POPULATION CHANGE AND LIFECOURSE
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CHANGEMENTS DE POPULATION ET PARCOURS DE VIE

The Dynamics of Inequality among Canadian Children

About the Brief

This brief is based on Burton, P., Phipps, S. and Zhang, L. (2014). The prince and the pauper: Movement of children up and down the Canadian income distribution. *Canadian Public Policy*, 40(2), 111-125.

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Target Audience

- Researchers
- Policy Makers
- Graduate Students

Summary

*T*his study characterizes income inequality and mobility of Canadian children between the ages of 4/5 and 14/15. There is considerable inequality of family income. Moreover, income position is especially persistent for children at the bottom and top of the distribution; this is unfair and may be perpetuated into adulthood. Finally, family structure is very important for children's material well-being; for example, they experience a considerable drop in income position upon parental separation/ divorce. It is recommended that such children be protected, perhaps through advance maintenance payments.

Key Findings

- There is considerable inequality of family income among Canadian children, with no clear trend as they grow up (i.e. the 90/10 ratio is approximately five as children age from 4/5 to 14/15).

- Some children experience mobility; while income position is persistent for others. For example, 50 percent of children in the bottom quintile at age 4/5 remain there at age 14/15. And, 54 percent of children in the top quintile at age 4/5 remain there at age 14/15.

- It is relatively common for children to temporarily experience the bottom or top of the income distribution. Fewer children are stuck compared to those who have 'ever' been at the bottom; however they represent an important minority of chronically disadvantaged children. Policy should seek to improve their material situation, with implications for present and future well-being.

- Children in lone-parent families are more likely to be stuck at the bottom of the income distribution; having young parents and those with low levels of education are also risk factors. Moreover, children move down the distribution when a younger sibling is born or when a parent leaves paid work. Most notably, income position drops by 23 percentage points upon separation/ divorce. The authors recommend advance maintenance payments to shelter children from economic loss associated with such events.

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Definitions

Advance Maintenance Payments: The state guarantees financial support for children in lone-parent families upon default by the non-custodial parent. Advance maintenance payments are common in some European countries (e.g. France, Germany, Norway, Sweden). The amount and duration of payments vary across countries.

Quintiles and Deciles: Children are sorted by family income, from lowest to highest. Quintiles divide the distribution into five equally sized groups; each contains 20 percent of the population. Likewise deciles divide the distribution into ten equally sized groups. For example, the bottom decile contains the poorest ten percent of families with children; while the ninth decile represents the richest ten percent.

90/10 Ratio: This is a comparison of income at the ninetieth percentile to that at the tenth percentile. For example, a 90/10 ratio of five implies that families at the bottom of the richest ten percent earn five times more than those at the top of the poorest ten percent.

Background

There is a relatively large literature on the dynamics of child poverty (e.g. Bradbury et al, 2001; Picot et al, 1999), with little attention to those at the top of the income distribution. Likewise there is a need to better understand factors associated with movement up and down the distribution during childhood.

This is important for reasons of equity; it is unfair if some children are affluent while others are poor, especially if income position is persistent. Moreover, inequality may be perpetuated in later-life to the extent that material resources during childhood affect biological and brain development (e.g. Hertzman and Boyce, 2010). Finally, it is important to understand whether social transfers shelter children from economic hardship (e.g. whether shocks to the family affect income position, or are alleviated by social transfers).

This study characterizes income inequality and mobility of Canadian children between the ages of 4/5 and 14/15. In addition to describing movement up and down the distribution, the authors identify early-life predictors of low income and affluence, as well as correlates of relative income position. The latter are important for understanding whether social transfers effectively protect children from economic hardship.

Data and Method

This study uses microdata from the National Longitudinal Survey of Children and Youth. Children are followed from birth to early adulthood; however the sample is limited to those between the ages of 4/5 and 14/15. This avoids the early years (e.g. income volatility due to maternity/paternity leaves), as well as later

years when children may leave home. Information is provided by the 'person most knowledgeable', which is usually the child's mother. Data are collected every two years.

There are three cohorts of children, each observed over a ten year period (i.e. 1994 to 2004, 1996 to 2006 and 1998 to 2008). The authors use a pooled sample of overlapping cohorts to balance the effect of macroeconomic conditions on family income. The pooled sample comprises more than 5,000 observations; however a child's income position is relative to others in his/her own cohort.

The material situation of children is given by annual family income from all sources, before taxes and deductions; it is expressed in real 2004 dollars. The authors adjust for economies of scale in household consumption using the 'Luxembourg Income Study' equivalence scale (i.e. they divide by the square root of family size to account for differences in relative income needs). For example, a family of two does not need twice the income as a single person to have the same material standard of living (e.g. shared housing, utilities).

Results

Dynamics of Family Income

There is considerable inequality among Canadian children, with no clear trend as they grow up. For example, Table 1 indicates the 90/10 ratio is approximately five as children age from 4/5 to 14/15. The authors argue that changes in family characteristics had offsetting effects on inequality. For instance, the proportion of lone-parent families increased from 14.6 percent at age 4/5 to 20.7 percent at age 14/15; however there was a corresponding increase in the prevalence of paid work.

