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September 2002

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Fitting Kids In: Children and Inequality in Canada

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While there is a large literature describing children's experiences of poverty in Canada over time and in comparison with other countries (see, for example, Crossley and Curtis, 2001 or Picot, Myles and Pyper, 1998; Bradbury and Jantti, 2001;), relatively little attention has been directed to the study of children and inequality. One exception is Smeeding and Rainwater (2001) who emphasize the importance of 'equality of opportunity' for children; they measure this by the ratio of mean income of children in the 9th decile to the mean income of children in the 1st decile of a country's income distribution. By this measure, Canadian performance is 'middle of the road' (the 90:10 ratio is 3.55 versus 2.29 in Norway and 5.11 in the US). Smeeding and Rainwater also introduce the idea of 'fair chance in life' which they measure using a '10:50 ratio.' Canadian performance is again 'middle of the road' by this measure of inequality among children (children in the bottom decile have average incomes which are 44 percent of those in the middle decile versus 35 percent for children living in the US and 55 percent for Norway).

Oxley et al (2001) provide a second international comparison of inequality among children. They calculate aggregate measures of inequality, including the Gini, Mean Logarithmic Deviation and Squared Coefficient of Variation for children in OECD countries as well as changes in these inequality indicators for 1984-94. In general, they find evidence of growing inequality in children's equivalent disposable[1] incomes. Canada is an exception, with inequality among children falling very slightly over the study period. Compared to children in other affluent countries, Oxley et al, again find that inequality among Canadian children, in 1994, is 'middle of the road' (for example, the Gini for Canadian children is computed to be 26.5 versus 33.7 for US or 18.0 for Denmark). For all countries studied, Oxley et al find that

[1] 'Equivalent income' adjusts for differences in need across families of different size.

aggregate inequality indicators calculated for children are less than for the full population.

In this paper, we add to the literature on children and inequality a more detailed descriptive analysis of changes in children's experiences of inequality in Canada across time (1973 to 1997) and provide further comparison of the inequality experiences of Canadian children with those of children in 5 other affluent countries (the US, UK, Australia, Germany and Norway). We have chosen to compare Canada with 3 countries with relatively similar social programmes (i.e., the US, the UK and Australia are all from what Esping-Andersen (1990) labels the 'liberal' cluster) as well as with two countries with rather different social programmes (Germany is classified as a 'conservative corporatist' state while Norway is 'social democratic'). Our focus throughout is upon how changes across time and differences across countries in the family settings of children have affected their experiences of inequality.[2]

To examine where children fit in the Canadian income distribution and how this may have changed over time as family structure, family size, age of parents and labour-force participation of parents have all changed, we use microdata from the Survey of Consumer Finance (1973 to 1997) . The position of children in the Canadian income distribution in the late 1990's is also compared to that of children in other affluent countries using microdata from the Luxembourg Income Study with links made to differences across the countries in terms of family structure and size, for example.

The remainder of the paper is organized as follows. Section 2 outlines key trends in family settings (e.g., household structure, family size, parental labour-force participation) experienced by Canadian children. Section 3 presents summary measures of inequality among

[2] Thus, two obviously important factors which we ignore are labour markets and tax/transfer programmes.

Canadian children and illustrates how children 'fit' into the Canadian income distribution, overall and for specific groups (e.g., children in lone-parent families; children in one- versus two-earner families). Section 4 compares Canadian children's experience of inequality with that of children living in other affluent countries. Section 5 offers conclusions.

2. Overview of Key Trends

This paper uses cross-sectional microdata drawn from the public use samples of the Survey of Consumer Finance (SCF) from 1973 until 1997 (with 1974, 1978 and 1980 missing). The analysis stops with 1997 because this was the last year of the SCF which has now been replaced entirely by the Survey of Labour and Income Dynamics (and while there is a public use version of the 1998 SLID cross-section, it does not report the number of children aged less than 18 years present in the family). For the analysis of trends in Canada over time, we use the 'economic family' files, but since our focus is on children, each child is counted as an individual observation assigned the appropriate characteristics of his/her household and that household's sample weight. 'Children' are defined to be less than eighteen years of age.

As described below, some very significant changes in family life and organization have occurred in the 25-year period from 1973 until 1997, and these might be expected to affect how children fit into the country income distribution. First, Figure 1 illustrates the steady reduction in the average size of the families in which children live -- from 5.3 in 1973 to 4.2 in 1997. Most noticeably, the proportion of children living in families with 6 or more members has fallen continuously from 36.5 percent in 1973 to 11.7 percent in 1997 (see Figure 2). Correspondingly, the proportion of children living in families with 3 or 4 members has climbed (from 11.0 percent to 19.7 percent for 3-person families and from 27.8 percent to 40.3 percent for 4-person

families). Smaller sizes, on average, for families with children will increase the equivalent incomes[3] of children and might be expected to 'move children up' the distribution, other things equal.

Figure 3 illustrates the steady decline from 1973 until 1997 in the proportion of the Canadian population aged less than 18 years (from 34.4 percent to 23.6 percent). Correspondingly, the proportion of households with any children present has fallen continuously from 53.7 percent in 1973 to 38.8 percent in 1997. Overall, the population has been steadily increasing while the number of children has remained fairly steady.

Figure 4 illustrates trends in the age distribution of mothers over the 1973 to 1997 period.[4] There has been a clear movement up in the percentage of mothers aged 35 to 44 years (from 39.1 in 1973 to 50.1 percent in 1997) and a corresponding movement down in the percentage of mothers aged 25 to 34 (from 35.7 to 32.7). The percentage of very young mothers (aged less than 25 years) has fallen (from 6.0 to 3.8) as has the percentage of mothers in the oldest age category (greater than 45 years) at least until the 1990's. Presumably, two key factors are at work in explaining these changes: 1) as women have fewer children, they are less likely have additional births in their late 30's or early 40's; 2) women are more likely to have first children at older ages. Over-all, the mean age of mothers fell from 1973 to 1984 from 37.0 to

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[3] Throughout most of the paper, we use an 'after-tax and transfer' measure of household income.'Equivalent income' is defined as family income divided by an appropriate equivalence scale to adjust for differences in family needs. The equivalence scale used throughout this paper is that recommended by the OECD (i.e., 1:0.7:0.50).

[4] We use age of mother whenever a mother is present. For the relatively small number of single-father households, we use age of father. Although it would, perhaps, be preferable to use 'age of mother at birth of first child' we do not have this information, since the public use versions of the SCF report only number of children in a set of age categories.

35.6. From 1984 to 1997, it increased steadily back to a mean of 35.6 in 1997. To the extent that earnings increase with age, children with older parents would be expected, other things equal, to be 'further up' the income distribution.

Figure 5 focuses upon changes in family structure. While the majority of children live in two-parent families, there has been a steady increase in the percentage of children living in lone-parent families (from 9.3 in 1973 to 17.7 in 1997). And, while there has also been an increase in the number of lone fathers, the vast majority of lone parents are still mothers (only 2.8 percent of children lived with lone fathers in 1997). An increase in the number of lone-mother families would be expected to push children down the income distribution.

Finally, Figures 6 and 7 illustrate trends in the labour-force participation of parents, for couples and lone parents, respectively. For children living with two parents, there has been a dramatic increase in the percentage of two-earner families (from 40.0 percent in 1973 to 72.8 percent in 1997) and a corresponding reduction in the percentage of one-earner families (from 57.5 percent in 1973 to 23.9 percent in 1997). It is not obvious, a priori, how this change is likely to have affected inequality among children. If mothers in lower-income families have entered the labour market in an attempt to support family incomes, the trend would have an equalizing impact. If, on the other hand, the trend primarily represents growth in 'yuppie' households (i.e., two well-paid individuals who marry and start a family), then the growth in two-earner families would be dis-equalizing.

It remains relatively rare for a child living with both parents to have neither in the labour force. For children living with a lone parent, rates of labour force participation have generally increased, if slowly, over the sample period (from 56.1 in 1973 to 65.9 in 1997). While rates of

labour-force participation for lone fathers are higher than for lone mothers, the upward trend is particularly evident for lone mothers.

3. Children in the Canadian Income Distribution

3a Inequality Among Canadian Children

We begin our analysis of inequality among Canadian children (aged 0 to 17) by presenting trends in the Gini coefficient for all Canadian children and, for comparative purposes, for all Canadians and for all working age Canadians (i.e., adults aged 25 to 54 years[5]). Our preferred comparator group is always 'all Canadians' – that is, we are interested in the substantive question of how children, as an important demographic sub-group, compare with everyone else in society. However, children typically live with adults who are younger than the average for the population. Since earnings increase with age but at different rates for different people so that inequality in earnings grows over time, it would not be surprising to find less inequality among children than in the full population. Thus, we also provide a comparison of children's experiences of inequality with those of 'prime-aged' adults (i.e., those aged 25 to 54)[6] among whom we might also expect to find less inequality than in the population at large. The measure of income emphasized throughout the paper is total household income including transfers, deducting taxes and adjusting for family size (i.e., 'disposable equivalent income').

The first point to take from Figure 8 is that inequality of disposable equivalent income

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[5] Labour economists frequently focus upon this group of 'prime-aged' workers who are likely to have finished their educations but not yet retired.

[6] Recall that we are studying all children from age 0 to 17. Most parents are thus members of the 25 to 54 year old age group. However, we also carried out our analyses for adults aged 25 to 44, a tighter age band. Gini's for the two groups of adults were extremely similar and hence we report only those for the 25 to 54 year olds.

among all Canadians[7] has remained fairly constant between 1973 and 1997. Inequality for 25 to 54 year old adults was consistently lower than for the population over all until the early 1990's, but has been very slightly higher since. There is consistently less inequality among children than among all individuals or among all adults aged 25 to 54.[8]

A second important point is that among children there has been a very small reduction in over-all inequality of equivalent *disposable* income over the 1973 to 1997 period[9] (from 0.288 to 0.276 using a Gini coefficient -- see Figure 9a).[10] Since it can be hard to tell what is a 'big' versus a 'small' change in inequality, we note that the difference in Gini coefficients (for full populations) between Canada and the US (in 1994) is 0.076; between Canada and the UK the difference is 0.057; and between Canada and Sweden, the difference is 0.220 (Osberg, 2000). Since the reduction in inequality among Canadian children is very much smaller than the difference in inequality which exists even between Canada and two countries most similar to it, we conclude that the drop in inequality is 'small.'

However, this very small reduction in after-tax and transfer income inequality among children contrasts with significant growth in market income inequality (i.e., income before transfers are added or taxes are deducted). For example, the Gini coefficient increased from 0.3

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[7] All results discussed in this section use a Gini coefficient to measure income inequality. We have also conducted all of the analyses reported here using a mean logarithmic deviation measure of inequality. The same story is apparent.

[8] It may well be the case that some individuals with very low incomes choose not to have children because they are unable to support them; some individuals with very high incomes may choose not to have children because it interferes with their capacity to earn.

[9] Though notice the increase in inequality among children in the early 1980's, presumably reflecting increases in unemployment as a result of recession.

[10] These points are consistent with Oxley, et al, 2001.

in 1973 to 0.4 in the mid 1990's -- a *change* in inequality which is twice the *difference* in inequality which exists between Canada and the US (see Figure 9b). As indicated in Figure 9c, a success of the Canadian transfer system is that it has managed to counteract these quite dramatic increases in market income inequality so that over-all we observe only a very small change in inequality among children. A comparison of Figures 9a, b and c indicates that, compared to transfers, taxes have been relatively unimportant in off-setting increases in market income inequality.

Next, following Smeeding and Rainwater (2001), we present the ratio of mean equivalent after-tax income for children in the top and bottom deciles of the income distribution -- their measure of 'equality of opportunity.' We also present the ratio of mean equivalent after-tax and transfer income for children in the middle and bottom deciles of the distribution -- their measure of 'fair chance' (see Figure 10). Corresponding with the summary inequality measures reported above, the 90:10 ratio for children in Canada has dropped from 8.8 to 7.6 (i.e., children in the top income decile have equivalent after-tax incomes which are 7.6 times the incomes of children in the bottom). The 50:10 ratio has remained remarkably stable over the period (varying from a high of 3.3 in 1977 to a low of 2.6 in 1993).

3b 'Fitting Children into the Canadian Income Distribution'

A small literature exists which assesses the contribution of changes in household structure, labour market participation, and family size to over-all inequality in the population, though most studies do not refer specifically to inequality among children. A common conclusion in this literature is that these 'demographic' changes account for very little of the

change in over-all inequality (see, for example, Jenkins, 1995; Rainwater and Smeeding, 1997; Brandolini and D'Alessio, 2001).

