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**Luxembourg Income Study  
Working Paper No. 197**

**The Well-Being of Young Canadian Children  
in International Perspective**

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The Well-being of Young Canadian Children in International Perspective

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## Abstract

The goal of this paper is to compare the well-being of young children in Canada, Norway and the United States. Many economic models focus on children's eventual well-being by adopting an investment perspective. While this is important, children's well-being today should also count when we assess social welfare -- after-all, children constitute nearly one quarter of the Canadian population. To assess the well-being of young children, Sen's (1992) 'functionings' perspective is employed. While income is a vital input to well-being, it is probably not the best measure, particularly of children's well-being. Yet, lack of suitable data has meant that little cross-national evidence about indicators of children's well-being beyond income exists. The principal goal of this paper is to begin to fill this gap. We compare children cross-nationally in terms of ten 'functionings' (low-birth-weight; asthma; accidents; activity limitation; trouble concentrating; disobedience at school; bullying; anxiety; lying; hyperactivity). Results indicate that young children in Norway are better off than children in Canada or the US. It is not clear whether young children are, on average, better off in Canada or the US. However, children at the bottom of the Canadian income distribution are more likely to be better off than children at the bottom of the US income distribution.

## I. Introduction

Measures of economic well-being typically leave out children, while they are children. That is, many economic models of children's well-being or children's attainment (e.g., Becker, 1991; Becker and Tomes, 1979; 1986) adopt an investment perspective -- they are interested in the eventual well-being of children, once the children become adults. Examples of the sorts of questions often asked by economists include: what is the role of parent's income and education for the child's eventual education/income level; what is the effect of parental divorce on child's own eventual childbearing experiences (see Haveman and Wolfe, 1995 for a survey). These issues are obviously extremely important, but children are people now, too. They are not simply 'human becomings' (Qvortrup, 1990, p. 8) and their current well-being should count in any assessment of 'social welfare' -- children, after-all, constitute nearly 25 percent of the Canadian population.<sup>1</sup>

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<sup>1</sup> Children constitute an even larger proportion of the population in some developing countries.

The goal of this paper is to establish benchmark comparisons of the current well-being of children living in Canada, Norway and the United States. The perspective taken is that the well-being of children today matters. There is already a large and excellent literature which compares current family incomes for children living in different countries.<sup>2</sup> From this, we know that rates of child poverty are much higher in Canada and particularly in the US than in most other affluent industrialized countries (see, for example, Rainwater and Smeeding, 1995). Microdata from the Luxembourg Income Study indicate that in 1994, 18 percent of young children (i.e., aged 0 to 11 years) living with two parents were poor in the US versus 5 percent in Norway, for example. Canada was on 'middle ground' with 13 percent poor. Rates of poverty for young children living with lone mothers are much higher everywhere, but particularly in Canada (43 percent poor) and the US (60 percent poor). This contrasts with the Norwegian experience where 16 percent of young children living with lone mothers were poor.<sup>3</sup>

While income may be an extremely important input to the well-being of children,<sup>4</sup> in itself it is surely not the best measure of children's well-being. First, as a growing literature on the distribution of well-being within families points out, 'family income' is not the best measure of the well-being of any individual family member. Since young children, in particular, have so little

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<sup>2</sup> Much of this literature makes use of the Luxembourg Income Study -- a set of internationally comparable microdata sets housed in Luxembourg but available to remote users via the internet. Consult the LIS web-site for details: <http://lissy.ceps.lu>.

<sup>3</sup> A child is designated as poor if he or she lives in a household with income less than 50 percent of median equivalent after-tax income. OECD equivalence scales are employed. See Phipps, 1998b.

<sup>4</sup> Ross, Scott and Kelly, 1996 and Dooley and Curtis, 1998, for example, present evidence of the important associations between income and child physical and emotional well-being.

direct access to income of their own, they may not always share equally in the benefits associated with family income (e.g., see Phipps and Burton, 1995). Second, household production activities (reading stories, playing games, cooking a healthy dinner) seem especially important for the well-being of young children whose lives are often very centred around home, yet household production is missing from a simple income proxy.

Sen's (1992) 'functionings' approach is useful for measuring the current well-being of children. Examples of basic 'functionings' are: 'being adequately nourished'; 'being in good health'; 'avoiding escapable morbidity/premature mortality;' 'having a good education.' While adults control income, which they may or may not use to the benefit of their children, children themselves directly experience outcomes such as 'health,' etc.<sup>5</sup>

Yet, we have very little comparative evidence about outcomes for children other than income. For example, are outcomes such as physical and emotional health better or worse for Canadian children than for children living in other countries? Until very recently, a lack of suitable microdata has limited our ability to ask such a question. The goal of this paper is thus simply to try to establish some benchmark international comparisons of young children's 'functionings.'

Canadian outcomes are compared with those experienced in the US and in Norway. Why these two countries? The US is an obvious choice for comparison with Canada, given the proximity and similarities between the two. Norway is chosen as an example of a country with policies and a child-poverty record which is very different from Canada. (Of course, a necessary

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<sup>5</sup> See Phipps, 1998a for a more complete discussion of how we might think about the economic well-being of children.

condition was also that both countries have accessible microdata on child outcomes, which was actually a very limiting condition.)

While the focus of this paper is not on policy, it is important to note at the beginning that there are important differences in the policies available for children in Canada and the US (e.g., universal health care is available in Canada but not in the US; paid maternity leaves are available in Canada but not the US; child benefits are paid to all middle to lower-income families in Canada but such a benefit does not exist in the US<sup>6</sup>). There are even larger policy differences between Canada and Norway (e.g., all Norwegian children receive family allowances which are extremely generous by Canadian standards; maternity/parental leaves are very extensive and well-paid, very generous programmes are available to assist single mothers).<sup>7</sup> Differences in policy setting add to the interest of the microdata comparisons. While conclusions cannot necessarily be drawn about the link between policy and outcomes for children based on the work presented here, if better outcomes for children are observed in countries with more generous programmes, further research is certainly suggested.

