

THE ECONOMIC COST OF CHILDHOOD SOCIO-ECONOMIC DISADVANTAGE IN CANADA

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Child Well-being Policy Papers

This paper presents an overview of child poverty trends in Canada and discusses the challenges associated with the Poverty Reduction Strategy aimed at enhancing equality of opportunity and social mobility. While child poverty has decreased significantly in recent years due to increased support for families with children, measures to assist socio-economically disadvantaged children only partially address their challenges. To enhance equality of opportunity and social mobility in Canada, it is crucial to strengthen efforts addressing the root causes of socio-economic disadvantages and bridge gaps in policies aimed at reducing child poverty.

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Abstract

This paper provides an overview of child poverty trends in Canada and puts into perspective the issues associated with the Poverty Reduction Strategy to promote equality of opportunity and social mobility. It is based on an analysis of the relationship between socio-economic disadvantages experienced in childhood and adult outcomes in terms of education, employment, and health, using the 2018 *Longitudinal and International Study of Adults* (LISA) survey, matched with family members' personal income tax records to integrate the available information on socio-economic status when respondents were aged between 10 and 14. Overall, the analysis shows that child poverty has been significantly reduced in recent years in Canada, partly as a result of increased support for families with children since the mid-2010s. However, the measures implemented to support socio-economically disadvantaged children only partially alleviate their challenges in childhood and adulthood. While cash transfers and early childhood education services help, they do not fully benefit those from very low-income families, Indigenous communities, or racialized groups. Furthermore, childhood socio-economic disadvantage significantly affects adult education, employment, and health outcomes, leading to reduced opportunities for higher education, work experience accumulation, and poorer health, resulting in lower incomes in adulthood. This impacts the country's overall productivity and growth potential. To better promote equality of opportunity and social mobility in Canada, it is essential to strengthen efforts addressing the root causes of socio-economic disadvantages alongside bridging gaps in policies aimed at reducing child poverty.

Résumé

Ce document donne un aperçu des tendances de la pauvreté infantile au Canada et met en perspective les enjeux associés à la Stratégie de réduction de la pauvreté visant à promouvoir l'égalité des chances et la mobilité sociale. Il s'appuie sur une analyse de la relation entre les désavantages socio-économiques subis pendant l'enfance et les résultats obtenus à l'âge adulte en termes d'éducation, d'emploi et de santé, en utilisant l'enquête ELIA (*Étude longitudinale et internationale des adultes (ELIA)*) de 2018, appariée avec les données fiscales des membres de la famille pour intégrer les informations disponibles sur le statut socio-économique lorsque les répondants étaient âgés de 10 à 14 ans. Dans l'ensemble, l'analyse montre que la pauvreté des enfants a été considérablement réduite ces dernières années au Canada, en partie grâce à un soutien accru aux familles avec enfants depuis le milieu des années 2010. Toutefois, les mesures mises en œuvre pour soutenir les enfants défavorisés sur le plan socio-économique n'atténuent que partiellement les difficultés qu'ils rencontrent pendant l'enfance et à l'âge adulte. Si les transferts monétaires et les services d'éducation de la petite enfance sont utiles, ils ne profitent pas pleinement aux familles à très faible revenu, aux communautés autochtones ou aux groupes racialisés. En outre, les désavantages socio-économiques de l'enfance affectent de manière significative les résultats en matière d'éducation, d'emploi et de santé à l'âge adulte, ce qui réduit les possibilités de faire des études supérieures, d'accumuler de l'expérience professionnelle et d'être en moins bonne santé, avec pour conséquence des revenus plus faibles à l'âge adulte. Il en résulte des revenus plus faibles à l'âge adulte, ce qui a un impact sur la productivité globale et le potentiel de croissance du pays. Pour mieux promouvoir l'égalité des chances et la mobilité sociale au Canada, il est essentiel de renforcer les efforts visant à s'attaquer aux causes profondes des désavantages socio-économiques, tout en comblant les lacunes des politiques visant à réduire la pauvreté des enfants.

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1. Introduction

Growing up in socio-economic disadvantage profoundly impacts the lives of children, leading to a range of consequences. Children from disadvantaged families often lag behind in skills development, resulting in poorer academic performance and leaving them with poorer knowledge and skills compared to their more privileged peers (Clarke and Thévenon, 2022^[1]). The repercussions extend beyond education, affecting children's physical health, mental well-being, and social-emotional development, highlighting the broader impact on their overall well-being (Clarke and Thévenon, 2022^[1]). These inequalities place children on an unequal starting point from the beginning of life.

These early inequalities not only impact the immediate well-being of children but also have enduring effects that shape their opportunities and outcomes into adulthood. Recent evidence for European countries demonstrates that early disadvantage impedes skill development and educational attainment, limiting the later prospects of disadvantaged individuals in the labour market (Clarke et al., 2022^[2]). Although exceptions exist, adults with minimal or no qualifications often face restricted job options, creating a cycle of limited opportunities. Childhood socio-economic status, influenced in part by its impact on childhood health, also is a crucial determinant of adult health and freedom from activity limitation (Currie et al., 2010^[3]; Flores and Kalwij, 2014^[4]; Currie, 2016^[5]; OECD, 2021^[6]; Poulton et al., 2002^[7]; Jackson, 2015^[8]).