But even if over-all inequality of disposable equivalent income has changed very little, and even if others have found that changes in demographic/family characteristics have contributed relatively little to over-all changes in inequality, it is worthwhile to consider how children's places *within* the population income distribution have changed as important family characteristics have changed. This section of the paper attempts to 'fit children' into the Canadian after-tax and transfer equivalent income distribution by calculating the percentage of children who live in families with equivalent incomes in each of the population-level equivalent income deciles. That is, we computed 'cut points' for each decile of the equivalent income distribution for all Canadians in each year. We then asked how many children lived in families with equivalent incomes in the bottom decile, the second decile, etc.

Figure 11a illustrates that children are much more likely to be located in the bottom half of the equivalent income distribution and that this has not changed much over the time period studied. For example, 61.5 percent of children had equivalent incomes in the bottom half of the distribution in 1973; 61.1 percent in 1985; 61.8 percent in 1997.[11] (Since the socio-demographic changes noted above were, by and large, fairly continuous over the time period, we illustrate the

[11] Since children are always members of multi-person households, adjusting for family size will automatically move children 'down the income distribution.' For example, while 61.8 percent of children had disposable *equivalent* incomes in the bottom half of the income distribution in 1997, if we do not adjust for family size then only 44.4 percent are located in the bottom half of the distribution. Using equivalent disposable income, only 4.1 percent of children were located in the top decile while using unadjusted disposable income, 9.5 percent are found in the top decile. However, if we do not adjust for family size we are suggesting that 'two can live as cheaply as one' which is surely an exaggeration. Equivalent income comes much closer to measuring the standard of living actually experienced by the children themselves.

distributional information only for 3 years at the beginning, middle and end of the period -- i.e., 1973, 1985 and 1997.[12]) Only 4.1 percent of children were located in the top decile in 1997 (4.1 percent in 1985; 3.9 percent in 1973). On the other hand, 14.2 percent of children were located in the bottom decile in 1997 (14.6 in 1985; 14.0 in 1973). Thus, at any point in the study period, children were approximately 3.5 times more likely to be in the bottom than in the top decile.

As noted earlier, it may be the case that the position of children in the country income distribution is the result of parents' life-cycle stage (e.g., young parents are developing careers, many mothers with pre-school children withdraw from the labour market to care for their children, temporarily depressing household income).[13] Of course, this does not mean that it is unimportant if children are located at the bottom of the income distribution now – indeed, growing evidence suggests that both level of income and *position* within the income distribution, regardless of level, are important determinants of health status, for example (e.g., Wilkinson, 1996). However, for the sake of comparison, Figure 11b follows an analogous procedure to that described above, except that children are 'fit in' to the after-tax and transfer equivalent income distribution for 25 to 54 year olds (i.e., the population of adults of prime working age).[14] It is evident in Figure 11b that children are even more noticeably located toward the bottom of the income distribution of working age adults (the exclusion of elderly Canadians removes many individuals living on pension incomes who are located toward the bottom of the full Canadian

[12] Unemployment rates for these 3 years were 5.6, 10.6, and 9.1 respectively,

[13] These points are of course much less important for parents with older children (e.g., teenagers).

[14] Again, we also replicated this analysis by 'fitting children' in to the distribution for the smaller set of 25 to 44 year old adults. Results were essentially indistinguishable from those for 25 to 54 year olds and so are not repeated here.

income distribution.[15]

Figures 12 and 13 consider how children from two-parent families of different size 'fit in' to the Canadian income distribution and how this has changed over time. The first basic point to take from a comparison of the two figures is that they are almost mirror images. 'Only children' (i.e., those with no siblings) living with two parents are, on average, relatively affluent whereas children living with two parents and two siblings are relatively poor. For example, in 1997, 58.3 percent of 'only children' have equivalent family incomes in the top half of the distribution versus 30.4 percent of children with two siblings. This basic pattern has, moreover, remained much the same for the past 25 years (though recall that the number of larger families has fallen and the number of smaller families grown).

Figures 14 and 15 illustrate the implications of mother's age for child's position in the Canadian income distribution. Across the years, the child is likely to be at the bottom of the income distribution if his/her mother is less than 25 years of age. But, it is also true that the probability of being in the bottom decile for children with young mothers has increased markedly over the study period (from 13.4 percent in 1973 to 29.4 percent in 1985 to 39.0 percent in 1997). By 1997, well over half of all children with young mothers were located in the

[15] We also calculated where children 'fit' in the distribution of pre-tax and pre-transfer income. In the case of the full population distribution, adding transfers to household income results in a relative shift down in children's place in the distribution (in 1997, 14.1 percent are in the bottom decile of the after-transfer income versus only 8.5 percent who are in the bottom decile of the market income distribution, presumably because elderly households receive much more in the way of transfers). If, on the other hand, we 'fit children' into the distribution of working age adults, the tax/transfer system has little impact on where children are located (e.g., in 1997, 13.7 percent are in the bottom decile of market income versus the 14.6 percent who are in the bottom decile of post-transfer pre-tax distribution versus the 14.9 percent who are in the bottom decile of post-tax and post-transfer income).

bottom two deciles of the Canadian distribution (61.9 percent).

On the other hand, children with mothers aged 35-44 are found in relatively equal numbers across the deciles (e.g., there is no more than a 2 or 3 percentage point difference from the 1st to the 8th deciles in 1997). This point has been quite consistently true across the 25-year study period.

Marital status of parents has a very strong association with a child's place in the country income distribution. In all years, a majority of children living in lone mother families have equivalent incomes which place them in the bottom two deciles of the income distribution (see Figure 16). Within this over-all pattern, however, there has been a small shift up the income distribution by 1997. Thus, while 44.9 percent of children had incomes in the bottom decile and 19.3 percent had incomes in the second decile in 1973, in 1997, 36.3 percent had incomes in the bottom decile while 19.5 had incomes in the second decile. This is not, perhaps, a dramatic improvement in economic circumstances, but it would seem to constitute at least a small gain and may be connected, among other things, to increases in the labour-force participation of lone mothers noted earlier or to changes in the Child Tax Benefit.

To further investigate this pattern, Figures 17 and 18 illustrate how children in lone-mother families fit into the income distribution, depending upon the labour force participation of the mother. Note, first, that even for children whose lone mothers are labour-force participants, the probability of being in the bottom three deciles of the Canadian income distribution is high (55.5 percent in 1973; 52.3 in 1985 and 48.5 in 1997). However, while the probability of being at the very bottom (i.e., in the 1st decile) was much the highest in 1973 (23.8 percent in the bottom decile versus 8.45 percent in the 3rd decile), there has been a movement 'up' the

distribution by 1997 so that the probability of being in any of the 3 bottom deciles is roughly the same (15.5 percent for the bottom decile; 16.3 percent for the 2nd decile, 16.7 percent for the 3rd decile). Children whose lone mothers are not in the labour force are, with near certainty, located at the bottom of the distribution and this has changed little over the years (e.g., 86.8 percent are in the bottom two deciles in 1997).

Figures 19 and 20 illustrate the relative positions in the Canadian income distribution held by children in two-parent families when only one versus two parents are in the labour force (and as noted previously, the proportion of two-earner families has grown dramatically over the sample period). Not surprisingly, children living in families in which both parents participate in the paid labour force are much more affluent than children with just one parent in the labour force. 'Middle incomes' are particularly likely in this case (50.0 percent of children in two-earner couples had incomes in the 4th, 5th, 6th, or 7th deciles in 1997). Note, however, that there has been no noticeable change in the positions held by children in two-parent families in the country income distribution, suggesting that the addition of second earners to two-parent families helped those families 'tread water,' rather than 'get ahead.'

Children with just one earner in the labour force are concentrated in the bottom half of the income distribution, and as one-earner families become less common, it is clear that children living in this family type have 'slipped down' the income distribution. Thus, for example, while 26.0 percent of children in one-earner couples were located in the bottom two deciles of the income distribution in 1973, 43.4 percent are located in the bottom two deciles in 1997. Another way to describe this is to say that 46.2 percent of children in one-earner couples had incomes in the middle of the distribution in 1973 (i.e., in the 4th, 5th, 6th or 7th deciles) while 33.9 percent

were in the middle in 1997.

3d Summary

As one way of summarizing the many numbers presented in the preceding section, we have estimated very simple OLS models in which the dependent variables are two aggregate measures of inequality (i.e., the Gini and the mean logarithmic deviation[16]) as calculated for each year of SCF data we had available. Explanatory variables included: percentages of mothers in different age categories (less than 25, 25 to 34, 45 or more); average family size; percentage of lone mother families; percentages of two-parent families with 2 earners (versus 0 or 1 earner). The results are reported in Table 1.

In explaining aggregate inequality among children, whether measured using a Gini or a mean log deviation index, changes in the age distribution of mothers appear to have the largest association with inequality (both over-all in the population and among children). Higher percentages of older mothers are associated with lower values for the inequality indices. The only other variable which is found to be statistically significant (at the 10 percent confidence level in the MLD regression) is the percentage of two-earner, two-parent families. Higher percentages of two-earner families are associated with lower levels of inequality, suggesting that adding second incomes to families operated more to 'boost up' low family incomes toward the middle rather than to increase still further family incomes already toward the top of the distribution. Higher percentages of lone-parent families do not appear to have had a significant association with aggregate measures of inequality in Canada over time, perhaps because at the

[16] We also ran regressions using the 90:10 ratio and the 50:10 ratio, but the results added little to what is discussed here.

same time as the number of lone mothers have increased, their relative economic status has improved slightly (perhaps partially as a result of increased labour force participation). Reductions in family size are similarly insignificant.

4. International Comparisons

The study thus far has focused upon how changes in children's experiences of inequality in Canada have changed over time as household characteristics have changed. Another way to learn about how differences in household structure are associated with inequality among children is to compare countries at a similar point in time.[17] In this section of the paper, we switch to a cross-sectional comparison of how children's place in the income distribution varies across countries with differences in key household characteristics.

4a International Comparison of Socio-Demographic Characteristics

To conduct the international comparisons, we use microdata from the Luxembourg Income Study. The Luxembourg Income Study (LIS) is a collection of microdata sets contributed to the project by member countries and then re-coded to enhance comparability across countries (e.g., of total transfers received or total taxes paid). These data are housed in Luxembourg, but can be accessed using programmes submitted by e-mail. We choose to compare Canada with five other similarly affluent countries: the United States, the United Kingdom, Australia, Germany and Norway. Comparisons are all made in the mid- to late 1990's, though exact years do not always match due to data availability. The data set included in LIS for

[17] The material presented here should be regarded as simply a preliminary sketch. To really understand links between household structure would require further examination of differences in tax-transfer policies, labour markets, wage and education distributions.

the US is the 1997 Current Population Survey, with a full sample size of 50,320 observations; the UK data set is the Family Expenditure Survey for 1995 with 6797 observations; Australia is the 1994 Survey of Income and Housing Costs with 7441 observations; Germany is the German Socio Economic Panel for 1994 with 6045 observations; and Norway is the Income Distribution Survey for 1995 with 10,127 observations. The Canadian data set included in the LIS is the 1997 Survey of Consumer Finance (household file). Note that this is slightly different than the Economic Family data that we use for the time series analysis.

For all countries except Canada, the unit of observation is the household (for Canada we have economic families). Throughout our analyses, we treat the child as the unit of observation, assigning each child within a family the appropriate weight for that observation.

We first use the LIS data to compare the family settings of children in the 6 LIS countries. Note, first, (see Figure 21) the differences across the 6 countries in the percentage of the population aged less than 18 years. The US has the largest child population (27.3 percent) while Germany has the smallest (21.0 percent). Canada most resembles Norway with 23.7 percent of the population consisting of children (23.2 percent in Norway). The mean household size for families with children present show the US and Australia at 4.5 persons, the UK and Canada at 4.2 and Germany and Norway with a mean of 4.1.

In all countries, children are most likely to live in 4-person families, though this family configuration is particularly likely in Germany (43.6 percent) and relatively less likely in the US (35.5 percent). While German and Norwegian children have, on average, the same family sizes, the distributions are somewhat different. For example, more Norwegian than German children live in 5 person-families, but more German than Norwegian children live in 6 or more person

families. Finally, though the US and Australia have the same average size household, Australians are much less likely to have a 2-person household (2.4% verses 4.1% in the US) and more likely to have a very large household size (43.8% of Australian children are in households with 5 or more persons compared with 41.9% in US households).