The remainder of the paper is divided into 4 sections. Section 2 provides more detail on the data used. To set the context for the discussion of outcomes which follows, Section 3 discusses relative and absolute income differences for children in the 3 countries studied. Section 4 presents differences in 10 physical and emotional dimensions of child well-being. Section 5 concludes.

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<sup>6</sup> While the US does not offer a 'child benefit' the Earned Income Tax Credit is available for 'working poor' families with children. Over 18 million families received this benefit in 1994 (Kamerman and Kahn, 1997).

<sup>7</sup> See Phipps, 1998b which discusses these programme differences in detail.



## II. Data

Canadian estimates are based on the National Longitudinal Survey of Children and Youth (NLSCY). The Statistics Norway Health Survey and the National Survey of Children for the US are reasonably comparable microdata sets obtained to conduct cross-national comparisons. In each case, the survey was conducted during a visit to the respondent's home.

In locating data sets for the non-Canadian countries, a key condition was that the surveys contain reasonably similar information to that available in the NLSCY. For the US, this was not a problem, since content is extremely similar. The content of the Norwegian survey is more limited in focus to health-related issues, since the child-related questions which we use were a subset of the 1995 Statistics Norway Health Survey. Unlike the Canadian and US studies, there were no questions about problem behaviours, for example.

One difference across the surveys is whether or not the population of children in the country was the primary focus of the study. In Canada, children aged 0 to 11 years were the principal focus. The main component of the survey consists of children living in households who had recently been part of the Labour Force Survey (thus households living in the North, on Indian Reserves or in institutions are excluded). In Norway, the survey was designed with the population of principal interest being adults who, if they had children, were asked a limited set of questions about the health and happiness of their children. In this case, there was no restriction on the age of the child, though, of course, for comparability we restrict our attention to 0 to 11 year old children.

For the US, the parents were also the original focus of the survey, with the questions

about the respondent's children added at a later stage. The child data we use for the US are based on questions asked of the original NLSY respondents about their children. The survey was not designed to obtain a nationally representative sample of children, as was true for the Canadian data. Fortunately for the sake of making the international comparisons proposed for this paper, the key limitation of the survey is that given the current ages of the parents, the child sample is most representative of *younger* children (mothers in the US would be between the ages of 30 and 38 in 1995). Estimates for the US are considered fully representative of the national population of children for younger children, but not for teens or young adults.

Since the first wave of the Canadian NLSCY only contains information about children aged 0 to 11 years, and thus we only compare outcomes for children in this age range, the relative youthfulness of the US parents is not a serious problem for this analysis. Moreover, while the range of parental age is greater for Canada and Norway than for the US, mean age of mother is nearly identical. We choose to focus on the full samples for Canada and Norway since this gives the best information about child outcomes in these countries.<sup>8</sup>

In the Canadian survey, the person answering the questions is the 'person most knowledgeable about the child' (PMK) -- the mother in 97.7 percent of cases for the Child Questionnaire. For the US survey, only female respondents with children were asked about their children. Thus, the child sample consists of all children born to NLSY female respondents who were living in their mother's household at the survey date (several surveys have been carried out - we use the 1995 survey). In Norway, the respondent to the health survey would answer the

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<sup>8</sup> Also, we have performed sensitivity tests involving restricting the age of mothers in the Canadian sample to match the US sample. Estimates in no case changed by more than 1

child-related questions, regardless of the sex of the respondent.

For each data set, a small number of individuals did not answer particular questions about children's well-being. These observations are excluded as appropriate for the reporting of levels of child outcomes. Sample size is much the largest for Canadian children, with 21,045 observations for children aged 0 to 11. In contrast, we have only 3961 observations for the US and 1644 observations for Norway (see Appendix Table 2). And, in fact, we most often analyse even fewer observations since many questions were only relevant for sub-sets of the population (e.g., only children of school age can be 'disobedient at school').

### III Comparison of Family Incomes for Children in Canada, Norway and the US

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percentage point.

To put the discussion of physical and emotional outcomes which follows in context, this section outlines differences/similarities in incomes received by families with young children in the 3 countries. First, as mentioned in the introduction, we already know that child poverty is higher in the US and in Canada than in Norway. Since negative outcomes for children are associated with living in poverty (e.g., Ross, Scott and Kelly, 1996; Dooley and Curtis, 1998), we might thus expect to see, for example, children with poorer physical and emotional health, on average, in Canada and especially the US than in Norway. But, while 20 percent is a very high rate of child poverty, this obviously still means that 80 percent of children in the US are not poor.<sup>9</sup> Even if poor children have very bad outcomes, average numbers for the population as a whole will also reflect children who are affluent and may have very good outcomes. As Table 1a demonstrates, while 20 percent of children in the US are poor, 20 percent of children are also 'rich'(versus 10

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<sup>9</sup> All of the income comparisons reported here are carried out using the Luxembourg Income Study. We use LIS rather than the child outcomes microdata since income information is more complete in LIS.

percent in Canada and 6.5 percent in Norway).<sup>10</sup>

The comparisons provided in Table 1a are relative comparisons. For the purpose of understanding differences in child outcomes, it is also interesting to compare absolute standards of living across the countries, though this is a harder task. Following Hanratty and Blank (1992), we convert all currencies to 1994 Canadian dollars, using the 1990 OECD estimate of purchasing power parity (PPP) for individual consumption by households (OECD, 1990, Table 1.5, pp. 30/31, line 1). We extrapolate PPP to the appropriate year using country-specific deflators for private final consumption (OECD, 1996, pp. 102, 104, 123). This is, arguably, the best procedure available to us, but there are limitations which should be noted. First, it would have been preferable to have had the PPP's for the year of our conversion. Second, even if we did not have to extrapolate the PPP's, there will always be differences across the countries in what is included in final consumption (e.g., medical and health care must be privately purchased in the US). Third, families with young children will likely consume a different bundle of goods than the average household (e.g., relative prices of children's clothing, minivans and daycare will be more important).