In Canada, as in other OECD countries, it is important to be concerned about the unequal opportunities provided to children from disadvantaged families for several reasons. Beyond the ethical imperative of ensuring equal opportunities for all, there are social and economic considerations (Ciani, 2022^[9]). Social cohesion is at risk in societies with limited economic progression, fostering feelings of exclusion and discontent among disadvantaged groups (OECD, 2018^[10]). Additionally, economic prosperity is compromised, as lower employment and earnings among adults from disadvantaged backgrounds signify wasted talent and unrealized potential output. Weaker health outcomes represent a loss in overall welfare (McLaughlin and Rank, 2018^[11]; Duncan, 2019^[12]; Blanden, Hansen and Machin, 2008^[13]; Blanden, Hansen and Machin, 2010^[14]). Public finances are also likely to suffer, with reduced output impacting government tax revenues and lower incomes necessitating increased social benefits to support affected individuals.

In Canada, the fight against child poverty and its consequences in terms of health, housing, and education has been the focus of renewed political attention since the mid-2010s. In particular, the strengthening of financial aid and the launch of the first federal poverty reduction strategy in 2018 have helped reduce the risk of children experiencing poverty. While available evidence indicates that some groups have not benefited from these advances as much as others, including families with very low incomes, single-parent families, and children from ethnic minorities, further statistical efforts are needed to comprehensively track the progress made in protecting and improving the situation of children in all dimensions that policies aim to impact.

This paper explores the challenges associated with childhood socio-economic disadvantage and examines policies designed to address child poverty within the Canadian context. The first section offers an overview of child poverty and its recent evolution. The second section presents the findings of an original analysis conducted to quantify the costs associated with socio-economic disadvantages experienced in childhood. These "costs" are measured based on the estimated impact of socio-economic disadvantage on outcomes

in adulthood, encompassing educational attainment, health, employment, and labour income. The final section underscores the impact of recent policies, acknowledges limitations, and identifies challenges for policies to further mitigate the disadvantages associated with child poverty and track progress. Moreover, it presents findings from the *Risk that Matters Survey* on the perceptions of the population in Canada and other OECD countries concerning obstacles to equal opportunities and policy options put forward by Canadian adults to reduce inequalities and enhance equal opportunities.

Key findings are as follows:

- Although the number of children living in poverty has significantly decreased since the introduction of the Canada Child Benefit (CCB) in 2016, 9.5% of Canadian children were still living in relative poverty in 2021. The number of children affected by poverty rose after 2020 with the withdrawal of pandemic-related benefits, such as the Canada Emergency Response Benefit, which was provided to cope with the COVID-19 crisis. Children in jobless and single-parent households are disproportionately affected by poverty, as well as Indigenous children and children from ethnic minorities.
- Children living in poverty in Canada show lower levels of well-being than OECD averages in many areas, including in health. Gaps in children's well-being outcomes based on socio-economic status are significant. Canada's education system, however, is one of the most equitable across the OECD, according to the 2022 Programme for International Student Assessment (PISA).
- Childhood socioeconomic disadvantage leads to reduced employment, lower earnings, and weaker health. Canadian men and women who experienced childhood disadvantage are respectively 6.6 and 7.8 percentage points less likely to be employed than adults with more favourable childhoods, earn about 30% and 12% less, and report worse health with 4 and 5 percentage points difference on the Health and Activity Limitation Index. The lower impact of childhood disadvantage on women's earnings is partly due to the fact that all women, regardless of their childhood background, are more likely to work in low-paid jobs where pay differentials are smaller.
- Every year, childhood disadvantage costs Canada 2.7% of GDP. The cost of childhood disadvantage is calculated by combining the estimated monetary values of lost employment, lost earnings among the employed, and lost health. In Canada, the labour market and health penalties are worth the equivalent of 1.4% and 1.3% of GDP, respectively. By comparison, the total cost is estimated at 3.4% on average across European OECD countries.
- Lower chances of attaining a tertiary education qualification and poorer health are important mediators of the impact of childhood disadvantage on employment and labour earnings. Lower levels of education account for 20% of the overall association between childhood disadvantage and labour earnings for men and 15% for women. Poorer health accounts for 10% and 29% of the overall earnings penalty associated with childhood disadvantage for men and women, respectively.
- Policy efforts to reduce childhood disadvantage can therefore yield substantial gains in economic output and social welfare. At the country level, reducing childhood disadvantage responds to citizens' concerns over fairness and reinforce social cohesion by decreasing feelings of exclusion and dissatisfaction among disadvantaged groups. From an economic perspective, childhood disadvantage significantly hinders prosperity through unrealised potential output, diminished well-being, decreased tax revenues for governments, and increased social benefits.
- There has been an increase in cash benefits for families with children implemented since the mid-2010s, and there is evidence that these benefits have made a significant contribution to reducing child income poverty and exposure to food insecurity, particularly for single-parent families. Nevertheless, the Canada Child Benefit has not fully succeeded in lifting the most vulnerable children (including those from very low-income families, Indigenous, or racialised groups) out of poverty, and income supplements targeting them in particular could help to lift them out of extreme

poverty. For example, supplementary cash benefits could be targeted specifically at single-parent families, as these families have a comparatively high poverty rate, even when the parent is employed (21% if individuals in single-parent families are income poor in 2021). Additionally, evidence suggests that low-income families are minimally affected by any disincentive effects of financial support on labour supply.

