages may be offset by averaging estimates.

For example, any divergence between household expenditure behaviour and budget standards can be offset by the influence of expenditure behaviour in the complete demand system.

However, instead of trying to average the estimates obtained by different approaches to answer the question of what it costs to raise a child, we suggest beginning by asking: For what purpose will the estimate be used? The main distinction between different approaches is that each is used, or should be used, to answer different questions.

In addition to understanding the purpose of the estimate, it is vital that complete information is factored into calculations. There is general agreement across studies that the following expenditure categories must be included in estimates of the cost of raising a child: food, clothing, health care, education, personal care, transportation, childcare, and housing. Among the literature, the Fraser Institute report (Sarlo, 2013) is alone in excluding the costs of childcare and housing, furnishings and household operations. The resulting estimates are thus both implausible and unrealistic for Canadian families.

The validity and methodological trustworthiness of estimates of the costs of raising children are important to many actors in many settings and for many purposes. If we are clear on the fundamental inclusions and specific purpose, we can determine the most relevant method to be used to suit the particular case.

Table 7

Method	Question
Expenditure Survey	How much do families actually spend on children?
Equivalence Scale	How do children affect families' expenditure patterns? How much money do families with children need to be as well off as comparable families without children? How much do families actually spend on children?
Budget Standard	How do children affect a family's expenditure patterns? How much do families need to spend on their children? How much money do families with children need to be as well off as comparable families without children?

Depending on the functional form of models and available data, even estimates produced by the same method can differ across regions, family compositions, income groups and time periods.

For example, public policy purposes that include determining the minimum amount needed for children to thrive — poverty thresholds, social assistance, child benefit amounts, or foster care remuneration — would be best approached with the budget standard methodology. The relevant question here is “what do children need?” The budget standard approach can be used to provide a clear and straightforward guideline for not only the amount of income needed to support children, but also the breakdown of costs according to separate expenditure items. The transparency of the budget standard approach, particularly when the standard is formulated by teams of experts, policy makers, and community representatives, can be used to help to craft public policies to address the specific needs of households of various characteristics and incomes, particularly low-income households.

In the private market, the expenditure survey approach can be used for determining child maintenance amounts after divorce, compensation in the case of the failure of sterilization procedures, and for financial planning by current and prospective parents. This approach is

best in these situations for a number of reasons. It reflects patterns of spending, as well as the norms and standards of households with different demographic characteristics. In addition, the expenditures can be estimated for families with different levels of income.

Of course, the quality of both the expenditure survey and budget standard approaches relies on the availability of detailed data on the consumption and expenditure patterns of a variety of households. For example, although the Market Basket Measure consumption basket consists of goods and services that are reported by at least 70 per cent of Canada's population in at least seven out of ten provinces (Hatfield et al., 2010), more detailed expenditure data are needed to identify a wider range of goods and services consumed by average Canadian households to improve the composition of the market basket.

## Opportunities for More Robust Data

Statistics Canada has collected expenditure data through the Survey of Household Spending (SHS) annually since 1997 (Statistics Canada, 2016). The SHS contains data on household spending, demographic and household characteristics, and household income (retrieved from personal income tax data). With modifications, the SHS has significant potential to help inform estimates of the costs of raising children.



The SHS consists of two parts. In the interview part, the respondents are asked to answer a questionnaire that covers regular payments, such as rent, utilities, and childcare fees. The questionnaire also contains questions about expenditures on durable goods and home repairs that do not occur often. The second part of the survey requires a subset of respondents to fill out an expenditure diary for two weeks after the interview. In this diary, respondents report the expenditures of all members of the household. The SHS provides detailed information on total household expenditures, including those for food, housing, transportation, health care, education, personal care, childcare, clothing, and leisure.