Figure 22 compares the countries in terms of the distributions of mothers across different age categories. As with the Canadian data, interesting subtleties appear here. For example, the US is both most likely to have mothers in the youngest age category (less than 25 years) and most likely to have mothers in the oldest age category (45 or more years).

Some quite striking differences exist across the countries in terms of marital structure of parents (see Figure 23). Lone parents are much more common in the US (25.5 percent) and the UK (22.6 percent) than in Germany (11.8 percent) or Australia (12.3 percent). Lone fathers are not very common in any of the countries studied at 4.0% or less across all countries.

Differences also exist across the countries studied in terms of paid work patterns of parents. As shown in Figure 24, for children living with two parents, the 'two-earner' family is clearly most common in Canada (72.8 percent), the United States (68.8 percent), and Norway (68.7 percent). While still the majority case in Germany (52.1 percent) and Australia (52.7 percent), two-earner couples are noticeably less common in these countries. In the UK, on the other hand, one-earner families are more common (38.8 percent) than two-earner families. In general, few children live with two parents, neither of whom is in the labour force, but, like the one-earner family, this is also noticeably more common in the UK (22.8 percent), where worries about social exclusion from the labour market have arisen.

Labour force participation rates for lone parents also vary considerably across the

countries (see Figure 25), from a high of 74 percent in the United States, to a low of 32 percent in the UK. The Canadian rate (65.9 percent) is thus 'in the middle,' and not dissimilar from the German (61.6 percent).

4b Inequality Among Children in LIS Countries

Table 2 provides aggregate measures of inequality in disposable equivalent income (Gini and MLD) for each of the six countries included in our sample. These measures are calculated first for all individuals in the country and then for all children in the country. Three points seem evident in Table 2: 1) there is less inequality among children than in the population over-all in all countries studied; 2) with a Gini of 0.275, Canadian children are more equal than children living in the US or the UK (with Gini's of 0.373 and 0.335, respectively), have similar levels of inequality to children living in Germany (0.263) or Australia (0.281), and experience higher levels of inequality than children living in Norway (Gini = 0.208). The same pattern is evident with the MLD. Full population measures of inequality can also be ranked in the same way. One implication of the differences in inequality across the countries studied is that we will be 'fitting children' into income distributions which are quite different from one another (in contrast with the study of Canada across time, where inequality remained fairly constant). And, as Smeeding and Rainwater (2001) point out, children in the same positions of their country's income distributions can have quite different real standard of livings. For example, they demonstrate that children living in the United States who are in the top decile of the US income distribution are richer than children living anywhere else in the world; on the other hand, children in the bottom decile of the US income distribution are among the poorest of any children living in

affluent countries.

4c Where Do Children 'Fit' in Other Country Income Distributions[18]

Figure 26 shows the percentage of all children aged less than 18 years found in each decile of the distribution of after-tax equivalent income for the full population for each country Comparing Canada and the US, the figures show a reasonably similar pattern of declining probability of children's presence as we move up the income distribution. In Canada, 62.2 percent of Canadian children have equivalent after-tax incomes in the bottom half of the distribution in 1997; 63.3 percent of children are located in the bottom half of the US income distribution. Forty-two percent (41.9) of Canadian children are located in the 'middle four' deciles; 40.8 percent of US children have 'middle incomes.' Finally, children are more likely to be located in the bottom decile of the US distribution (15.8 percent in the US versus 14.9 percent in Canada).[19]

Children in the UK are even more likely to be located in the bottom decile (17.7 percent versus 14.9 percent in Canada), and slightly more likely to be in the bottom half of the income distribution (62.5 percent) than Canadian children (61.8 percent). However, having a 'middle income' is somewhat less common in the UK than in Canada (38.7 versus 41.9 percent).

The positions of children in the Australian after-tax equivalent income distribution looks

[18] We are not paying attention to the fact that distributions of income are quite different across the countries, so we are 'fitting kids in' to rather different things?

[19] Smeeding and Rainwater, 2001, illustrate that not only are US children more likely to be in the bottom of the income distribution, but it is also true, using their best efforts to make real income comparisons, that poor children have lower incomes than poor children in most other countries.

rather different from those of the other three 'same cluster' countries in that middle incomes are relatively more likely for children (46.2 percent have incomes in the middle 4 deciles of the Australian distribution versus 41.6 percent in Canada). Roughly the same proportion of children are located in the bottom decile (14.4 percent in Australia versus 14.9 percent in Canada), which is lower than for either the US (15.8 percent) or especially the UK (17.7 percent).

Finally, the Norwegian situation is most different from the other countries studied. In Norway, children are particularly likely to be found in the middle of the income distribution (47.3 percent) and while they are more likely to be found at the bottom (10.9 percent) than the top (4.5 percent) of the distribution, the difference is not so extreme as for the other countries. In Canada, children are 3.5 times more likely to be in the bottom than the top decile; in the US they are 3.3 times more likely; in Norway, they are only 2.4 times more likely to be in the bottom. Since the same 'life-cycle stage of parents' issues apply to Norwegian as to Canadian children or children from other countries, these results are helpful in pointing out that it is not simply 'automatic' that children are found at the bottom of the income distribution.

Consider next the association between children's experience of inequality in a country and the characteristics of the families in which they live. We focus upon family characteristics which differ significantly across the six countries studied: 1) family size; 2) lone parent status; 3) labour force participation of parents.

Consider, then, the positions occupied in country income distributions by children from families of different sizes. Figures 27 and 28 show how children in two-parent, three child and two- parent, one child households fit in to their respective country income distributions. Again it is clear that the larger families are lower down the distribution for all countries. Germany is

particular striking with over 80% of the children falling in the bottom half of the distribution and with over 50% in the bottom two deciles. Children without siblings are located well up the distribution in each country studied.

Figure 29 illustrates how children living in lone mother families 'fit' into their respective country income distributions. In all countries, lone-mother families tend to be less affluent, but Figure 29 reveals marked differences across the countries in the degree to which this is true. For example, over 45 percent of children in lone-mother families are located in the bottom decile of the German income distribution; only about 20 percent of children in Norwegian lone-mother families are in the bottom decile (in fact, more children from lone-mother families are found in the second than the bottom decile of the Norwegian distribution).[20] Children in lone-mother families in Canada and the US 'fit in' to their respective country income distributions in much the same way – over 35 percent are located in the bottom decile in both cases.

Figures 30 and 31 contrast the positions in the income distribution of children in two-parent, one versus two-earner families. In Canada, the US and Norway, where one-earner families are relatively less common, children living with one earner are relatively more likely to be found toward the bottom half of the income distribution. In the UK, where one-earner families are more common than two-earner families, children from one-earner families are distributed fairly evenly throughout the income distribution.

[20] More generous social transfers for lone-mother families in Norway play an important role in explaining this difference. See Phipps, 1999.

5. Conclusion

While much is known about children's experiences of poverty in Canada and in comparison with other countries, less attention has been paid to children's experiences of inequality. Yet, this seems an important issue both from the perspective of equity for children as members of society, and because research increasingly indicates that not only the level of family income, but also one's position within an income distribution is an important determinant of health status. Thus, this study adds to the literature on children and inequality a more detailed descriptive analysis of changes in children's experiences of inequality across time (1973 to 1997) and in comparison with the experiences of children living in 5 other affluent countries (the US, UK, Australia, Germany, and Norway). The focus of the study is upon how changes across time and differences across countries in the family settings of children have affected their experiences of inequality.

Results indicate that there is less inequality in after-tax and transfer equivalent income among Canadian children than in the Canadian population over-all. As well, while inequality of market income has increased significantly for Canadian children, the transfer system has managed to counteract this trend so that we find inequality in income after taxes and transfers has actually fallen very slightly. However, the magnitude of the reduction in aggregate inequality among children appears 'small' by comparison with the sometimes quite dramatic changes in the characteristics of the families in which they live (e.g., increases in single-parent families, increases in two-earner families, reductions in family sizes, changes in age of mothers).

We also argue that it is important to go beyond summary measures of inequality and to study where children 'fit' within the country income distribution. We find, for example, that in

Canada, children tend to be located toward the bottom of the country income distribution (though the same is not true for all countries). Moreover, we find that changes in family characteristics have meant some significant 'shuffling' in specific children's positions within the income distribution. Thus, for example, children living with one earner or children with young mothers have moved down the distribution.

A comparison of Canada with 5 other affluent countries (the US, the UK, Australia, Germany and Norway) indicates that Canadian children experience more inequality than some children (e.g., those living in the US or the UK) and less inequality than other children (e.g., those living in Norway). The international comparison also indicates that particular family circumstances are not always associated with the same position in the income distribution. For example, Canadian children living with lone mothers are almost certainly located at the very bottom of the population income; the same is not true in Norway.

Table 1
Ordinary Least Squares
Inequality Measures Canada 1973-1997
(standard errors in parentheses)

	Gini Coefficient		Mean Log Deviation	
variable	all individuals	children < 18	all individuals	children < 18
Intercept	0.691* (0.216)	0.748** (0.301)	0.680** (0.263)	0.675*** (0.330)
Percent of Mothers[1] < 25 Years of Age	0.156 (0.464)	-0.029 (0.647)	0.136 (0.564)	-0.093 (0.708)
Percent of Mothers[1] 25-34 Years of Age	-0.257* (0.078)	-0.324* (0.108)	-0.364* (0.095)	-0.359* (0.119)
Percent of Mothers[1] .>= 45 Years of Age	-0.400** (0.136)	-0.542** (0.189)	-0.369** (0.165)	-0.416*** (0.207)
Average Number of Persons in Households[2]	-0.029 (0.026)	-0.029 (0.036)	-0.041 (0.031)	-0.037 (0.039)
Percent of Married Couple Households[2] with 0 Earners	0.018 (0.242)	-0.005 (0.338)	-0.261 (0.294)	-0.301 (0.370)
Percent of Married Couple Households[2] with 2 Earners	-0.184*** (0.088)	-0.194 (0.122)	-0.234** (0.107)	-0.227 (0.134)
Percent of Households[2] Headed by Lone Mothers	-0.059 (0.140)	-0.165 (0.195)	-0.030 (0.170)	-0.153 (0.213)
Adjusted R^2	0.647	0.310	0.744	0.556

* statistically significant with 99% confidence
** statistically significant with 95% confidence
*** statistically significant with 90% confidence

[1] Mothers with children < 18 years of age in household. If no mother present, then father's age is used.
[2] Households where there are children < 18 years of age present.

Table 2
Inequality Measures
Canada 1997, United States 1997, United Kingdom 1995, Germany 1994, Norway 1995, Australia 1994

	Gini Coefficient		Mean Log Deviation	
	all individuals	children < 18	all individuals	children < 18
Canada 1997	0.291	0.275	0.159	0.146
United States 1997	0.380	0.373	0.269	0.261
United Kingdom, 1995	0.341	0.335	0.214	0.216
Germany, 1994	0.270	0.263	0.131	0.133
Norway, 1995	0.232	0.208	0.103	0.089
Australia, 1994	0.307	0.281	0.184	0.143

where:
Gini Coefficient = $1 + 1/n - 2/n^2 * \bar{y}[y_1 + 2y_2 + 3y_3 + ... + ny_n]$
$y_1,...y_n$=income in decreasing order
$\bar{y}$ = mean income
n = number of individuals
MLD = $(1/n)\ \Sigma_i \log (\mu/y_i)$
n = number of individuals
y_i = individual I's income
μ = overall mean income

note: The income concept used is after-tax equivalent income, OECD equivalence scale.