- Maternal employment stands as an essential factor in preventing the risk of poverty in both couple and single-parent families, especially since children of separated couples are more likely to live with their mother after separation. In Canada, the employment rate for low-educated women and mothers of children under the age of six is significantly lower than that of their more educated counterparts and/or those with older children. Their participation in employment can be supported by the development of affordable child care, as expected in the Canada-wide Early Learning and Child Care Plan. Providing child care that is both affordable and tailored to the needs of single-parent families will be crucial in making the Plan impactful by reducing the income poverty of children in single-parent households.
- Large investments have been made to increase access to early childhood education and care services, with the aim of helping parents reconcile work and family life and offering good-quality services conducive to children's development. Continuing to support these efforts is crucial, not least to address the significant regional disparities across the Provinces and Territories. In particular, prioritising the development of child care provision in child care desert areas could help combating the geographical inequalities that often intersect with families' socio-economic status.
- With a shortage of qualified workers in the early childhood sector, lowering quality standards in order to increase the number of child care spaces is a risky strategy if it does not deliver the quality needed to reduce the developmental gaps of disadvantaged children. To address this risk, it is important to strengthen professional training opportunities for child care workers to foster service quality.
- Improving access to housing and health services for children and their families is also essential, as a large proportion of them are considered to be in undesirable situations. In 2021, just over a third of children under the age of 15 (34%) – a higher proportion than that of adults – were considered to have unacceptable housing due to a lack of either affordability, suitability or a low quality of the dwelling.
- With regard to health, the information currently available on access to care and unmet needs does not encompass middle-aged and under-aged children. The results of the 2023 Canadian Health Survey on Children and Youth, to be released in summer 2024, should help to partially fill this gap for the 10 provinces covered by the survey. Information and monitoring should be developed for children and youth not included in this survey, such as those living in the territories, on First Nation reserves, in certain First Nations, Inuit and Métis settlements in the provinces, those living in foster homes, and the institutionalised population.
- The findings of the 2022 *'Risks that Matter' Opportunities module* suggest that a small majority (54%) of Canadians believe that more can be done to promote equality of opportunity and social mobility. Among the many options for measures that could contribute to this, Canadians stand out with a high proportion of people citing the increase in income tax on top earners as one of the most important measures to achieve this. Other policy options with comparatively high levels of support include strengthening equal access to education, mentioned by 31% of respondents, which aligns with the aforementioned finding that lower educational attainment is an important driver of lower labour market earnings for adults who experienced in socio-economically disadvantaged childhood.

2. Child poverty trends in Canada

Measuring and comparing child poverty (or any other population group) involves selecting criteria to define an income threshold below which all members of a household are considered poor. This income level is intended to capture differences in purchasing power and the standard of living across households, serving as a proxy to categorize household members as living in poverty or not. In Canada, the poverty line is determined based on the costs of a typical basket of goods and services that Canadian families commonly use. Canada's Official Poverty Line, based on the Market Basket Measure (MBM), is derived from the cost of a specific basket of goods and services, representing a modest, basic standard of living. It encompasses expenses such as food, clothing, footwear, transportation, shelter, and other necessities for a reference family. According to this measure, it is estimated that in 2021, 6.4% of children and adolescents below the age of 18 lived in poverty (Statistics Canada, 2023^[15]).

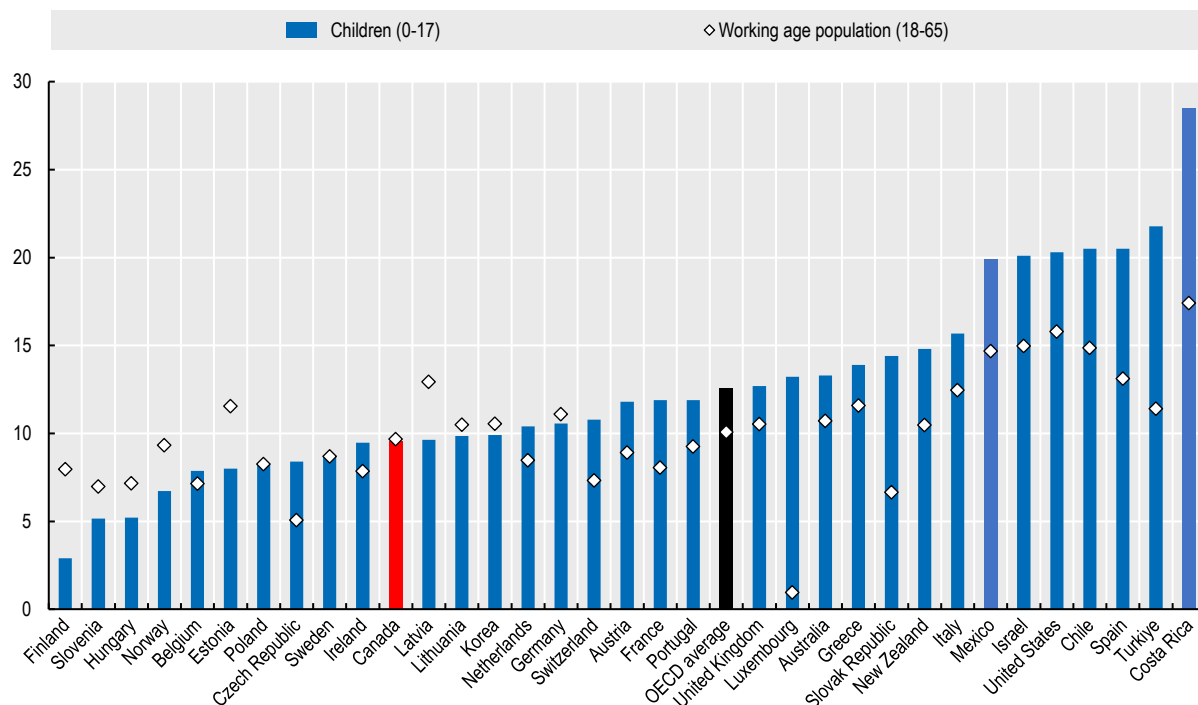
Other measures of the risk of poverty are traditionally used for international comparisons. The relative poverty indicator gauges the proportion of people living below a fixed poverty line relative to the income distribution in each country. This measure is especially valuable for international comparisons because it accommodates national specificities in income distribution while providing a consistent point of comparison. A poverty line set at 50% of median income is commonly used in OECD statistics on relative poverty.