With these caveats in mind, Table 1b attempts some absolute comparisons of incomes for

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<sup>10</sup> 'Rich' means that the children live in families with gross equivalent income greater than 1.5 times the median.

families with young children in Canada, Norway and the US. A first important point to note is that average incomes for all families with young children are very similar across the three countries (as Wolfson, 19xx also notes, median gross income is somewhat lower for the US, given the greater degree of income inequality though median after-tax income is very close to the other countries, given somewhat lower rates of income taxation). However, it should again be emphasized that there are differences across the countries in what families must purchase with these incomes (e.g., more private health care in the US; less private daycare in Norway).

The most significant differences in absolute incomes occur at the bottom and top of the income distributions. For example, in the US, median gross<sup>11</sup> income for families in the bottom quintile is only 50 percent of that received by families with young children in the bottom quintile of the Norwegian income distribution. On the other hand, median income for families with young children in the top quintile of the Norwegian income distribution is only 75 percent of the US equivalent. It is better to be poor in Norway, but to be rich in the US (from a purely self-interested point of view). Canada is again on 'middle ground' with respect to the absolute income received by the rich or the poor.

On the basis of these comparisons, it is not, a priori, clear what we should expect in terms of average outcomes for children. Is it the extent of deprivation, the extent of inequality<sup>12</sup>, or the average standard of living which is most important for observed average outcomes for children? It is not entirely obvious what we should expect to see in terms of over-all child outcomes in the

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<sup>11</sup> We focus here on gross income figures, not because this seems more desirable, but because this matches what is possible with the child outcomes microdata.

<sup>12</sup> Health experts argue that the extent of inequality in a country is a critical determinant of health (see, for example, Wilkinson, 1996).

cross-country comparisons.

#### IV Comparisons of Young Children's Well-being for Canada, Norway and the US

While economists often conceive of individual well-being as a subjective function of income,  $U(Y)$ , in practice they are more likely to proxy well-being using personal income. This approach seems particularly inappropriate for a study of the well-being of young children. As argued in the introduction, income is presumably a key input, but it is surely an insufficient proxy for children's well-being. Thus, the approach adopted in this paper is to study child well-being in terms of child 'functionings' (Sen, 1992).

Unfortunately, data comparability/availability issues have constrained the functionings which we can examine, so what follows is far from ideal or complete. In particular, it is worth noting that we have restricted our attention to outcomes for which the surveys have basically asked exactly the same question. We do this because in earlier versions of this work, some Canadian readers were extremely sensitive to results showing Canadian children to have worse outcomes than, in particular, children in the US. People, frankly, did not believe this could be true, and so looked for reasons to explain away the findings. For example, Phipps 1998b reports that 19 percent of Canadian children 'destroy things belonging to self or another' while only 12.9 percent of US children are reported to be destructive. However, in the US question, the word 'deliberately' is inserted (i.e., 'how often does your child deliberately (emphasis added) destroy things belonging to self or another). This, of course, somewhat alters the meaning of the question, particularly with respect to younger children (e.g., 4 to 11), who are prone to break things without having planned to do so. Another example of the subtleties of question wording

can be found in the question used to assess 'worrying' behaviour. In Canada, 48.8 percent of children were reported to 'worry' while only 35.8 percent of children in the US 'worry too much.' Obviously, the questions on worrying or destructive behaviour are not exactly comparable. Thus, for this paper, great care has been taken to find survey questions worded in the same way. Exact question wordings are included in Tables 2 to 11 for readers to judge whether or not this is so. Summary comparisons, including standard errors, are presented in Tables 12 and 13.

Of course, there will always remain the problem that the Norwegian survey was conducted in Norwegian, and we are working with a translation. Moreover, of course, many Canadians would have been asked the question in French, while presumably some US respondents worked in Spanish.

'Physical health' is a first key functioning studied. We consider 4 dimensions of physical health for which we have directly comparable information: low birth-weight; experience of accidents/injuries; activity limitation; asthma. First, low birth-weight is an important predictor of future health and social problems. Table 2 records the incidence of low-weight births for Canada and the US. (Since this question was only asked of parents with children aged 0 to 3 in Canada, we similarly restrict the US sample. The Norwegian microdata do not record birth weights.) In Canada, 5.2 percent of all children were born weighing less than 5.5 pounds; in the US, 7.0 percent had low birth-weight.<sup>13</sup> However, while the Canadian point estimate is lower than the

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<sup>13</sup> Since restricting the US sample to children aged 0 to 3 reduces sample size to about 300 observations, Appendix Table 1 presents OECD estimates of the incidence of low-weight births for the US. In 1989, the most recent year for which we could find this information, the OECD reports 7.05 percent of US children weighed less than 5.5 pounds at birth.



US estimate, the difference is not statistically significant,<sup>14</sup> perhaps in part due to the very small sample size available for the US.

In both Canada and the US, the incidence of low-weight births is higher for less affluent families, with the difference between bottom and average being greatest in the US. Table 2 reports that 6.3 percent of Canadian children in the bottom quintile of the income distribution<sup>15</sup> had low birth-weight; 11.2 percent of children in the bottom quintile of the US income distribution had low birth-weight. This difference is statistically significant at the 95 percent level.

Since the Norwegian microdata do not report the incidence of low-weight births, Appendix Table 1 reports OECD estimates indicating that Norwegian children are less likely to be born with low birth-weight than Canadian children (5.5 percent for Canada versus 4.6 percent for Norway). (Standard errors are not reported with these OECD estimates.)

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<sup>14</sup> Confidence intervals at 95 percent do not overlap.

<sup>15</sup> Children are ordered according to gross equivalent family income. Equivalent income is calculated using the OECD equivalence scale.