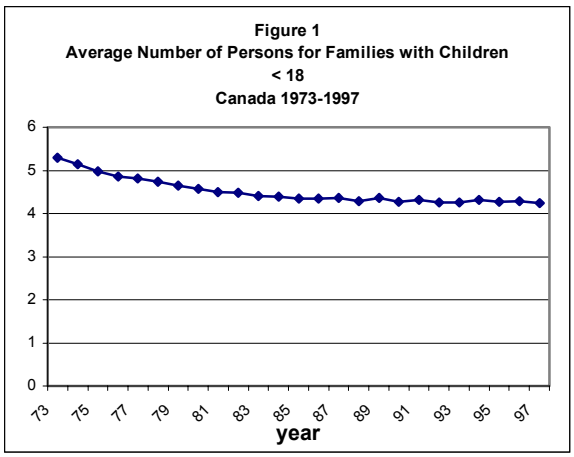


Figure 1
Average Number of Persons for Families with Children < 18
Canada 1973-1997
6
5
4
3
2
1
0
73 75 77 79 81 83 85 87 89 91 93 95 97
year

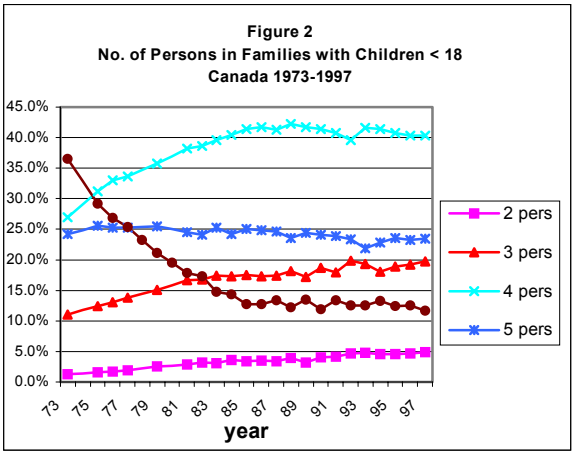


Figure 2
No. of Persons in Families with Children < 18
Canada 1973-1997
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
73 75 77 79 81 83 85 87 89 91 93 95 97
year
2 pers
3 pers
4 pers
5 pers

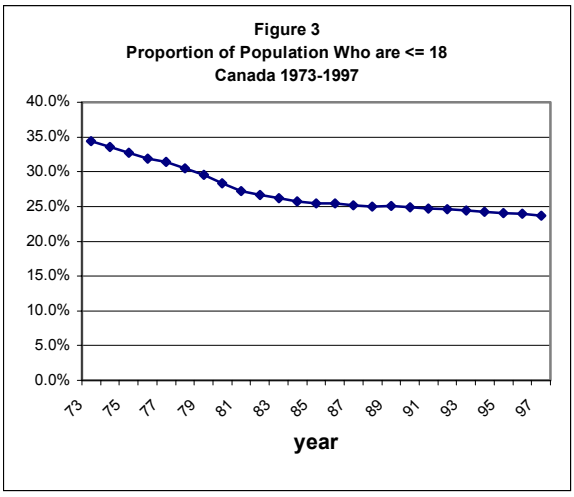


Figure 3
Proportion of Population Who are <= 18
Canada 1973-1997
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
73 75 77 79 81 83 85 87 89 91 93 95 97
year

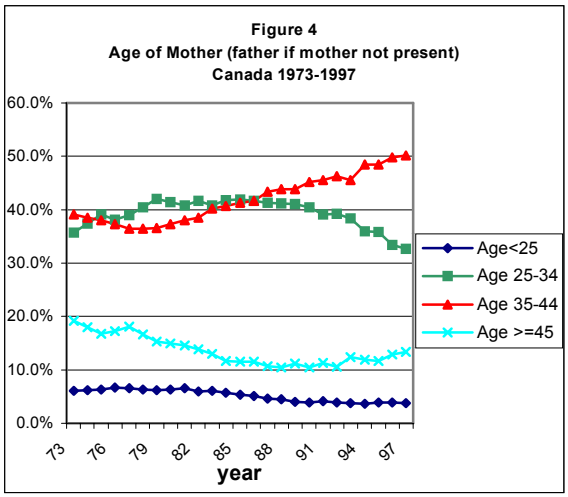


Figure 4
Age of Mother (father if mother not present)
Canada 1973-1997
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
73 76 79 82 85 88 91 94 97
year
Age<25
Age 25-34
Age 35-44
Age >=45

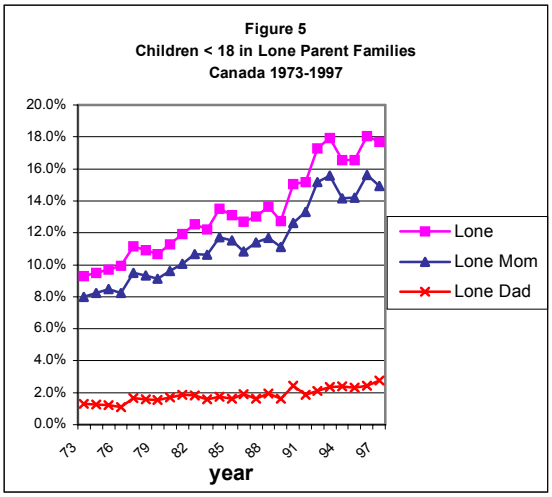


Figure 5
Children < 18 in Lone Parent Families
Canada 1973-1997
20.0%
18.0%
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
73 76 79 82 85 88 91 94 97
year
Lone
Lone Mom
Lone Dad

Figure 6
Children < 18 in Zero, One and Two Earner Families
Canada 1973-1997

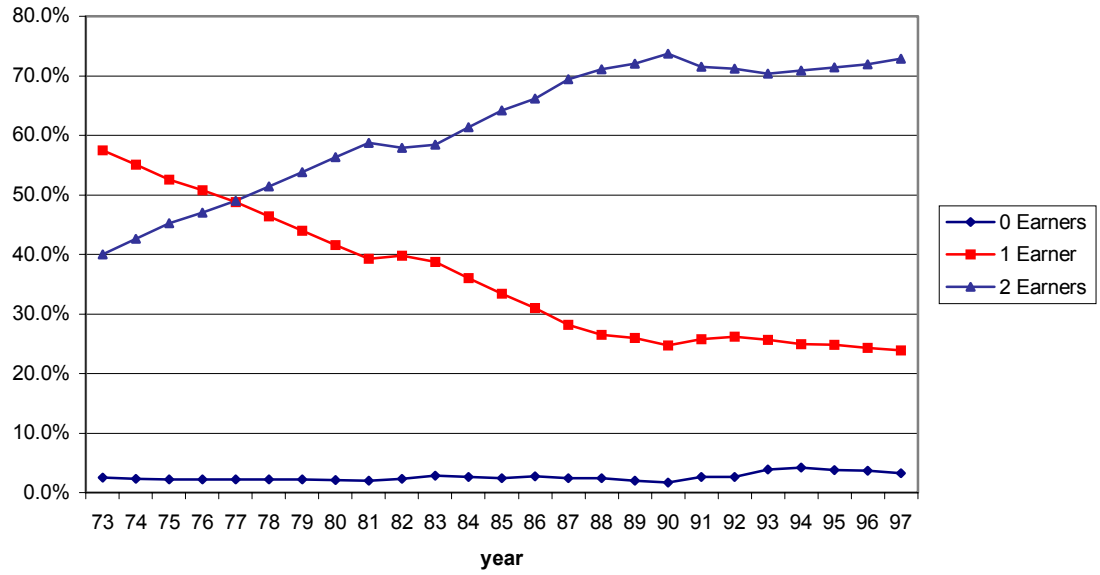


Figure 7
Labour Force Participation for Parent of Children in
Lone Parent, Lone Mom and Lone Dad Families
Canada 1973-1997

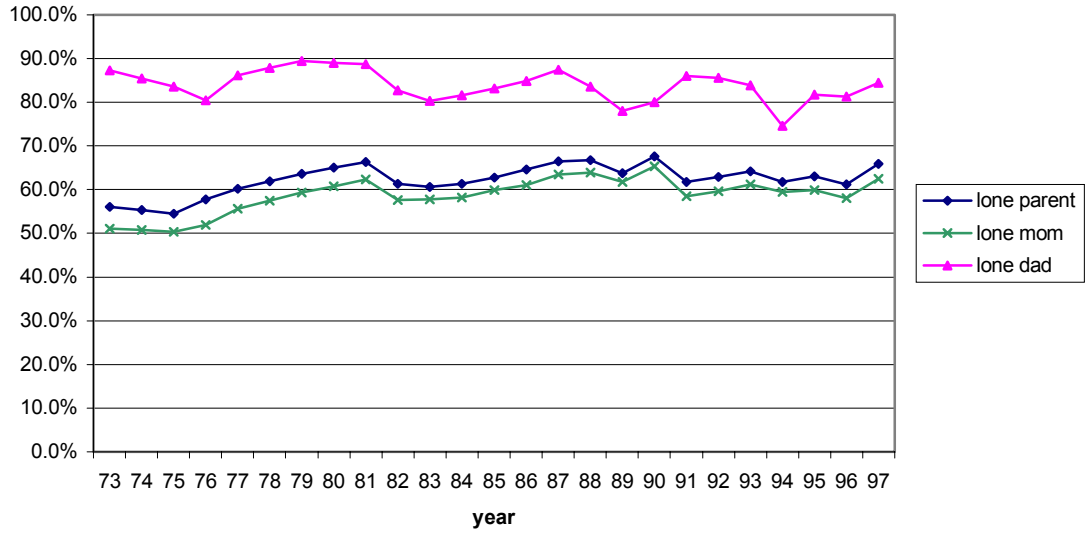


Figure 8
Gini Coefficient After Tax Equivalent Income
All Kids < 18, All Individuals, Aged 25-54, Aged 25-44

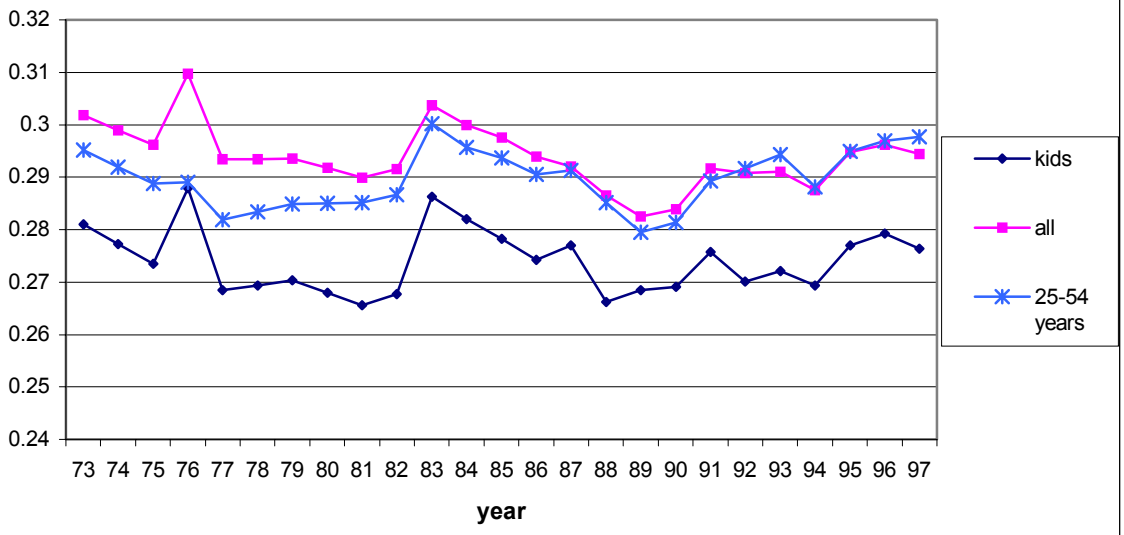


Figure 9a
After Tax, After Transfer Equivalent Household Income
Gini Coefficient-All Children 0-17

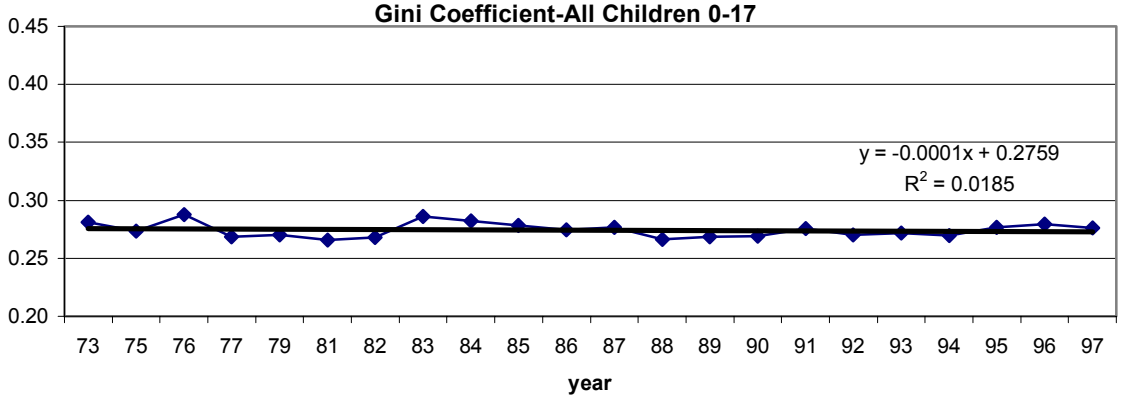


Figure 9b
Before Tax, Before Transfers (Market Income) Equivalent Household Income
Gini Coefficient-All Children 0-17