In Canada, 9.5% of children under age 18 were living in relative income poverty in 2021, which is significantly less than the 12.7% of children in relative poverty across the OECD (Figure 1). The relative child poverty rate captures the share of children in low-income households, i.e. in households whose equivalised disposable income (adjusting for household size and after taxes and transfer) is below 50% of the median at a given point in time.

Across almost two-thirds of OECD nations, children face a higher likelihood of poverty compared to the working-age population, with an average gap of approximately two percentage points. By contrast, in Canada, children are same risk of income poverty as the working-age population, with poverty rate of working age adults at 9.7%.

Figure 1. 9.5% of Canadian children and working age adults live in poverty

Relative income poverty rates (%) after taxes and transfers, for children (0-17 years old) and for the working age adult population (18-65 years old), 2021 or latest available year.



Note: Income year data refer 2022 for Chile, Costa Rica and the United States; 2021 for Austria, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Estonia, France, Greece, Hungary, Ireland, Italy, Korea, Lithuania, Luxembourg, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain and the United Kingdom; 2020 for Germany, Switzerland and Türkiye.

Income relative poverty rate is measured with a poverty line set at 50% of the median equivalised income.

Source: OECD Income Distribution Database, <http://oe.cd/idd>.

2.1. Child poverty rates have decreased drastically since 2015

Child poverty trends are further tracked by measuring “anchored” child poverty rate, which assesses children’s standards of living in comparison to the relative poverty line of a past reference year. This reference year is frozen and used as an absolute line over a longer period. In Figure 2, that line is fixed at its 2005 level, adjusted for price inflation. This measure makes it possible to consider overall changes in living standards. This means that, even if the level of relative poverty remains high, children living below the poverty line today often experience a higher standard of living than that which prevailed for the population estimated to be poor in the mid-2000s.

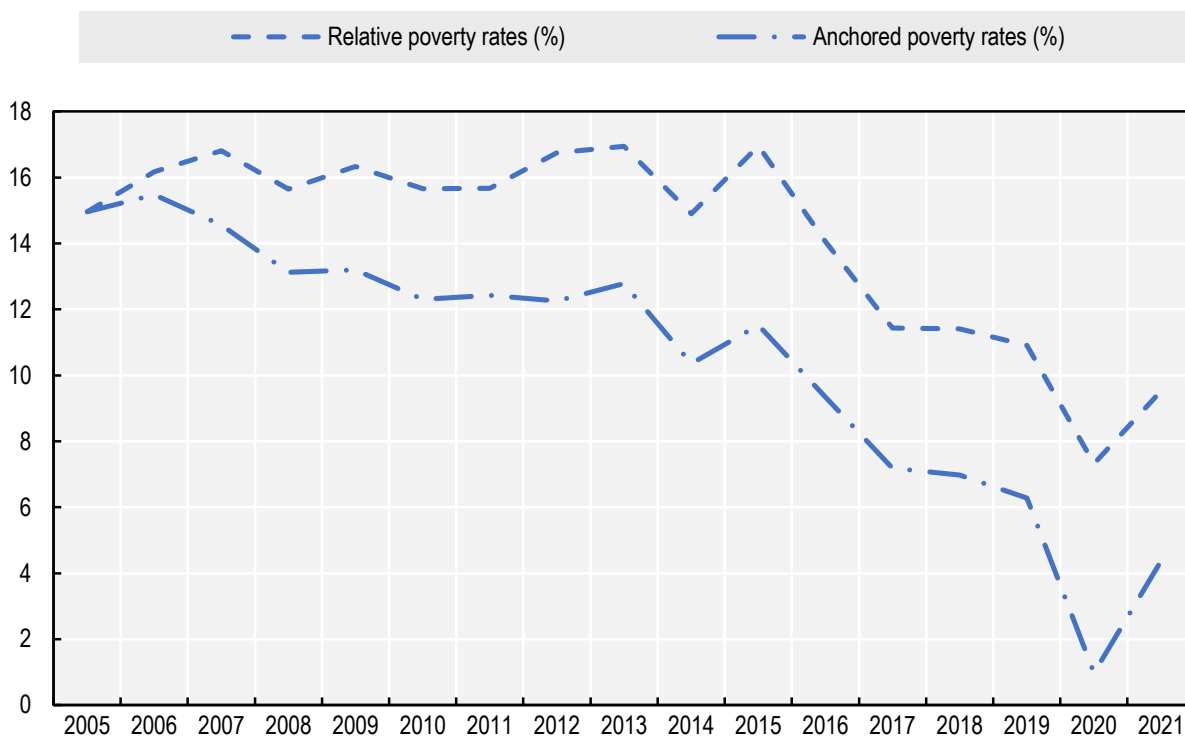
Figure 2 compares the evolution of relative poverty rates and anchored poverty rates between 2005 and 2020. In 2020, less than 1% of Canadian children were considered poor by 2005 standards, whereas 9.5% were considered poor by 2021 standards. In other words, of the 9.5% of children in relative poverty in 2021, 85% have a better standard of living than children in relative poverty in 2005.