Tables 3 focuses on the incidence of accidents or injuries requiring medical attention<sup>16</sup> for all children (0 to 11 years) in Canada, Norway and the US. The experience of accidents might be regarded as an indicator of unsafe physical environment or lack of attention; it could on the other hand be due to increased participation in organized sports, which is more likely for reasonably affluent families (Offord, Lipman and Duku, 1998). In the past twelve months, 10.6 percent of children in the US have experienced an accident; 10.2 percent of Canadian children have had an accident or been injured; only 7.9 percent of Norwegian children have had an accident/injury. The accident rates for young children in Canada and the US are not statistically different; Norwegian children are significantly less likely to have had accidents than children in Canada. Less affluent children (i.e., those in the bottom quintile of the country income distribution) have very comparable accident rates to the country average in all cases.

Table 4 reports the incidence of asthma, a partially stress-related problem, for children

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<sup>16</sup> For the US and Canada, the parent is asked whether the accident was serious enough to 'require' medical attention. For Norway, the parent was asked about accidents or injuries for which the child 'received' medical attention. While this is an important distinction, we hope that universal medical coverage in Norway means that there is a very close correspondence between needing and receiving medical attention.

aged 4 to 11 in Norway and Canada. Note that in this case there is a slight difference in the wording of the question asked of parents. In Canada, parents are asked whether their child ever had asthma ‘that was diagnosed by a health professional.’ Norwegian parents are simply asked if their child has ‘ever been bothered by asthma.’ If anything, this wording difference should result in more reporting of asthma in Norway than in Canada. Since we find that children in Norway are significantly less likely to have asthma (8.2 percent) than children in Canada (13.2 percent), we can be quite confident about the conclusion that Norwegian performance in this respect is superior. It is interesting that the incidence of asthma is actually slightly lower in both countries for children in the bottom quintile compared to children over-all.

The final measure of physical well-being considered is whether the child has any long-term condition/health problem which limits his/her ability to participate at school, at play or in other activities normal for a child of the same age. Full detail on the wording of the question is provided for each country in Table 5. In the US case, results from 3 separate questions were aggregated to obtain a comparable measure (i.e., limited in ability to attend school, to do regular schoolwork, to do usual childhood games, play, sports). Norwegian point estimates for activity limitation are lower than the Canadian estimates (3.6 percent in Norway versus 4.7 percent in Canada), but the difference is not statistically significant. Similarly, Canada has a lower point estimate for activity limitation than the US, but the difference is not statistically significant (3.6 percent of children have activity limitation versus 4.7 percent in Canada and 5.2 percent in the US). For Canada and the US, activity limitation increases for children in the bottom quintile of the income distribution (to 5.4 percent and 8.7 percent, respectively). This difference is statistically significant. That is children at the bottom end of the income distribution are more

likely to have activity limitation in the US than in Canada. This is not true for Norway, though since this is a low-incidence problem and the Norwegian data set is not large, we may have a small sample problem in this case.

Tables 6 through 11 focus on selected problem behaviours which may signal lower levels of emotional well-being for children. Unfortunately, in order to focus on questions worded in the same way, we have been left with more 'acting out' than 'withdrawing' sorts of behaviours: being disobedient at school; being cruel or a bully; being restless or overly active; lying/cheating versus having trouble concentrating and being anxious or frightened. As summary Table 14 indicates, this leaves the impression that boys have lower levels of well-being than girls in all 3 countries.

For each of the above behaviours, attention is restricted to children for whom these behaviours seem more relevant (generally, 4 to 11 year olds; 6 to 11 year olds if the question relates to being in school). With the exception of fear/anxiety, this information is only available for children living in Canada or the US. We choose to study individual behaviours rather than aggregating to some index of problem behaviours in order that we can point out subtle differences across the countries which might otherwise become buried.

The first two behaviours studied are potentially relevant for school performance: trouble concentrating and disobedience at school. With respect to trouble concentrating, children in the US and Canada are very similar (there is no statistically significant difference). In Canada, 39.8 percent of all children (aged 6 to 11) sometimes or often have trouble concentrating; in the US, 39.4 percent have this problem.<sup>17</sup> In both countries, children living in families in the bottom quintile of the income distribution are more likely to have trouble concentrating, however, the

Canadian and US estimates are again statistically indistinguishable (45.3 and 47.8 percent, respectively).

In Canada, 17.8 percent of children are reported by their parents to be sometimes/often/always disobedient at school; in the US, 20.6 percent are sometimes/often disobedient (at school). While this difference is not very large in percentage terms (15.7 percent), it is statistically significant. In both countries, but especially in the US, the reported incidence of disobedience at school increases for children living in families in the bottom quintile of the income distribution. Canadian children are again significantly less likely to be disobedient than children living in the US (21.3 percent versus 27.3 percent).

Tables 8 through 11 study other potential indicators of emotional ‘ill-health.’ First, Table 8 reports that Norwegian children are much less likely to be anxious/frightened than are children in the other countries under study. Of 4 to 11 year old children, 35.9 percent are ‘sometimes or often’ ‘too anxious/frightened’ in Canada; 31.8 percent are ‘sometimes/often’ ‘too anxious/frightened’ in Norway; but only 11.3 percent are ‘a little/quite/extremely troubled’ by ‘constant anxiety or fear’ in Norway. These results are all significantly different. Thus, reported levels of anxiety are significantly higher for young Canadian children than for young children living in the US, or, especially, in Norway.

However, note that this is a case where we continue to analyse a category in which there

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<sup>17</sup> Readers may have empathy for these children at this stage of the paper.

is a slight difference in wording. While the Canadian and US questions are exactly the same, the Norwegian question differs. Nonetheless, since we have few 'emotional well-being' indicators available for comparison with Norway, we retain the question and caution readers about the wording difference.

For the remaining categories, we can only compare Canada and the US. First, Table 9 reports the incidence of 'lying or cheating,' a behaviour which is significantly less likely in Canada than the US, though the percentage difference between the two is not large for all young children (37.3 percent in Canada versus 40.0 in the US). The reported incidence of lying and cheating increases for children in the bottom quintile of the income distribution: to 41.1 percent in Canada and to 51.0 percent in the US.