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To characterize movement up and down the income distribution, Table 2 shows the long-run position of children who start in the bottom, top or intermediate quintiles, respectively. There is some mobility; however income position is especially persistent at the bottom and top of the distribution. Specifically, 50 percent of children in the bottom quintile at age 4/5 remain there at age 14/15; 25 percent move to the second quintile and only five percent move to the top. Likewise 54 percent of children in the top quintile at age 4/5 remain there at age 14/15; 22 percent move to the fourth quintile and only four percent move to the bottom.

The preceding table indicates relative income position at ages 4/5 and 14/15, with no information about intermediary periods. Thus, Table 3 shows the percentage of children who were 'ever' or 'always' in a particular income decile. It is relatively common for children to temporarily experience the top or bottom of the income distribution. For example, 39.6 percent of children spent at least one year in the top 20 percent; while only 7.3 percent were 'always' above the threshold. Likewise fewer children were stuck compared to those who have 'ever' been at the bottom; however these chronically disadvantaged children represent an important minority. Policy should seek to improve their material situation, with implications for present and future well-being.

Table 1: Income Inequality and Family Characteristics of Children

Time Period	1994-1998	1996-2000	1998-2002	2000-2004	2002-2006	2004-2008
Age	4/5	6/7	8/9	10/11	12/13	14/15
90:10 Ratio	5.37	5.08	4.69	4.72	4.64	4.86
Lone Parent (%)	14.6	14.4	15.3	16.9	17.9	20.7
Lone Parent with Paid Work (%)	54.8	74.5	82.4	81.5	84.9	84.8

Table 2: Relative Income Position at Ages 4/5 and 14/15

	Bottom Quintile at Age 14/15	2nd Quintile at Age 14/15	3rd Quintile at Age 14/15	4th Quintile at Age 14/15	Top Quintile at Age 14/15
Bottom Quintile at Age 4/5	0.50	0.25	0.12	0.08	0.05
2nd Quintile at Age 4/5	0.27	0.29	0.23	0.15	0.07
3rd Quintile at Age 4/5	0.11	0.24	0.28	0.23	0.14
4th Quintile at Age 4/5	0.08	0.13	0.25	0.33	0.22
Top Quintile at Age 4/5	0.04	0.08	0.12	0.22	0.54

Table 3: Percentage of Children 'Ever' or 'Always' in a Particular Income Decile

Decile	'Ever' Below	'Always' Below	'Ever' Above	'Always' Above
1	26.4	1.3	98.7	73.6
2	41.3	5.0	95.0	58.7
3	53.2	10.9	89.1	46.8
4	64.3	17.6	82.4	35.7
5	73.3	24.5	75.5	26.7
6	81.5	35.2	64.8	18.5
7	87.7	46.7	53.3	12.3
8	92.7	60.4	39.6	7.3
9	97.2	77.6	22.4	2.8
10	100.0	100.0	0.0	0.0

Early-Life Predictors of Low Income and Affluence

To inform policy, the authors identify early-life predictors of low income and affluence (i.e. characteristics at age 4/5 that affect the risk of 'ever' or 'always' being at the bottom or top of the income distribution). Refer to the paper for methods and regression output.

Family structure is very important. For example, the probability of 'always' being in the bottom quintile is 11.3 percentage points higher for children of lone parents. Likewise siblings reduce the probability of 'always' being rich. Moreover, children of older parents are less likely to 'ever' be in the bottom quintile. This probability is also higher for those with parents who did not finish high school; in contrast, having a university-educated parent increases the probability of 'ever' being at the top by 27 percentage points.

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Correlates of Relative Income Position

The authors identify changes in family characteristics that affect relative income position (i.e. correlates of movement up and down the distribution). Refer to the paper for methods and regression output.

On average, children move down the income distribution by nine percentage points when a younger sibling is born, or five percentage points when a parent leaves paid work. However, parental marital status is the most important correlate of mobility. Specifically, income position drops by 23 percentage points upon separation/divorce; it increases by 20.6 percentage points if a lone parent re-partners. This implies that existing social transfers do not shelter children from economic loss associated with parental separation/divorce. The authors recommend advance maintenance payments, which are common in some European countries (i.e. state-funded, guaranteed payments for children in lone-parent families upon default by the non-custodial parent).

Conclusion

This study uses microdata from the National Longitudinal Survey of Children and Youth to characterize income inequality and mobility of Canadian children between the ages of 4/5 and 14/15.

There is considerable inequality among Canadian children. And, income position is especially persistent for those at the bottom and top of the distribution. It is a concern that some children are 'always' poor while others are 'always' rich. Inequality is unfair, especially when it is persistent.

It is relatively common for children to temporarily experience the bottom or top of the income distribution. Fewer children are stuck compared to those who have 'ever' been at the bottom; however they represent an important minority of chronically disadvantaged children. Policy should seek to improve their material situation, with implications for present and future well-being. For example, inequality may be perpetuated in later-life to the extent that material resources affect child development.

To inform policy, the authors identify early-life predictors of low income and affluence, as well as correlates of mobility. They find that children of young parents and those with low levels of education are more likely to be stuck at the bottom of the distribution. Not surprisingly, children in lone-parent families are most at risk. Likewise children experience a considerable drop in income position upon parental separation/divorce. This implies that existing social transfers do not effectively shelter children from economic hardship. The authors recommend advance maintenance payments, which guarantee financial support for children in lone-parent families upon default by the non-custodial parent.

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