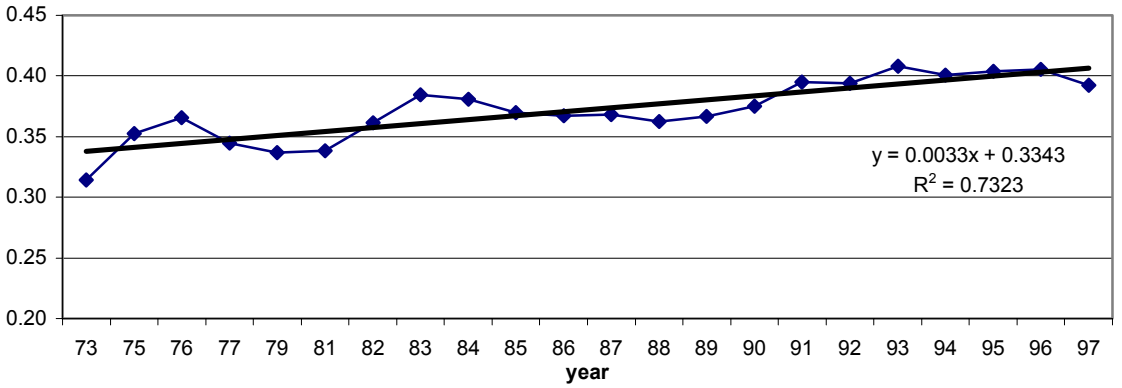


Figure 9c
Before tax, after transfer equivalent household income
Gini Coefficient-all children 0-17

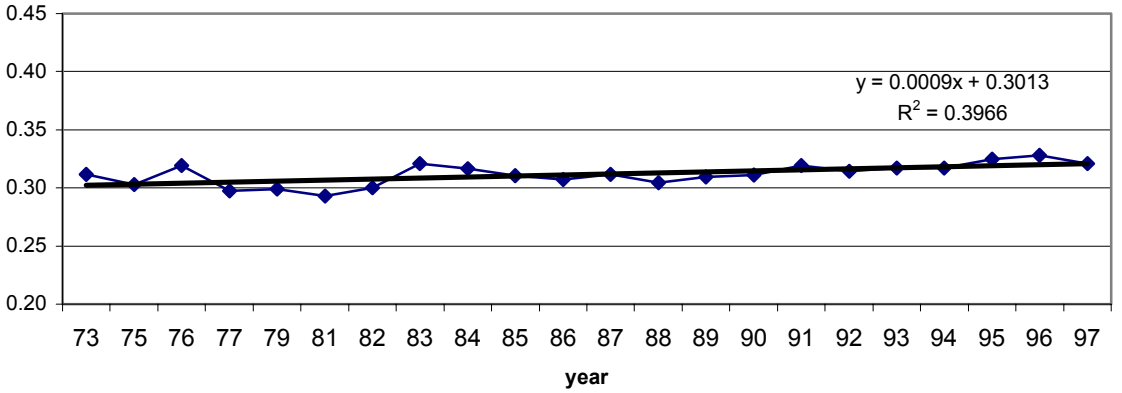


Figure 10
Ratio of Mean Equivalent After-Tax Income
Top to Bottom Decile, Middle to Bottom Decile

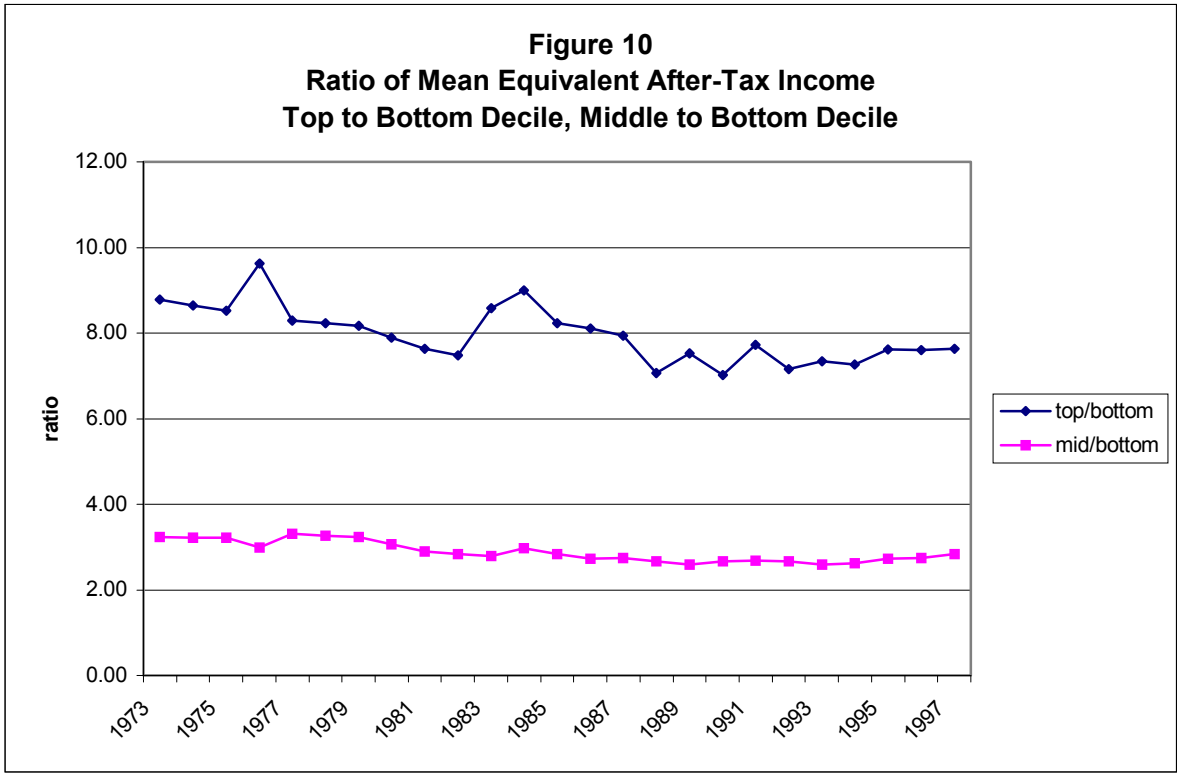


Figure 11
Percentage of All Children in Income Deciles
Canada 1973, 1985, 1997

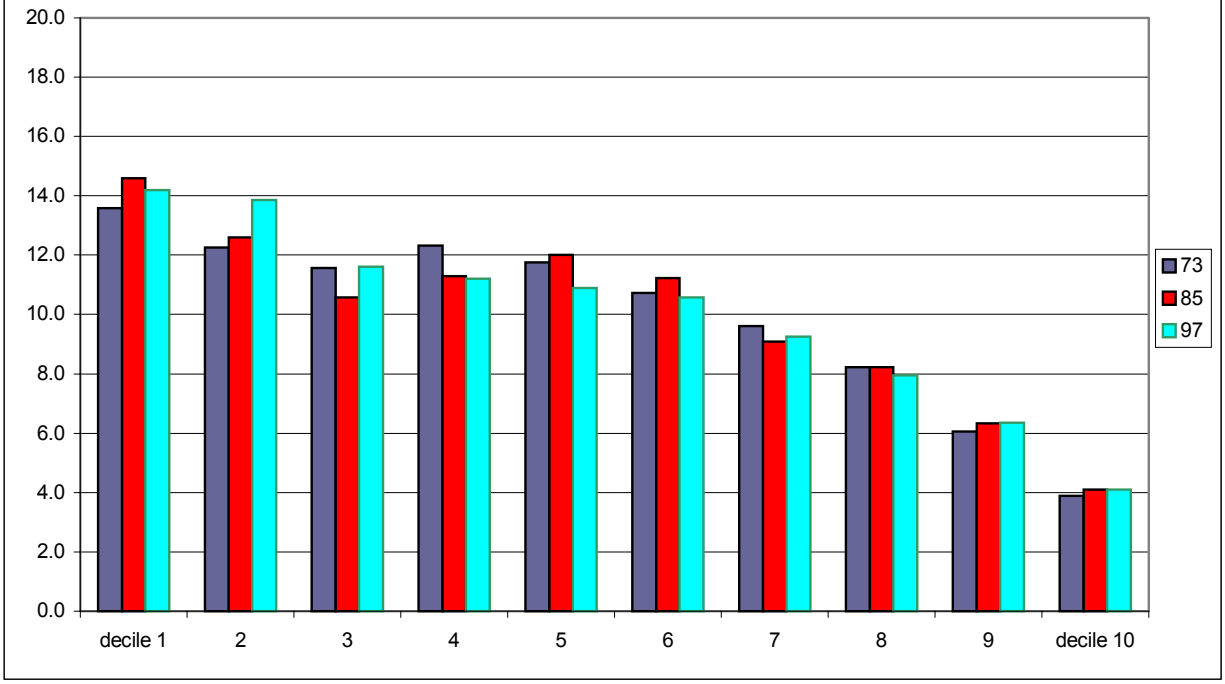
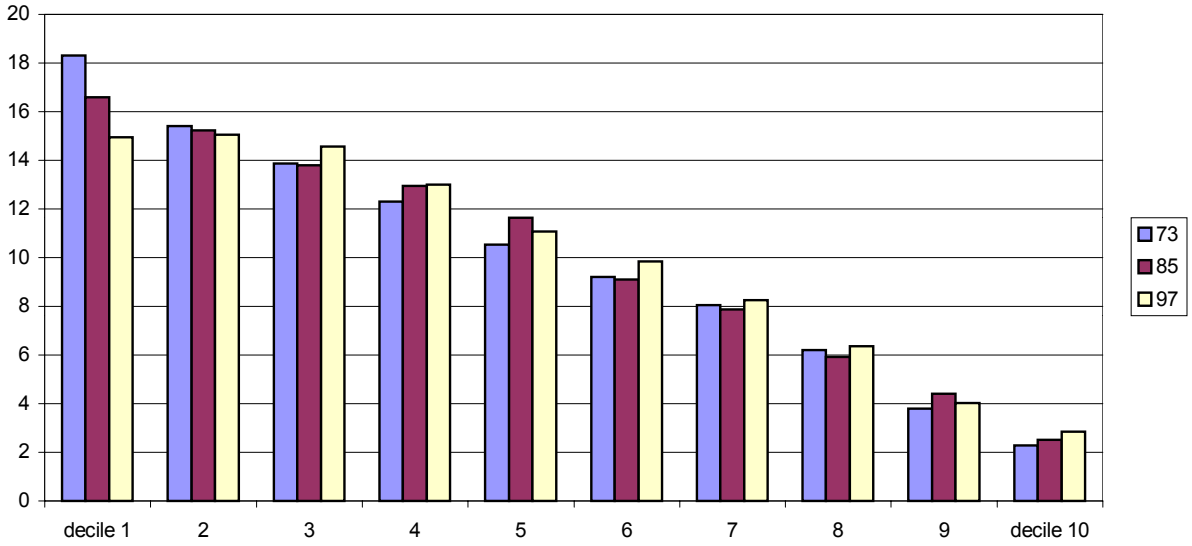


Figure 11b
Percentage of All Children in Income Deciles for those 25-54 years of age*
Canada 1973, 1985, 1997



* Includes only the head and spouse 25-54.