While the SHS provides researchers and policy makers with detailed data on total income, total expenditures, and some household characteristics, there are some disadvantages that constrain the use of these data to estimate the cost of raising children. First, the SHS is a cross-sectional survey. Each year, a new random stratified sample of households is selected for the survey. Although researchers can compare the expenditure data of households of varying types and compositions across years, there is no way to investigate changes in the patterns of consumption of the same households over time. A longitudinal survey design would substantially improve our understanding of behavioural patterns in

consumption when families expand by adding children or contract due to separation of parents or death of family members. By following the same households over time, we could analyze family decision-making processes such as house purchases, childcare arrangements, and investments in education. Redesigning the SHS from a cross-sectional to a longitudinal panel survey would be costly, but it would improve data for evidence-based public policies targeting such areas as child support and defining poverty in Canada.

Second, the SHS collects data on aggregate household expenditures on such items as housing, transportation, and health care. Researchers aiming to calculate the cost of raising children face the difficult task of separating child-related costs from adult-related costs. Although we recognize that estimating the cost of raising a child is not the purpose of the SHS, the addition of a few questions to the survey would provide a much clearer picture of how much parents spend specifically on raising children.

For example, the section of the SHS questionnaire devoted to housing-related expenditures is large and detailed. Respondents are asked to report the type of their dwelling, number of bedrooms and bathrooms, ownership status and the value of the house. Here, the addition of a few behavioural questions would improve



our understanding of the allocation of child-related costs. In particular, it would allow researchers to understand if parents expanded their dwelling with the birth of children, if the family moved to a particular neighbourhood or school district, and if each child has a separate bedroom. The section examining the purchase of household furnishing and equipment should include explicit questions about the purchase of child-related items such as cribs, beds, chests of drawers, and so on.

**By following the same households over time, we could analyze family decision-making processes such as house purchases, childcare arrangements, and investments in education.**

The questions that the SHS questionnaire asks about childcare are—in contrast—quite limited. Additionally, the form of the questions and the choices of childcare categories listed (“day care centres, childcare offered in schools, childcare offered in private households and regular childcare in your home”) are confusing and worded in a non-standard way. Rewording the questions and adding some clarifying language such as “childcare for your children aged 0-12 years” and asking about childcare spending for each child, would provide very useful data now lacking on household spending on childcare.

Similarly, expansion of the health care expenditures section could shed light on spending patterns related to raising children. At the moment it is not clear what fraction of out-of-pocket health-related expenditures—including dentists’ visits and medication—was spent directly on children.

## Recommendations

We have established that having good estimates of the cost of raising a child is important for a number of areas of public policy and private life. Robust, accurate estimates are not only beneficial for professionals, they are of great direct and indirect benefit to Canadian families. Recognizing the complexities of this task and its paramount importance, we recommend three courses of action

that might be taken collaboratively by federal, provincial and territorial governments to achieve optimal estimates.

## 1. Develop a Comprehensive, Detailed Canadian Standard Budget

First, we recommend that the budget standard approach be used to develop comprehensive and detailed estimates of living costs for Canada—a budget that can be used to estimate the cost of raising children in families at low, middle and higher income levels. It should reflect expert norms where these are available and develop them where these norms do not exist. Its construction should be led by researchers and academics and include consultation with a broad range of parents representing urban and rural areas, various cultural and income groups, and children of varying abilities. The goal is to have a national standard budget that can be adjusted by region, by family size and by particular needs, such as having a child with a disability. The budget standard approach is currently used by Statistics Canada in the Market Basket Measure of low income and by the Montreal Diet Dispensary in its calculations of living costs. The proposed development of a Canadian standard budget is an expensive undertaking, but the improvement in methodology will result in nationwide estimates that are easy to compare by household and by province. Once core principles are formulated and established, regular revisions and updates to the standard budget will be less costly.

## 2. Base Estimates on Comprehensive National Data Using the Expenditure Survey Approach

Second, we recommend that estimates of the cost of raising a child also be developed based on comprehensive national data using the expenditure survey approach for the relevant range of categories related to goods and services consumed by children. We chose this approach over the equivalence scale approach because it makes use of expenditure data, is easier to use than the complete demand system (the best of the equivalence scale approaches), and would generate estimates that could be compared to the estimates generated by the USDA for the United States.