A substantial decrease in child poverty rates have occurred after 2015 (Figure 2). Canada went from being significantly above the OECD average in 2015 to being significantly below in 2020, witnessing a drop of almost 10 percentage points at the national level. This reduction in child poverty is largely the result of the expansion of financial support for families with children since the mid-2010s, which preceded and accompanied the implementation of Canada’s Poverty Reduction Strategy in 2018 (Government of

Canada, 2022^[16]) (see further discussion in section 4). Additionally, child poverty decreased between 2019 and 2020 due primarily to temporary COVID-19 pandemic emergency benefits (The Canada Emergency Response Benefit (CERB)). However, after the cessation of the CERB, the child relative poverty rate surged by over two percentage points in 2021, and the “anchored” child poverty rate showed an even more pronounced increase. This rise raises concerns about a potential reversal of the decline in child poverty, especially impacting poorer families with children.

Figure 2. Canada’s poverty rates have fallen since 2016

Relative poverty rates (%) and anchored poverty rates (%) for children (0-17 years-old), 2005-2020



Note: The “anchored” poverty rate sets the poverty line at its 2005 level with yearly adjustments for price inflation.

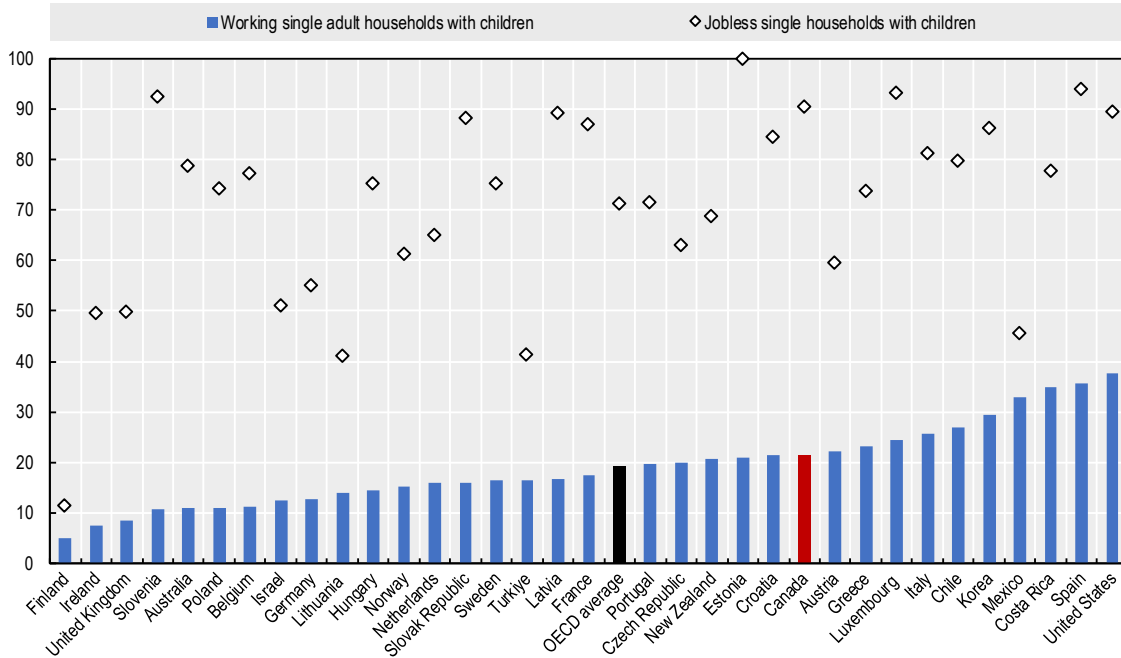
Source: OECD Income Distribution Database, <http://oe.cd/idd>.