Table 10 reports that children (aged 4 to 11) in the US are much more like to be cruel or to bully others than are children in Canada (11 percent in Canada versus 26.4 percent in the US). In both countries, the reported incidence of bullying/cruel behaviour increases for children in the bottom quintile (to 16.3 percent and 29.5 percent, respectively). The large difference between Canadian and US children persists.

On the other hand, children (aged 4 to 11) in Canada are much more likely to be restless/overly active than those in the US (see Table 11). In Canada, 57.6 percent of children are sometimes or often overly active; in the US, the equivalent figure is only 41 percent. There are particularly large gaps for the 'often' category -- nearly 20 percent of Canadian children are reported to be overly active 'often' while this is true for only 8 percent of children in the US. Again, in both countries, the incidence of this behaviour is higher for children in lower-income families.

In thinking about these results, a general point to make is that when answering questions which contain a subjective element, parental responses will inevitably be mediated by social norms. While we have tried to select questions which minimize this problem, it remains, for example, in parental assessment of whether the child is 'too fearful or anxious.' What is 'too' fearful? Each parent will have to make this assessment, and each will presumably respond relative to what they know -- that is, relative to standards of their community. Appendix Table 1 reports some crime statistics for the 3 countries studied. It is clear, for example, that intentional homicides are much higher in the US than in Canada or Norway. Drug crimes are also more common, though the difference is not so great in this case. The point to be made is that a parent may not respond that her child is 'too fearful/anxious' if everyone else is 'fearful/anxious' and, indeed, this is a rational response given the environment. Of course, the criminal activity statistics reported are national statistics. There will be enormous differences between, say, south-side Chicago and a small farming community in Idaho -- and this is also true for comparisons within Canada.

But, even for less subjective responses, parents will answer questions given what they know. For example, 'how often is your child a bully?' or 'how often is your child overly active'?<sup>18</sup> The parent is left to define for herself what exactly constitutes 'bullying' or 'overly active'

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<sup>18</sup> Phipps, 1998a presents evidence that parents with other children are less likely to state that the child in question is 'overly active,' perhaps because they have adjusted their expectations of young children?

behaviour. Thus, her response will be conditioned by standards of the community in which she lives. Such problems are inherent to international comparisons of the type attempted in this paper.

To help summarize the results presented thus far, Tables 12a and 12b report the incidence of each of the 10 problem outcomes studied, as available, for young children over-all in Canada relative to the US and for Canada relative to Norway, respectively. First, how do young Canadian children fare relative to their counterparts in the US? As Table 12a indicates, the answer to this question is not entirely clear-cut, which is perhaps not surprising when we begin to consider many different dimensions of well-being. First, if we consider the components of physical health for which we are able to make microdata comparisons (low birth weight, accidents/injuries, activity limitation), point estimates are generally better for Canada, but the between-country differences are not statistically significant.

Since 'having/receiving a good education' is a key functioning for any child, we also compare 'trouble concentrating' and 'disobedience at school,' outcomes which might lead to problems at school. There is no statistically significant difference between the two countries in having 'trouble concentrating. However, young Canadian children are slightly less likely to be disobedient at school (17.7 percent versus 20.6 percent, a statistically significant, though small difference).

The final set of functionings concern dimensions of what might be labelled 'emotional well-being.' Here, it isn't clear whether children in Canada are better or worse off than children living in the US. Canadian children are more likely to be anxious/frightened than children in the US and are much more likely to be hyperactive. On the other hand, they are less likely to lie or



cheat and much less likely to be bullies.

But, average disposable incomes for families with young children are nearly identical for Canada and the US, so perhaps it is not surprising that average outcomes are basically not that different. On the other hand, as Table 1 demonstrated, not only are rates of child poverty higher in the US than in Canada, but if we compare mean incomes of the poorest 20 percent of families (with young children) across the countries, it is clear that the poorest Canadians are better-off (mean income = \$21, 239) than the poorest Americans (\$15,888), presumably at least partially a result of somewhat more extensive social programmes. Perhaps, then, we should look for greater differences in outcomes for children in the bottom quintiles of the income distribution.

Table 13a summarizes outcomes for the poorest 20 percent of children in each country. A first point to notice is that for both countries and almost all outcomes, poorer children are worse off (accidents and asthma are two exceptions). However, the extent of the deterioration is nearly always greater for the US. That is, there is a bigger difference between the outcomes experienced by the average child and the outcomes experienced by poorer children in the US than in Canada. If we compare physical health outcomes for children in the bottom quintiles of the two populations, poor Canadian children are significantly better-off for 2 of the 3 outcomes studied. The poorest 20 percent of young Canadian children are less likely to have been low birth-weight babies and are less likely to be limited in their ability to engage in activities normal for a child of the same age. (There is no statistically significant difference between the countries in terms of accidents/injuries experienced by young children.)<sup>19</sup> With respect to dimensions of emotional

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<sup>19</sup> It is also worth noting that according to OECD published reports, both the incidence of low-weight births and infant mortality rates are lower in Canada than the US. (No standard errors

well-being, much the same pattern holds for poorer children as was described for all young children. Poorer Canadian children are more likely to be anxious or frightened and to be hyperactive; poorer children living in the US are more likely to be bullies and to lie/cheat.

If we compare Canada and Norway, it is clear that children are better-off in Norway. Using the microdata estimates, children are less likely to have accidents, to have asthma, or to be fearful/anxious. There is no statistically significant difference between the two countries in activity limitation, though the point estimate is smaller for Norway. The conclusion that outcomes for children are better in Norway than in Canada is supported by aggregate data from the OECD -- the incidence of low-weight births is lower in Norway and infant mortality rates are lower.

Notice that the superiority of outcomes for young children in Norway relative to Canada is despite the fact that mean incomes (before or after tax) are slightly higher in Canada. However, rates of poverty are much lower in Norway than in Canada, and those at the bottom of the income distribution have noticeably higher absolute standards of living in Norway.