The use of the expenditure survey approach includes: (a) collecting SHS data on the range of child-related expenditures, (b) identifying the child-related budget shares of total household expenditures, and (c) using multivariate regression analysis to calculate child-related cost estimates for various family structures, income levels and province of residence. We recommend restructuring and expanding Statistics Canada's Survey of Household Spending so that this survey provides more detailed data on child-related expenditures on housing, childcare, transportation and health care. In the long run, we recommend designing the SHS in longitudinal form in order to study changes in household expenditure behaviour resulting from changes in family composition.

### 3. Develop Cost Estimates for a Diversity of Families Using the Budget Standard and Expenditure Survey Approaches

Third, we recommend that cost estimates be developed using both the budget standard approach and expenditure survey approach for families of various structures and incomes living in various demographic settings.

It is important to generate estimates for families of various structures or compositions, such as number, age and gender of children because these factors affect the amount parents and other caregivers spend on children. Estimates need to be generated at different income levels because how much income families have affects how much is available to spend on children. Estimates should be generated by province because the cost of subsidies on some goods and services vary from province to province. Generating estimates for rural locations and by major city would capture differences in the cost of living across Canada.

More difficult, but also necessary, is a means to adjust estimates based on the disability or health status of the child and the cultural background of families. Generating estimates from SHS data that can take these factors into account would be expensive: A very large sample of Canadians would be needed to generate good estimates by disability or health status and cultural background. Instead, we recommend that these factors continue to be explored in other research (e.g., Genereaux, Bansback, & Birch, 2016; Tsimicalis et al., 2012) and estimates generated from these studies be used to establish a relevant range of costs.

We expect that for families from the same province and with similar characteristics and income groups, the budget standard and expenditure survey estimates will converge. If the estimates are indeed similar, then we can



have more confidence in their validity, especially given that two quite different methods produced similar results. If the estimates are different, the expenditure amount should be recommended based on appropriateness of the approach for a specific purpose. That is, the budget standard estimates should be used for public policy purposes, while expenditure survey estimates should be used to guide decision-making processes in private settings.

If there is a difference in estimates, it should be analyzed. The findings can be used to adjust consumption categories in the budget standard and ensure that the bundles of goods and services include items that are consumed by average Canadians, based on knowledge from expenditure survey data. For example, if the expenditure survey approach estimates much higher costs of housing than the budget standard estimates, that may suggest that housing costs are undervalued in the budget standard and should be adjusted upwards.

## Conclusion

The costs that parents and guardians incur in raising children are wide ranging and depend on a number of different factors. As a result, the complexity of measuring these costs is significant and the process of arriving at a generally accepted estimate has been difficult and often politicized. These difficulties do not mean the task is not worth pursuing. On the contrary, they point to the need to understand the methodology used, the assumptions that underlie each approach and the advantages and disadvantages of the different costing approaches.

There is a high cost to doing nothing. It is imperative that published estimates of the cost of raising a child reflect and support the personal experiences of Canadian parents. Pursuing evidence-based, state-of-the-art practices to arrive at the true cost of raising a child is a societal imperative. Inaction will mean that public policy decisions will continue to be under-informed with potentially detrimental effects on families, the backbone of our Canadian society. Inaction will mean that courts continue to have poor guidance in child maintenance and compensatory decisions. It will also mean that Canadian families will lack essential data for decision-making, and their advisors will continue to be hamstrung. Is this not too high a price to pay?



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# Acknowledgements

Campaign 2000 thanks The Muttart Foundation and the Canadian Home Economics Foundation for their generous support of The Cost of Raising Children in Canada project. Special thanks to authors Karen, Dana and Sid, for bringing their commitment, knowledge and expertise to this project from the University of Manitoba. We also wish to recognize the project steering committee, partner organizations, parents, volunteers and Campaign 2000 staff and students for their many contributions.

Campaign 2000 is a non-partisan, cross-Canada coalition of over 120 national, provincial and community organizations, committed to working together to end child and family poverty in Canada. A complete list of partner organizations, is available on our website. Please download this report or our annual Report Card on child and family poverty at [www.campaign2000.ca](http://www.campaign2000.ca) or call us at 416.595.9230x244 for more information.





© Campaign 2000, May 2017  
ISBN: 1-894250-95-8

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Printing with union labour, OPSEU Local 594

Paper available in French at [campaign2000.ca](http://campaign2000.ca)

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