2.2. Canadian children in jobless households are at much greater risk of poverty, particularly in single parent families

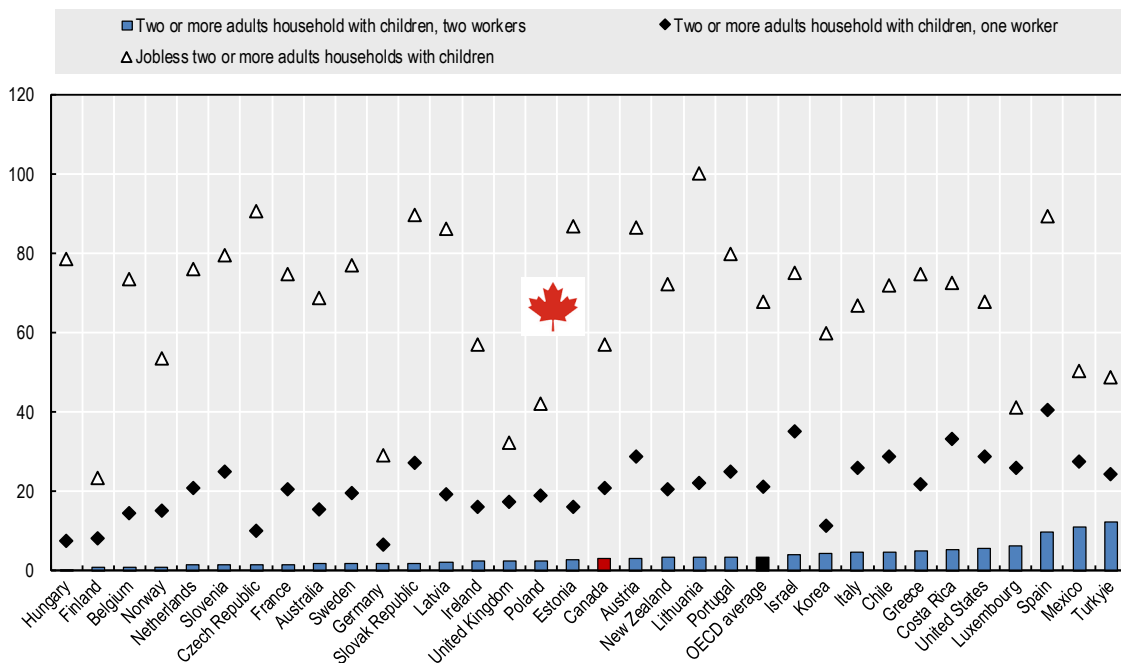
Child relative poverty risk varies considerably depending on the employment status of parents. Figure 3, Panel A shows that in Canada, 90% of single-parent jobless households were income poor in 2021, whereas this was the case for only 21% for working single parents. In two-parent households, 57% of jobless households were income poor, against only 3.1% of households with two working adults (Panel B). A substantial difference in poverty rates also stands between the two-parent families where only one parent works and those where both parents work, respectively 20.6% against 3.1% for Canada and 21% against 3.5% across OECD countries.

Figure 3. Parental employment status and family structures are the main determinants of child poverty

Panel A: Poverty rates (%) after taxes and transfers in single adult households with children by household employment status, 2021 or latest available year



Panel B: Poverty rates (%) after taxes and transfers in two or more adult households with children by household employment status, 2021 or latest available year.



Note: Income year data refer 2022 for Chile, Costa Rica and the United States; 2021 for Austria, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Estonia, France, Greece, Hungary, Ireland, Italy, Korea, Lithuania, Luxembourg, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain and the United Kingdom; 2020 for Germany, Switzerland and Türkiye.

Income relative poverty rate is measured with a poverty line set at 50% of the median equivalised income.

Source: OECD Income Distribution Database, <http://oe.cd/idd>.

Family structures are also a major determinant of child poverty. Children from single-parent households are more at risk of poverty for several reasons. Parental separation can result in a loss of income, which is often only partially offset by the child support payments provided to the custodial parent by their former partner. In addition, child custody is predominantly granted to mothers, who often have a lower income than their former partner. Joblessness is also more prevalent in single-parent households, increasing the risk of poverty (Thévenon et al., 2018^[17]). In Canada, children at the intersection of parental joblessness and single parenting are the most exposed to poverty (90%), whereas OECD averages show lower rates across all jobless households (71% for both single-parent jobless households and 66% for two-parent jobless households).

2.3. Poverty is higher in minority communities

Children’s exposure to poverty also varies widely among community groups in Canada, including children from Indigenous community and from racialised groups. In Canada, the term “Indigenous peoples” refers to First Nations people, Métis, and Inuit. In 2021, Indigenous people accounted for 5% of the Canadian population, or 1.8 million people (Statistics Canada, 2022^[18]). Indigenous people in Canada continue to face significant intersecting barriers, such as intergenerational trauma of colonization and discrimination, combined with a lack of infrastructure in many communities, inadequate housing conditions, crowded housing, and more limited access to education and employment opportunities, often resulting in low income.

Reflecting the overall trend of poverty in Canada, the poverty rate among children from Indigenous communities and racialised groups has decreased from 2015 to 2020. However, these children are still more likely than others to experience poverty. According to the 2021 Census of Population, 37.4% of children below age 18 from First Nations people living on reserve, 24% of First Nations’ children off reserve, 19.4% of Inuit, and 15.2% of Métis communities were estimated to be living in poverty (measured with the Low Income Measure), compared to 10.8% of the non-Indigenous population (Statistics Canada, 2022^[18]; Campaign 2000, 2022^[19]). Additionally, Indigenous children represented more than half of those in foster care (53.8%), while they accounted for 7.7% of all Canadian children (Statistics Canada, 2022^[20]).

The number of racialised peoples¹ in Canada is growing. From 2001 to 2021, their number increased from 3.85 million to 8.87 million (Hou, Schimmele and Stick, 2023^[21]). Most racialised people are immigrants, but an increasing number are Canadian born. Few racialised people have been in Canada for more than two generations. In 2021, racialised groups accounted for one in four people in Canada. The three largest racialised groups in Canada were South Asian (2.6 million people), Chinese (1.7 million people) and Black (1.5 million people) Canadians. Together, the three groups represented over 16.1% of Canada’s total population.