#### IV Conclusions

This paper has attempted to provide benchmark comparisons of the economic well-being of children in Canada, Norway and the United States, arguing that the well-being of young

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are provided to allow for tests of statistical difference.)

children, today, while they are young children, is an important component of social well-being. Since income is an important input to child well-being, evidence is presented of both relative and absolute income differences across the 3 countries studied, using microdata from the Luxembourg Income Study. Evidence indicates that while average income levels for all children are similar across the countries, there are very large differences in the extent of economic deprivation. First, relative poverty rates are much lower in Norway than in Canada or, especially, the US. Second, despite very similar average incomes, there are very large differences in the absolute incomes received by the poorest 20 percent of children in the 3 countries. For example, children in the bottom quintile of the Norwegian income distribution receive double the income of children in the bottom quintile of the US income distribution.

However, while income is a vital input to well-being, it has been argued here that income, alone, is not the best measure of children's well-being. Instead, this paper follows Sen (1992) in describing well-being in terms of a set of 'functionings.' If we compare young children in Canada and the US in terms of their functionings, there is not a clear ranking over-all. Some outcomes are not statistically different, some are better in Canada; some are better in the US.<sup>20</sup> However, if we compare children with family incomes in the bottom quintile of the Canadian income distribution with those in the bottom quintile of the US income distribution, the Canadian children are more likely to be better off.

If we compare child functionings in Canada with those experienced in Norway, it is clear

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<sup>20</sup> We could, of course, choose a multidimensional index, with weights associated with various functionings. This would provide us with a single summary statistic. However, it isn't obvious how to choose appropriate weights, and it could well be that people in the different countries would choose different weights for different aspects of child well-being.

that Norwegian children fare better than Canadian children. This finding accords with the idea that it is deprivation rather than average living standards which are most important for child well-being. Finally, given that outcomes for children are better in Norway, where programmes for families with children are very extensive by Canadian standards, we should consider the role played by policy, both as policy affects income (e.g., through taxes/transfers) and as policy shapes social institutions (e.g., education systems, health care systems, daycare programmes, parenting leave programmes).

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<b>Table 1a</b>				
<b>Relative Income Comparisons</b>				
		Canada	Norway	United States
Percentage Poor	Children 0-11 in 2-Parent Families	12.6	4.6	17.9
	Children 0-11 in Lone Mother Families	42.5	15.7	60.7
Percentage Rich	Children 0-11 in 2-Parent Families	10.2	6.5	19.0
	Children 0-11 in Lone Mother Families	1.3	0.3	3.5

Note: For these calculations, it is assumed that the child shares equally the parents' standard of living. "Poor" means family equivalent income is less than 50% of the median country equivalent income; "Rich" means family income is greater than or equal to 1.5 times the country equivalent income. "Equivalent Income" adjusts for family size using the OECD equivalence scale.



**Table 1b**  
**Absolute Income Comparisons For Children 0-11**  
**Incomes in 1994 Canadian Dollars\***

			Canada	Norway	United States
All Children 0-11 Years of Age	Gross Family Income	mean	56,351	52,530	58,152
		median	50,600	49,848	45,651
	Equivalent Gross Family Income	mean	18,601	18,079	18,978
		median	16,562	17,027	14,368
All Children 0-11 Years of Age with Lone Mothers	Gross Family Income	mean	27,682	29,304	27,443
		median	21,261	23,844	19,897
	Equivalent Gross Family Income	mean	11,173	13,717	9,390
		median	9,097	10,679	6,753
All Children 0-11 in the Bottom 20% of the Income Distribution**	Gross Family Income	mean	21,239	26,821	14,933
		median	20,316	28,382	14,319
	Equivalent Gross Family Income	mean	6,686	8,800	4,310
		median	6,904	9,461	4,604
All Children in the Top 20% of the Income Distribution**	Gross Family Income	mean	103,338	85,608	130,022
		median	90,599	75,624	109,140
	Equivalent Gross Family Income	mean	35,866	30,929	44,950
		median	31,535	26,692	37,346
All Children 0-11 Years of Age	After Tax Family Income	mean	45,216	39,956	46,474
		median	41,689	38,280	39,374
Ratio of mean all kids to mean of the bottom 20%	gross equivalent income		2.78	2.05	4.40

Note: \* Incomes for Norway and United States were converted using the purchasing power parity rate for household consumption as calculated by OECD.

\*\*Obtained using the Luxembourg Income Study data, kids files. Incomes were ordered by equivalent gross income to obtain the bottom and top 20%. Equivalent income adjusts for family size using the OECD equivalence scale.

Table 2  
Low Birth weight\*

	<b>Actual Question Asked</b>	<b>Responses</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	What was his/her birth weight in kilograms and grams or pounds and ounces? Note: Ages 0 to 3 inclusive.	1. Yes	5.2	6.4	1.23
<b>United States 1994</b>	weight of child at birth in ounces Note: Ages 0 to 11 inclusive.	1. Yes	6.3	9.2	1.46
<b>United States 1994</b>	weight of child at birth in ounces Note: Ages 0 to 3 inclusive.	1. Yes	7.0	11.2	1.60
* Note: Babies born less than 5.5 pounds.					