Figure 12
Two Parents, One Child
Canada 1973, 1985, 1997

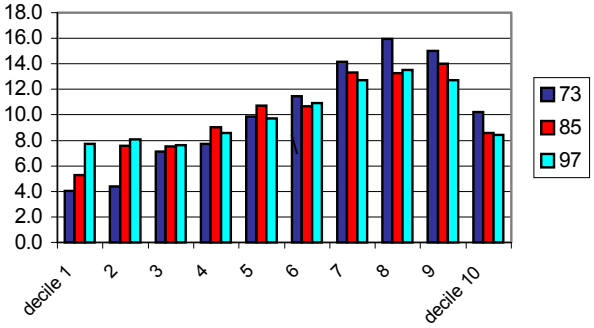


Figure 13
Two Parents, Three Children
Canada 1973, 1985, 1997

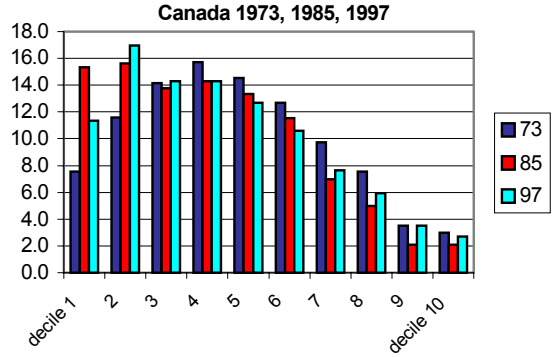


Figure 14
Mother Less than 25 Years of Age
Canada 1973, 1985, 1997

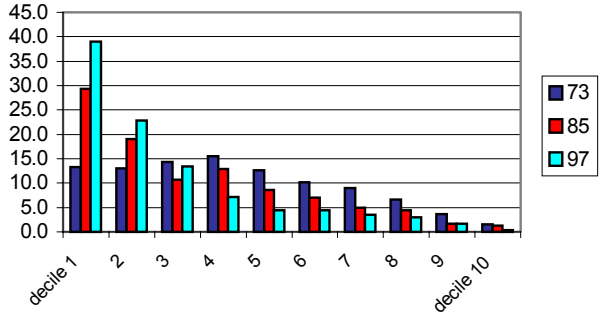


Figure 15
Mother 35-44 Years of Age
Canada 1973, 1985, 1997

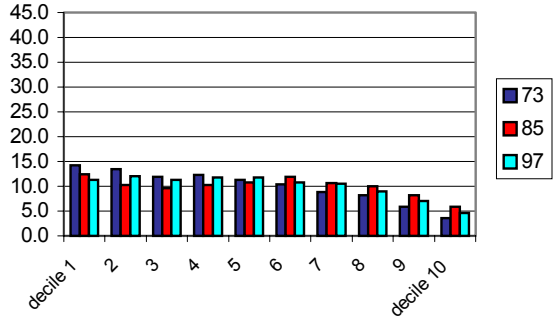


Figure 16
Children in Lone Mom Families
Canada 1973, 1985, 1997

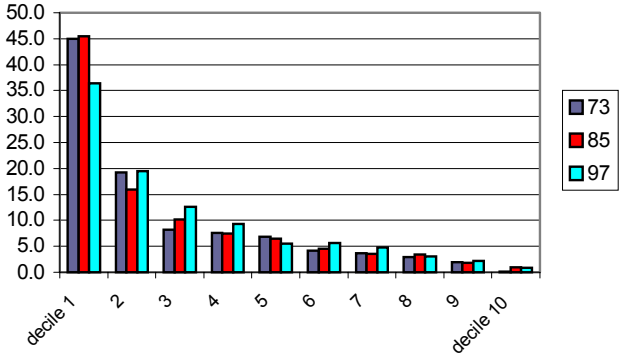


Figure 17
Children in Families with Lone Mother not in the Labour Force
Canada 1973, 1985, 1997

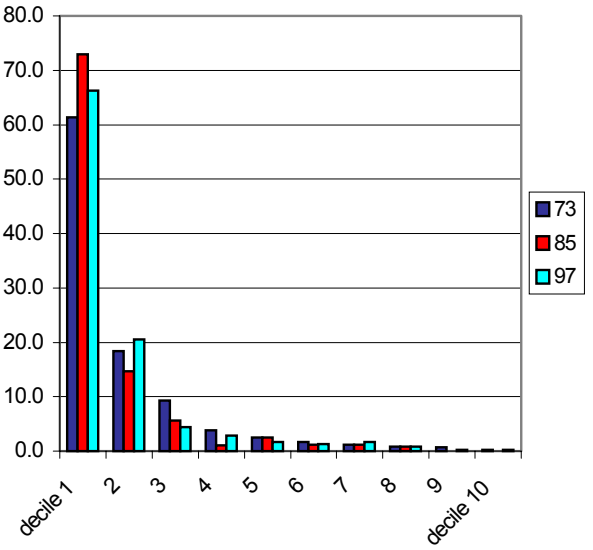


Figure 18
Children in Families with Lone Mother in the Labour Force
Canada 1973, 1985, 1997

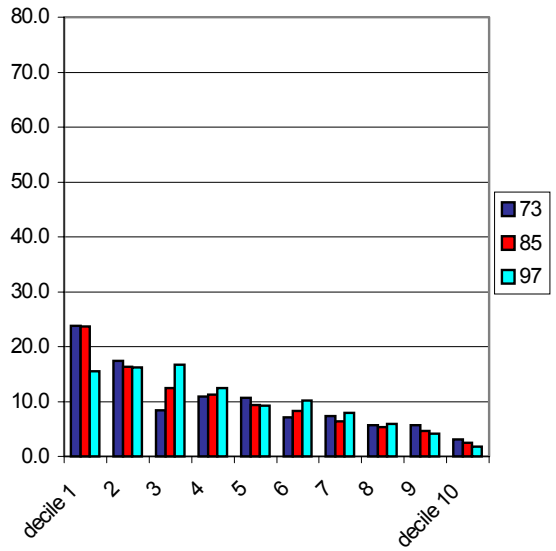


Figure 19
Children in One Earner, Two-Parent Families
Canada 1973, 1985, 1997

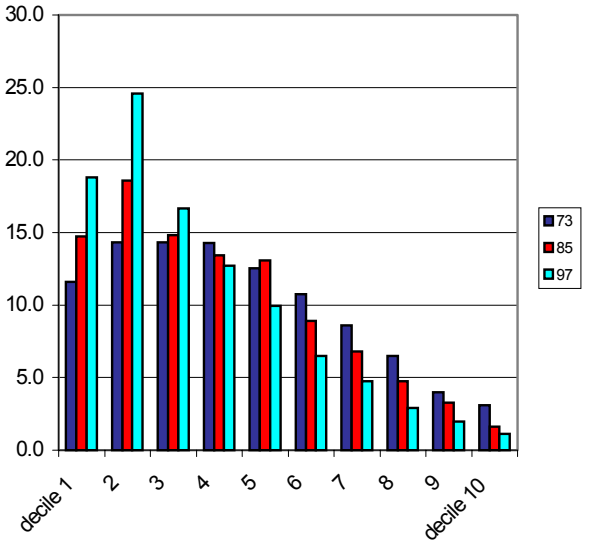


Figure 20
Children in Two Earner, Two-Parent Families
Canada 1973, 1985, 1997

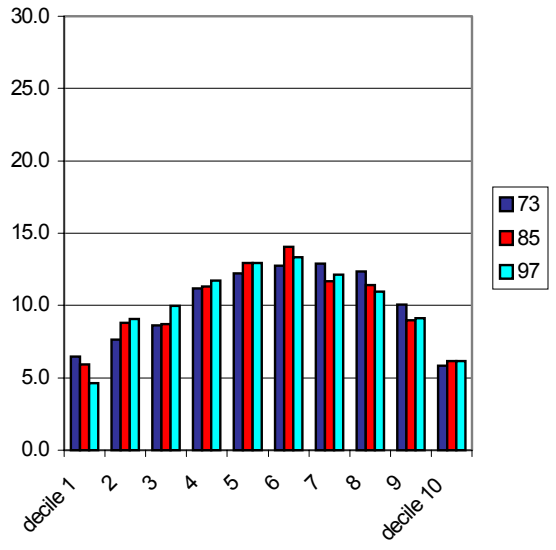


Figure 21
Proportion of Population Who Are < 18 Years in Six LIS Countries

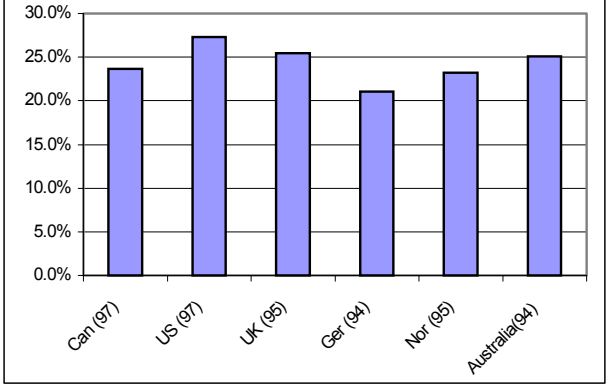
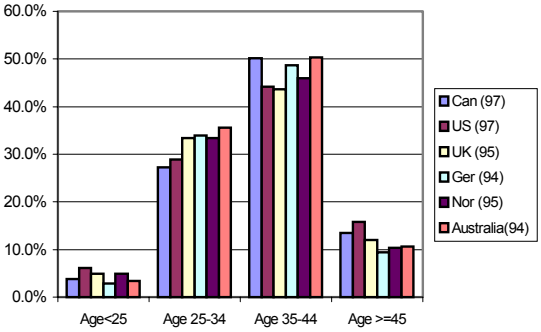


Figure 22
Age of Mother* for Children < 18 in Six LIS Countries



* If no mother present, age of father used.

Figure 23
Percentage Lone Parents, Lone Mothers and Lone Fathers in Six LIS Countries