As for other population groups, the poverty rate for all racialised groups declined from 2015 to 2020. However, children from most racialised groups are more likely to be poor (15.1%) than those not racialised (10.8%) (Campaign 2000, 2022^[19]). Some racialised groups are also more at risk of poverty than others. For example, more than 26% of children from Arab communities are poor, compared with 10.8% of children from South Asian communities, whose poverty rate is no different from that of non-racialised children (Campaign 2000, 2022^[19]).

¹ In Canada, the term “racialised minority” usually refers to non-white people. The word “racialized” stresses the fact that race is neither biological nor objective but is a concept which is societal in origin.

2.4. Poor children in Canada experience lower levels of well-being but relatively fair educational outcomes

Child poverty is not just a matter of low income; it affects children's material living conditions and the outcomes they achieve in different areas of life (Clarke and Thévenon, 2022^[11]). A related effect of income poverty is to increase the risk of experiencing food insecurity. In 2021, 5.8 million Canadians in the ten provinces, including nearly 1.4 million children under 18, lived in lower income households affected by food insecurity (Li, Fafard St-Germain and Tarasuk, 2022^[22]). This means that 1 in 5 children resided in a household struggling to afford food due to financial constraints. Of these children, almost 1 million were in moderately or severely food-insecure households. Tackling children's food insecurity is important because the evidence shows that it affects diet quality and increases the risk of exhibiting health issues such as hyperactivity, inattention, poor academic achievement post-school productivity and earnings (Bütikofer, Mølland and Salvanes, 2018^[23]), and heightened risk of emotional distress and of mental health problems in adolescence and adulthood (Faught et al., 2017^[24]; Lu et al., 2019^[25]; Ryu et al., 2022^[26]; O'Neil et al., 2014^[27]).

Housing challenges disproportionately impact children in vulnerable communities. For instance, First Nations, Inuit, and Métis peoples are more prone to experiencing various forms of homelessness, whether visible or concealed. Shelters catering to survivors of intimate partner violence from these communities have highlighted the scarcity of stable and permanent housing as a primary issue faced by victims. As a result, First Nations, Inuit, and Métis women and children make up a greater proportion of shelter residents for abuse survivors compared to their representation in the general population (Maxwell, 2022^[28]; Quayum, Love and Hunter, 2024^[29]).

Poverty also contributes to the prevalence of certain adolescent health issues, which are more prevalent in Canada compared to the OECD average. For example, nearly a quarter of children aged 11 to 15 were overweight or obese in 2017-18, compared to a fifth on average across the OECD (2022^[30]). Children from less-affluent families face significantly higher risks, with almost 29% of children in the lowest tertile being overweight or obese. Additionally, the percentage of children reporting fair or poor health is higher in Canada (16.5%) than the OECD average (13.7%), and children from less affluent families are more likely to report poor health (OECD, 2022^[31]).

Disparities in health-related behaviours, such as daily exercise, also exist based on families' socioeconomic status. While more children in Canada meet the WHO-recommended daily exercise guidelines compared to the OECD average, the disparity in exercise participation between low and high socioeconomic status families is greater in Canada. Socioeconomic gaps were also notably higher than OECD averages across several other life domains, including the proportion of children regularly engaged in home learning activities, involved in voluntary work, reporting problematic social media use, and reporting being victims of cyberbullying (OECD, 2022^[31]).

Socio-economically disadvantaged children have a harder time succeeding in school. Across OECD countries, they tend to have higher risks of grade repetition and higher chances of opting for vocational programs over general ones in upper secondary education. They also exhibit lower expectations of attaining post-secondary degrees. As they finish compulsory education, these students demonstrate lower rates of enrolment in higher education, decreased completion rates, and poor outcomes in the labour market. (OECD, 2023^[32]). However, results from the 2022 Programme for International Student Assessment (PISA) show that Canada's education system can be considered highly equitable, having reached above-OECD average level of inclusion (more than 55% of students scored at or above proficiency Level 2 in mathematics, reading and science) and level of fairness (less than 11% of variance in mathematics performance is accounted for by student socio-economic status) (OECD, 2023^[32]). Canada has the third highest average student socio-economic status across all OECD countries. It also has the fourth narrowest range of socio-economic inequality, meaning that the difference between the socio-

economically most advantaged students (90th percentile) and most disadvantaged students (10th percentile) is smaller in Canada than in most OECD countries. The percentage of students with a low mathematics proficiency level (i.e. below level 2²) is overall lower in Canada than the OECD average, including among students from the bottom quarter of the PISA index of economic social and cultural status. The share of academically resilient students in mathematics, i.e. the share of students from the bottom quarter of the socio-economic status scale but who score in the top quarter of their country, is slightly higher in Canada (around 13%) than the OECD average (11%). However, mathematics performance declined more in disadvantaged students than in advantaged students between 2018 and 2022. The factors behind this trend remain unexplained.

² In PISA 2022, the mathematics scale is divided into eight proficiency levels. Proficiency Level 2 is considered the baseline level of proficiency students need to participate fully in society. At this level, students begin to demonstrate the ability and initiative to use mathematics in simple real-life situations. Students who do not attain baseline Level 2 are referred to in this report as “low performers. At Level 2, students can recognise situations where they need to design simple strategies to solve problems, including running straightforward simulations involving one variable as part of their solution strategy. They can extract relevant information from one or more sources that use slightly more complex modes of representation, such as two-way tables, charts, or two-dimensional representations of three-dimensional objects. Students at this level demonstrate a basic understanding of functional relationships and can solve problems involving simple ratios. They are capable of making literal interpretations of results.