**Table 3**  
**Accident/Injuries Indicators**

	<b>Actual Question Asked</b>	<b>Response</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	The following questions refer to injuries, such as a broken bone, bad cut or burn, head injury, poisoning or sprained ankle, which occurred in the past 12 months, and were serious enough to require medical attention by a doctor, nurse, or dentist. Was the child injured in the past 12 months? Note: Ages 0 to 11 inclusive.	1. Yes.	10.1	10.2	1.01
<b>Norway 1995</b>	(Has your child had medical attention) due to treatment for an injury or accident that occurred during the past 12 months? Note: Ages 0 to 11 inclusive.	1. Yes.	7.9	6.5	0.82
<b>United States 1994</b>	During the past 12 months, has your child had any accidents or injuries that required medical attention? Note: Ages 0 to 11 inclusive.	1. Yes.	10.7	11.0	1.03

Table 4  
Asthma

	<b>Actual Question Asked</b>	<b>Response</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	Has (your child) ever had asthma that was diagnosed by a health professional? Note: Ages 4 to 11 inclusive.	1. Yes	13.3	12.7	0.95
<b>Norway 1994</b>	Is s/he, or has s/he ever been bothered by asthma? Note: Ages 4 to 11 inclusive.	1. Yes	8.2	6.6	0.8

Table 5  
Limited in Activity

	<b>Actual Question Asked</b>	<b>Response</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	Does (your child) have any long-term conditions or health problems which prevent or limit his/her participation in school, at play, or in any other activity for a child of his/her age? Note: Ages 6 to 11 inclusive.	1. Yes	4.7	5.3	1.13
<b>Norway 1995</b>	Does s/he suffer from any illness or disorder of a more long-term nature, and congenital disease or the effect of an injury [which cause] difficulties getting through the day (school/homework) or taking part in games and activities? Note: Ages 6 to 11 inclusive.	1. Yes	3.6	3.7	1.03
<b>United States 1994</b>	Does (your child) have any physical, emotional or mental difficulties that limit his/her ability to: a) attend school on a regular basis? or b) do regular schoolwork? or c) do usual childhood activities such as play, or sport or games? Note: Ages 6 to 11 inclusive *	1. Yes	5.2	8.7	1.67
Note: For the United States, there were three separate questions asked (a,b,c). If the response was yes for any of the three questions then the child was considered to be limited in activity.					

Table 6  
Trouble Concentrating

	<b>Actual Question Asked</b>	<b>Possible Responses</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	How often would you say that (your child) can't concentrate, can't pay attention for long? Note: Ages 6 to 11 inclusive.	1. Never or not true. 2. Sometimes or somewhat true. 3. Often or very true.	60.2 32.1 7.7	54.6 33.6 11.7	0.91 1.05 1.52
<b>United States 1994</b>	He/She has difficulty concentrating, cannot pay attention for long. Note: Ages 6 to 11 inclusive.	1. Not true. 2. Sometimes true. 3. Often true.	60.6 30.7 8.7	52.2 34.9 12.9	0.86 1.14 1.48

Table 7  
Disobedient at School

	<b>Actual Question Asked</b>	<b>Possible Responses</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	How often would you say that (your child) is disobedient at school? Note: Ages 6 to 11 inclusive.	1. Never or not true. 2. Sometimes or somewhat true. 3. Often or very true. 4. Always	82.3 16.2 1.3 0.2	78.7 18.8 2.5 0.0	0.96 1.16 1.92 --
<b>United States 1994</b>	He/She is disobedient at school. Note: Ages 6 to 11 inclusive.	1. Not true. 2. Sometimes true. 3. Often true.	79.4 18.5 2.1	72.7 24.3 3.0	0.92 1.31 1.43

Table 8  
Anxious/Frightened Indicators

	<b>Actual Question Asked</b>	<b>Possible Responses</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	How often would you say that (your child) is too fearful or anxious? Note: Ages 4 to 11 inclusive.	1. Never or not true. 2. Sometimes or somewhat true. 3. Often or very true.	64.1 31.5 4.3	58.4 35.3 6.3	0.91 1.12 1.47
<b>Norway 1995</b>	Has s/he been constantly frightened or anxious? Note: Ages 4 to 11 inclusive.	1. Not at all. 2. A little troubled. 3. Quite troubled. 4. Extremely troubled.	88.8 9.5 1.5 0.3	83.2 14.8 2.0 0.0	0.94 1.56 1.33 --
<b>United States 1994</b>	He/she is too fearful/anxious. Note: Ages 4 to 11 inclusive.	1. Not true. 2. Sometimes true. 3. Often true.	68.2 29.1 2.6	65.0 31.1 3.9	0.95 1.07 1.5

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Table 9  
Lies or Cheats

	<b>Actual Question Asked</b>	<b>Possible Responses</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	How often would you say that (your child) tells lies or cheats? Note: Ages 4 to 11 inclusive.	1. Never or not true. 2. Sometimes or somewhat true. 3. Often or very true	63.0 34.8 2.2	58.9 37.3 3.8	0.94 1.07 1.73
<b>United States 1994</b>	He/She cheats or tells lies. Note: Ages 4 to 11 inclusive.	1. Not true. 2. Sometimes true. 3. Often true.	59.0 38.7 2.3	49.0 47.1 3.9	0.83 1.22 1.70

**Table 10**  
**Cruel/Bullies Indicators**

	<b>Actual Question Asked</b>	<b>Possible Responses</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	How often would you say that (your child) is cruel, bullies or is mean to others? Note: Ages 4 to 11 inclusive.	1. Never or not true. 2. Sometimes or somewhat true. 3. Often or very true.	89.1 10.2 0.7	83.7 15.1 1.2	0.94 1.48 1.71
<b>United States 1994</b>	He/She bullies or is cruel to others. Note: Ages 4 to 11 inclusive.	1. Not true. 2. Sometimes true. 3. Often true.	73.7 24.8 1.6	70.5 25.9 3.6	0.96 1.04 2.25

Table 11  
Restless/Overly Active Indicators

	<b>Actual Question Asked</b>	<b>Possible Responses</b>	<b>Response Frequency (percent) -all children</b>	<b>Response Frequency (percent) -bottom quintile</b>	<b>Ratio of the bottom quintile to the average</b>
<b>Canada 1994 - 95</b>	How often would you say that (your child) can't sit still, is restless, or hyperactive? Note: Ages 4 to 11 inclusive.	1. Never or not true. 2. Sometimes or somewhat true. 3. Often or very true.	42.4 38.0 19.6	37.9 39.3 22.8	0.89 1.03 1.16
<b>United States 1994</b>	He/She is restless or overly active, cannot sit still. Note: Ages 4 to 11 inclusive.	1. Not true. 2. Sometimes true. 3. Often true.	59.0 32.9 8.1	49.8 36.7 13.5	0.84 1.12 1.67