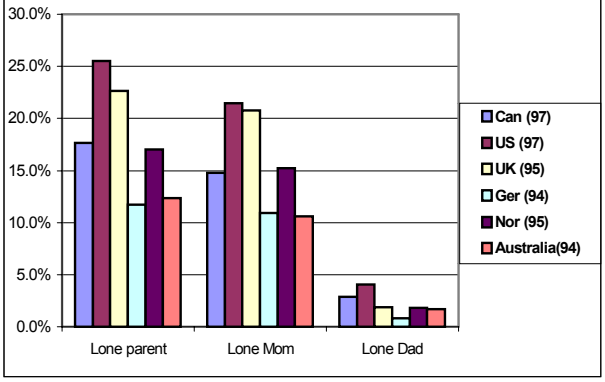


Figure 24
Zero, One and Two Earner, Two Parent Households Children < 18

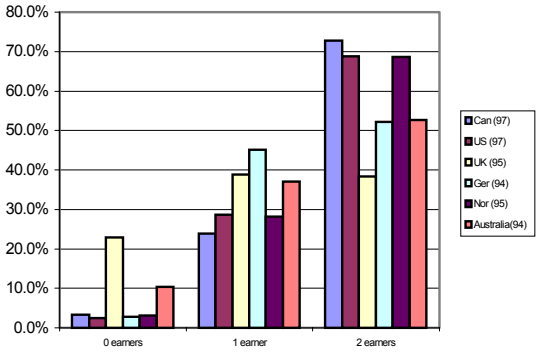


Figure 25
Labour Force Participation Lone Parent Households Children < 18

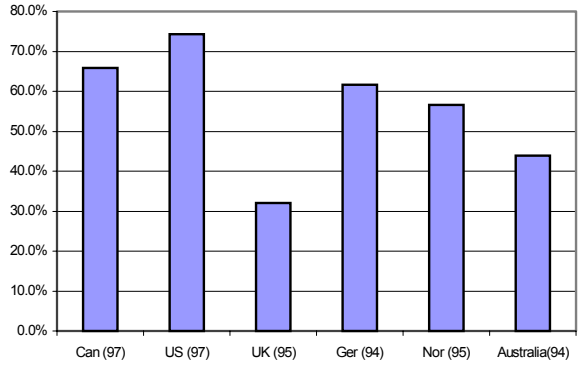


Figure 26
Children in Income Distribution in Six LIS Countries

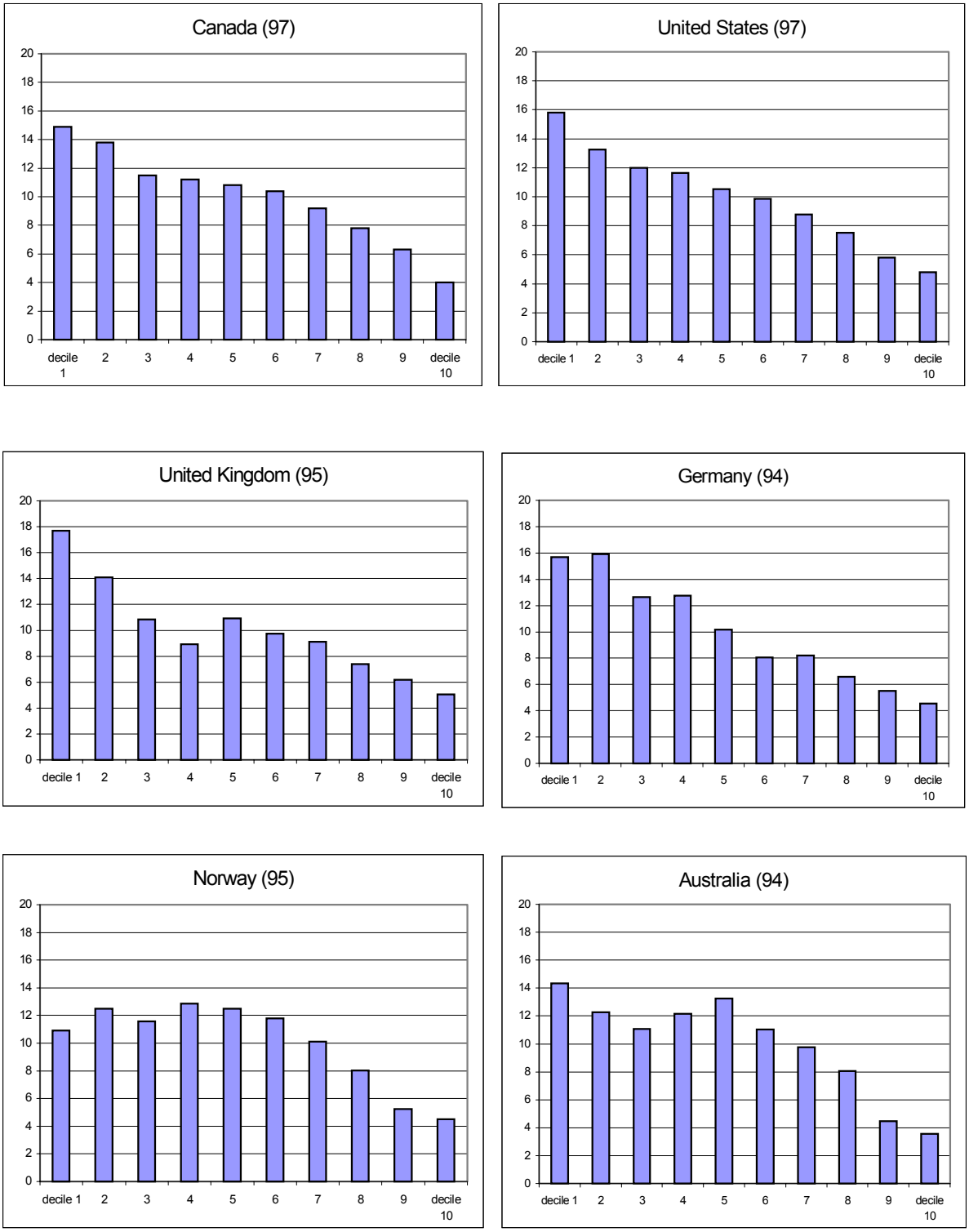


Figure 27
Children in Income Distribution - Two Parents, Three Children - Six LIS Countries

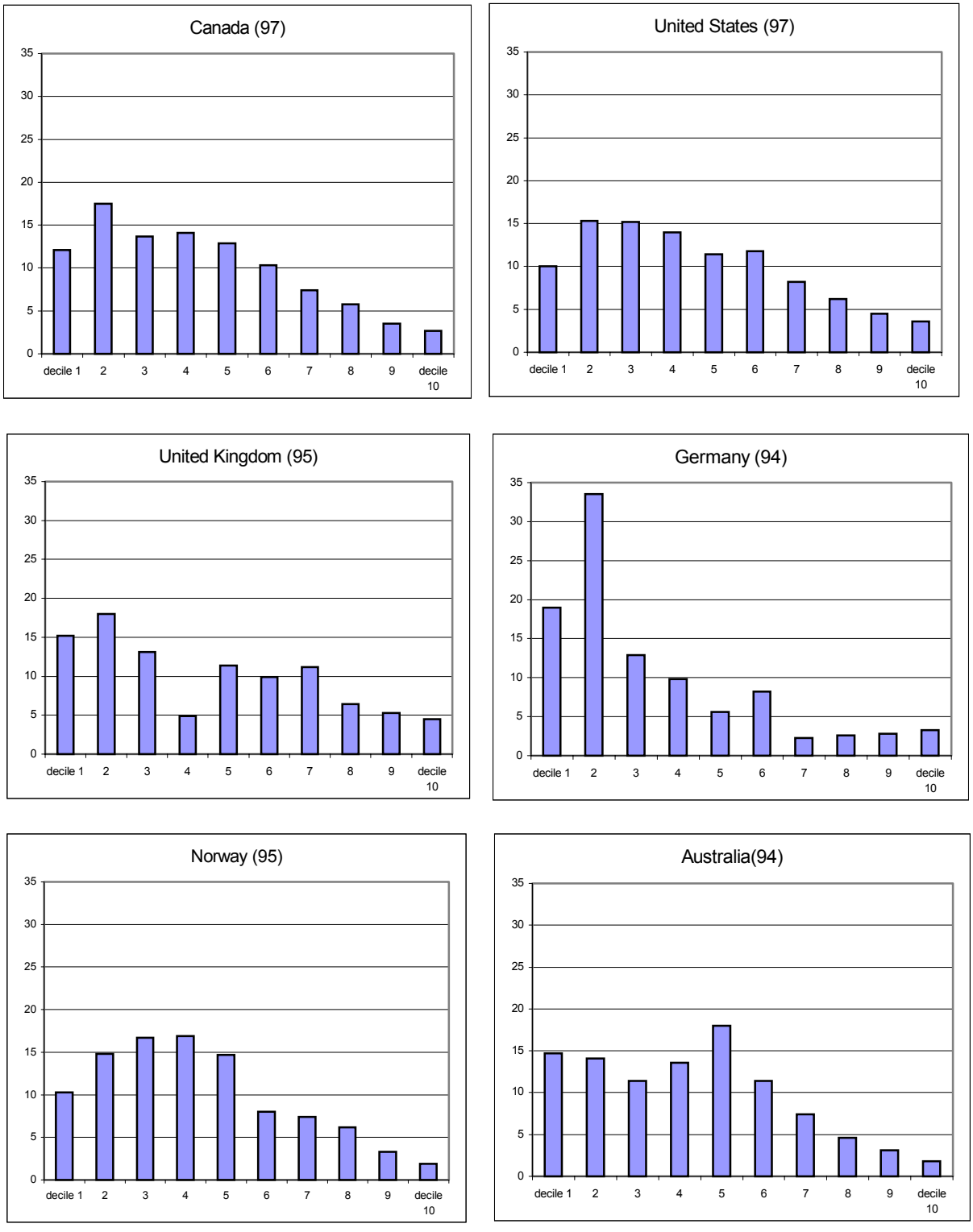
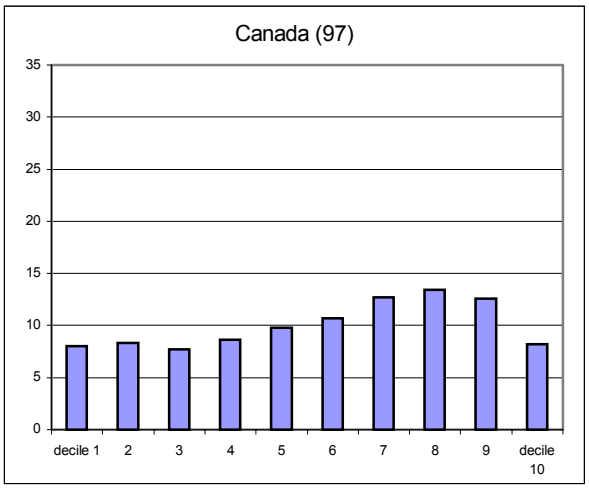
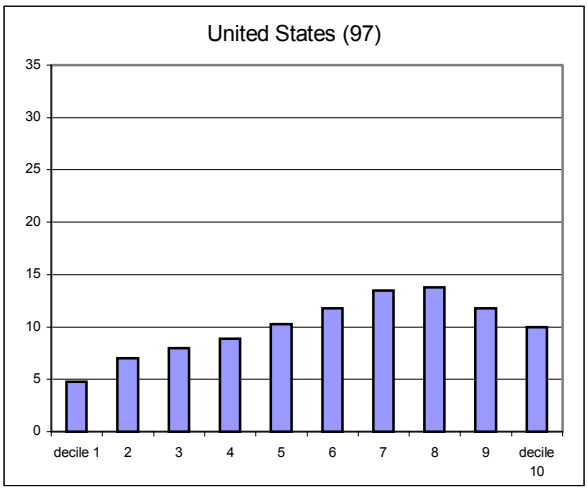
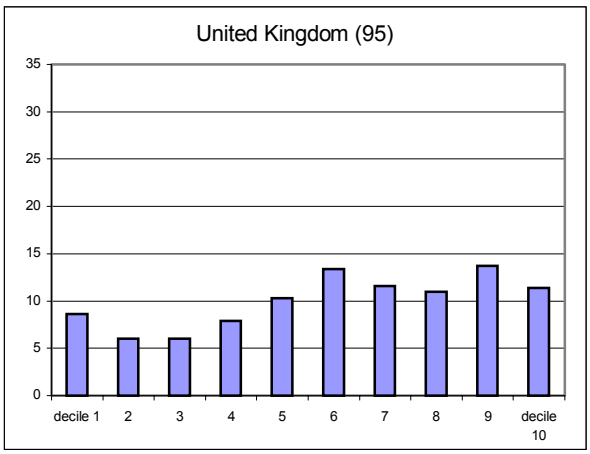
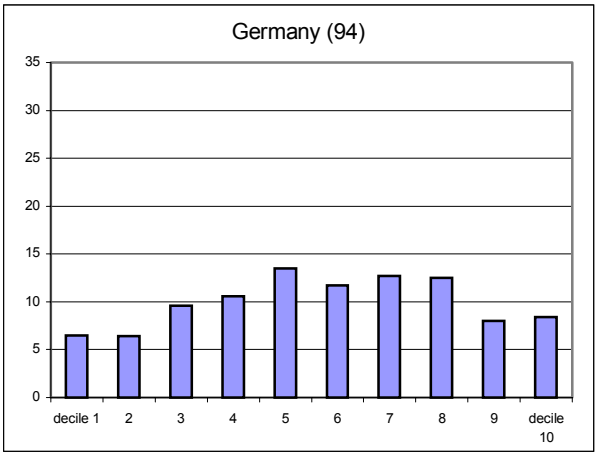


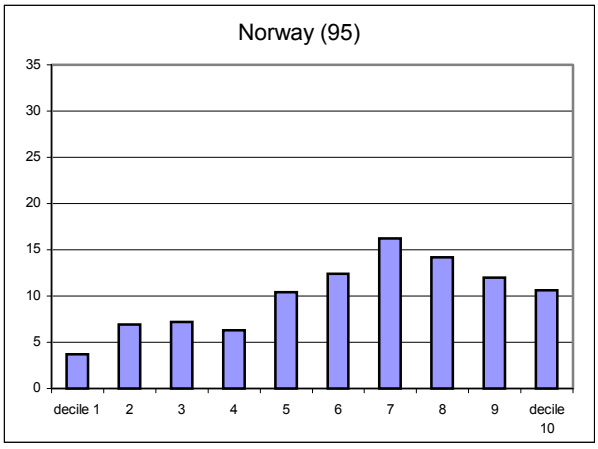
Figure 28
Children in Income Distribution - Two Parents, One Child - Six LIS Countries











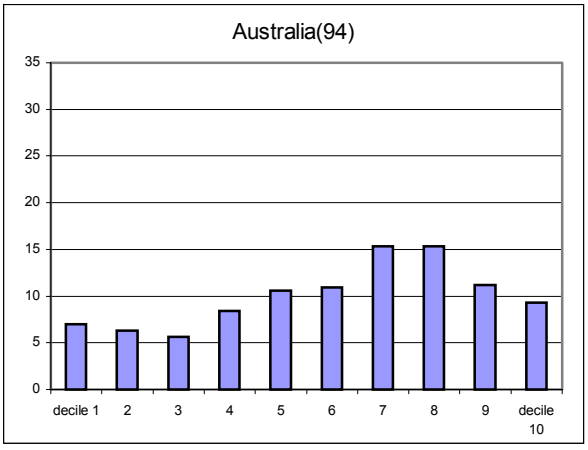
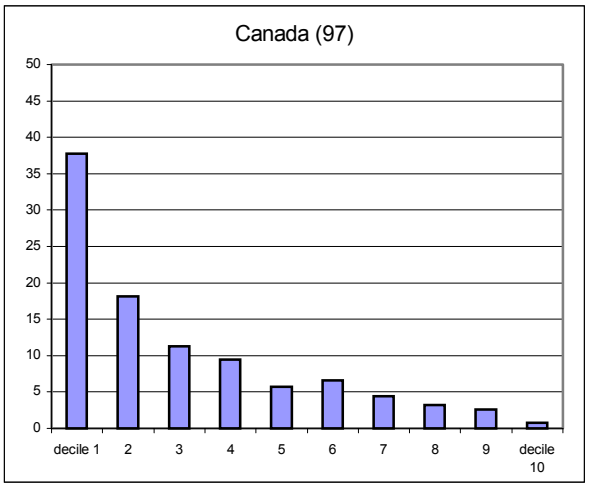
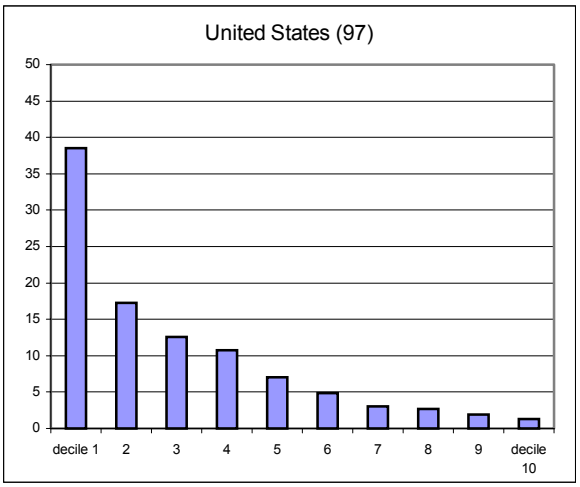
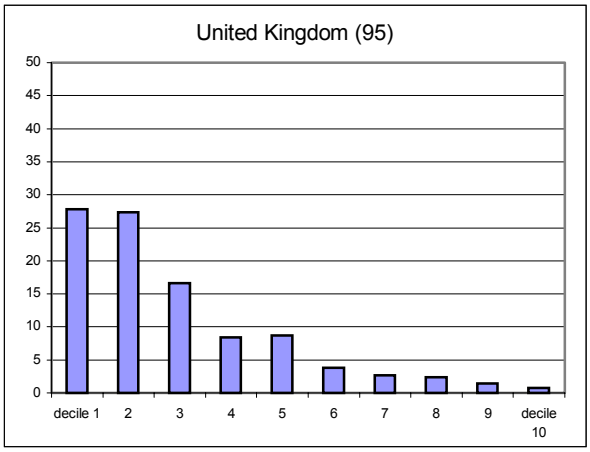
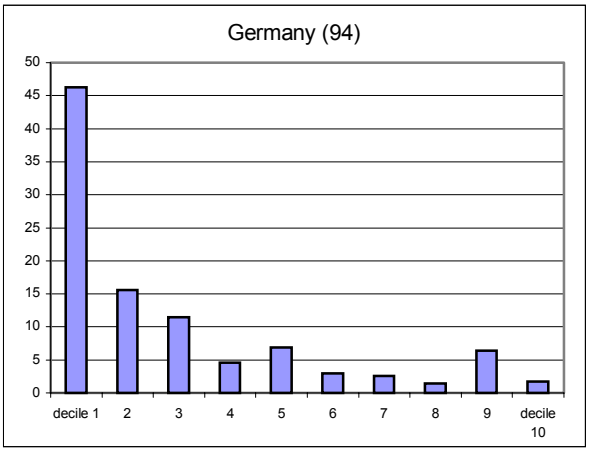


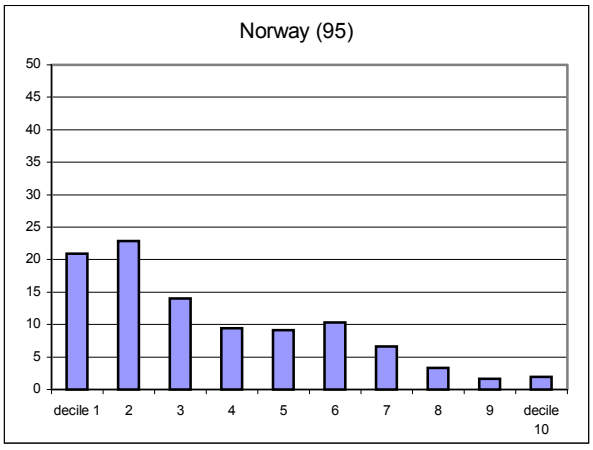
Figure 29
Children in Lone Mother Households - Six LIS Countries











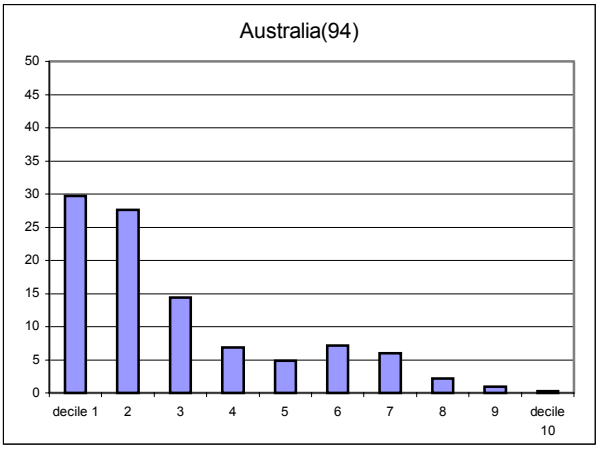


Figure 30
Children in Two-Parent, One-Earner Households - Six LIS Countries

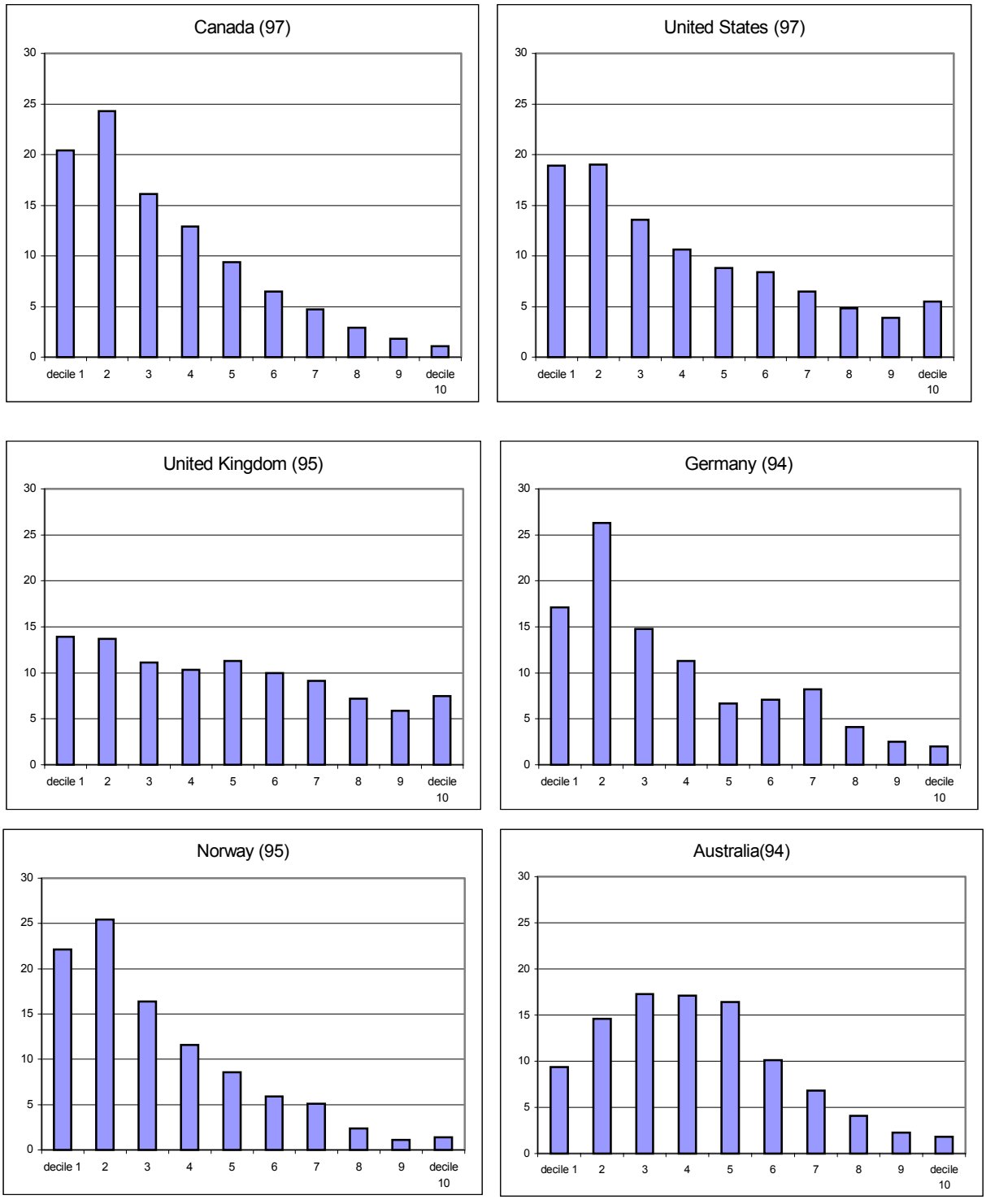
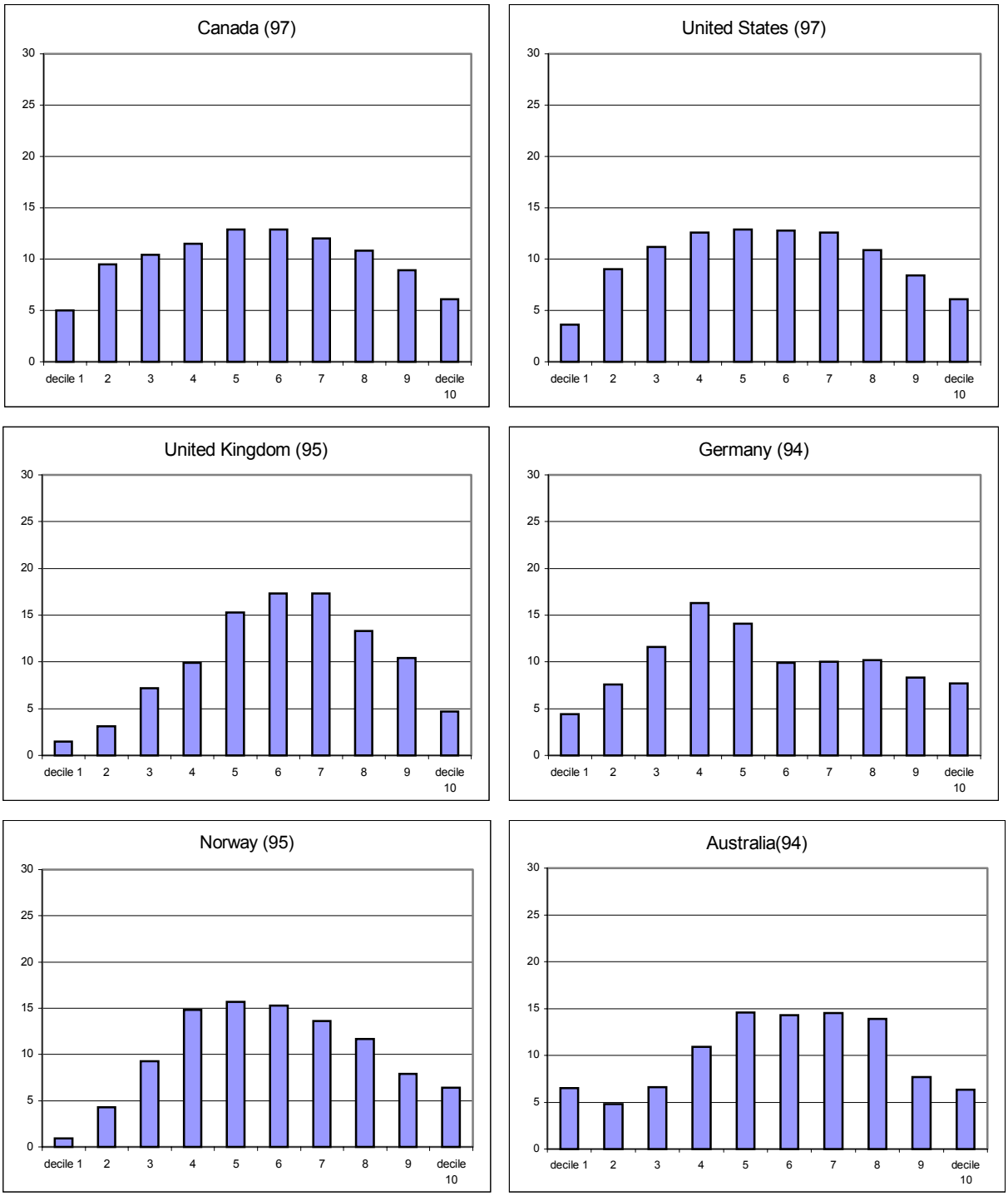


Figure 31
Children in Two-Parent, Two-Earner Households - Six LIS Countries



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