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**Table 12a**  
**Point Estimates and Standard Errors<sup>†</sup> of Child Outcomes**  
**-Canada and the United States**

Outcome	Canada	United States
Low Birth Weight	5.2 (0.251)	7.0 (0.826)
Accidents/Injuries	10.1 (0.207)	10.7 (0.494)
Limited in Activity	4.7 (0.215)	5.2 (0.478)
Trouble Concentrating	39.8 (0.497)	39.4 (1.065)
Disobedient at School*	17.7 (0.387)	20.6 (0.891)
Anxious/Frightened*	35.8 (0.418)	31.7 (0.883)
Cruel/Bullies*	10.9 (0.272)	26.4 (0.836)
Restless*	57.6 (0.431)	41.0 (0.931)
Lies*	37.0 (0.421)	41.0 (0.934)

\* indicates significant difference with 95% confidence.

<sup>†</sup> formula to calculate the standard error of a proportion (from Satin and Shastry, 1993):

$$SE = \sqrt{(1 - (n/N)) * (p * (1-p)) / (n-1)}$$

where: n=sample size, N=population size and p=proportion with attribute

**Table 12b**  
**Point Estimates and Standard Errors<sup>†</sup> of Child Outcomes**  
**Canada and Norway**

Outcome	Canada	Norway
Accidents/Injuries*	10.1 (0.207)	7.9 (0.665)
Asthma*	13.3 (0.296)	8.2 (0.827)
Limited in Activity	4.7 (0.215)	3.6 (0.657)
Anxious/Frightened*	35.8 (0.418)	11.3 (0.954)

\* indicates significant difference with 95% confidence.

<sup>†</sup> formula to calculate the standard error of a proportion (from Satin and Shastry, 1993):

$$SE = \sqrt{(1 - (n/N)) * (p * (1-p)) / (n-1)}$$

where: n=sample size, N=population size and p=proportion with attribute

**Table 13a**  
**Point Estimates and Standard Errors<sup>†</sup> of Child Outcomes**  
**Canada and the United States - Bottom Quintile**

Outcome	Canada	United States
Low Birth Weight*	6.4 (0.573)	11.2 (2.166)
Accidents/Injuries	10.2 (0.432)	11.0 (0.952)
Limited in Activity*	5.3 (0.482)	8.7 (1.075)
Trouble Concentrating	45.3 (1.074)	47.8 (1.929)
Disobedient at School*	21.3 (0.884)	27.3 (1.750)
Anxious/Frightened*	41.6 (0.900)	35.0 (1.664)
Cruel/Bullies*	16.3 (0.674)	29.5 (1.593)
Restless*	62.1 (0.885)	50.2 (1.746)
Lies*	41.1 (0.898)	51.0 (1.747)

\* indicates significant difference with 95% confidence.

<sup>†</sup> formula to calculate the standard error of a proportion (from Satin and Shastry, 1993):

$$SE = \sqrt{(1 - (n/N)) * (p * (1-p)) / (n-1)}$$

where: n=sample size, N=population size and p=proportion with attribute

**Table 13b**  
**Point Estimates and Standard Errors<sup>†</sup> of Child Outcomes**  
**Canada and Norway - Bottom Quintile**

Outcome	Canada	Norway
Accidents/Injuries*	10.2 (0.432)	6.5 (1.431)
Asthma*	12.7 (0.607)	6.6 (1.767)
Limited in Activity	5.3 (0.482)	3.7 (1.555)
Anxious/Frightened*	41.6 (0.900)	16.8 (2.660)

\* indicates significant difference with 95% confidence.

<sup>†</sup> formula to calculate the standard error of a proportion (from Satin and Shastry, 1993):

$$SE = \sqrt{(1 - (n/N)) * (p * (1-p)) / (n-1)}$$

where: n=sample size, N=population size and p=proportion with attribute

**Table 14**  
**Summary of Outcomes**  
**By Gender of Child**

Incidence of Problem	Canada		Norway		United States	
	girls	boys	girls	boys	girls	boys
Low Birth Weight	6.0	4.4	na	na	8.4	5.5
Accidents/Injuries	9.0	11.3	6.6	9.4	8.2	13.2
Asthma	10.5	15.8	8.9	7.5	na	na
Limited in Activity	4.2	5.2	2.8	4.4	4.1	6.3
Trouble Concentrating	31.8	47.5	na	na	33.6	45.1
Disobedient at School	10.0	25.2	na	na	13.9	27.3
Anxious/Frightened	35.9	36.2	10.8	11.7	34.4	29.3
Cruel/Bullies	9.0	12.8	na	na	23.6	28.9
Restless	51.0	63.8	na	na	33.7	47.9
Lies	33.6	40.7	na	na	38.2	43.8



APPENDIX 1

Table A1 Criminal Activity, Infant Mortality and Low Birth Weight			
	Canada	Norway	United States
Intentional Homicides by Men (per 100,000 people, 1985-90)	2.7	1.6	12.4
Drug Crimes (per 100,000 people, 1980-86)	225	116	234
Infant Mortality Rate, 1994 (as a percent of live births)	0.68	0.51	0.85
Low Birth Weight, 1989 (percent of neonates weighing less than 5.5 pounds)	5.5	4.6	7.05
Source: UNDP, <i>Human Development Report 1997</i> . Organisation for Economic Co-operation and Development (1993) <i>OECD Health Systems: Facts and Trends 1960 - 1991, Volume 1</i> .			

Table A2  
Number of Observations for Age Groups

Age of Child	Canada	Norway	United States
0-11 years	21,045	1,644	3,961
4-11 years	13,073	1,099	2,854
0-3 years	7,972	n/a	1,107