3. What does childhood socio-economic disadvantage cost to Canadian economy?

Growing up in socio-economic hardship significantly impacts various aspects of children's lives. Children hailing from disadvantaged families often lag behind in skills development, leading to academic struggles and a departure from education with less knowledge and skills compared to their more privileged peers (OECD, 2022^[30]). The repercussions extend beyond academics, affecting children's physical health, mental well-being, and social-emotional development, influencing overall well-being (OECD, 2022^[30]). Unfortunately, children from disadvantaged backgrounds begin life at a disadvantage through no fault of their own (Box 1).

These early disparities not only affect children's current well-being but also cast a lasting shadow on their future opportunities and outcomes. Childhood socio-economic hardship, by impeding skill development and educational attainment, plays a pivotal role in shaping later employment prospects. While exceptions exist, adults with limited or no educational qualifications often face restricted job options. These difficulties are likely to increase in the near future with automation, the development of artificial intelligence and the green transition as employers will be seeking more highly skilled workers (OECD, 2023^[33]; Frenette and Frank, 2020^[34]). Youth employment faces heightened vulnerability to automation, potentially hindering those with limited skills from gaining early work experience and initiating the acquisition of essential "soft skills" such as critical thinking, co-ordination, social perceptiveness, active listening and complex problem solving that are necessary to navigate evolving job landscapes resulting from these transformations (RBC Future Launch, 2018^[35]). Additionally, childhood socio-economic status, partly through its impact on childhood health, emerges as a crucial determinant of adult health and the ability to engage in various activities without limitations.

Box 1 How do we measure the economic costs of childhood socio-economic disadvantage?

Child socio-economic status is a broad and multidimensional concept. Often measured using a combination of parental education, parental occupation, and household income or family/household possessions, childhood socio-economic status looks to reflect children's access to important economic and social resources and how this access compares to others around them. Childhood socio-economic disadvantage thus refers to a relative lack of access to important resources.

Childhood socio-economic status is measured using a composite index built on information from current adults on their home and family circumstances when they were young adolescents. For Canada, the social and economic resources available to children are measured through a composite index (the Index of Childhood Social and Economic Disadvantage, or ICSED) constructed from four variables built on

information from the LISA survey and the LISA Intergenerational Family Files on family economic resources when the respondents were 10 to 14 years old, but also the education level and labour market status of their parents (see details in Annex A - 48Methodology). For European countries, the index components include measures of material deprivation and household finances, parental education, and parental activity status, based on retrospective information of respondents' situation when they were children around age 14 (Clarke et al., 2022^[2]). Those in the bottom quintile within their country on this index are categorised as respondents who have grown up in socio-economic disadvantage.

At the adult outcome stage, three key outcome measures are used: employment status, annual labour earnings, and self-reported health and activity limitation status. Annual labour earnings are measured as the sum of employee cash income and cash benefits from self-employment across the entire income reference year (2017 for Canada and 2018 for OECD European countries) with *no* adjustment for working hours, second jobs, or periods of non-employment across the year. We do this to avoid selecting out workers in insecure, intermittent, or seasonal employment. In line with our earnings variable, we measure employment status using a dummy variable corresponding to the income reference year (2018) in its entirety, with the variable set to one if the respondent reports working (full-time or part-time) as either an employee or as self-employed in at least one of the twelve reference months. Lastly, we measure self-reported health and activity limitation status using the Health and Activity Limitation Index (HALex) – a composite measure initially developed by the U.S. Centers for Disease Control and Prevention (Erickson, 1998^[36]) to measure health-related quality of life at population level. The HALex varies between 0 and 1, with 1 denoting a year in full health without limitation and 0 a year lived in a health state viewed as equivalent to death. It can be interpreted as measuring for each respondent the percentage of the relevant survey reference year that is considered to be lived in full health, akin to a quality adjusted life year (QALY).

There are multiple mechanisms through which childhood socio-economic disadvantage may affect later adult outcomes. Education and skill development is perhaps the most widely discussed route, but other factors, including health and patterns of family formation, may play a role too. In Clarke et al. (2022^[2]), we look to explore not just the overarching link but also the pathways and mediators through which childhood disadvantage may influence adult outcomes. The included mediator measures include educational attainment (measured by upper-secondary education attainment), lifetime work experience (measured by actual-to-potential lifetime work experience greater than 60%), partner and parent status (measured, respectively, by the presence of a partner and of children in the household) and, for our labour market outcomes, also health and activity limitation status (as measured by the HALex).

We explore associations between childhood disadvantage (measured by the ICSES), our mediators, and our three key outcomes using generalized Structural Equation Modelling (SEM). Estimation for our annual labour earnings and HALex outcome variables is conducted using linear regression, and for our employment status variable using logistic regression. Our primary comparison is between respondents in the first (bottom, or most disadvantaged) and the third (middle) quintile on the ICSES, on the basis that middle quintile respondents are representative of those who experienced “average” childhoods within their given country. We estimate separate two-stage models for men and women and for each of our 27 covered countries.

Source: Clarke et al. (2022^[2]), “The economic costs of childhood socio-economic disadvantage in European OECD countries”, *OECD Papers on Well-being and Inequalities*, No. 9, OECD Publishing, Paris, <https://doi.org/10.1787/8c0c66b9-en>.

Securing equal opportunities for every child, irrespective of their background, is primarily a matter of fairness and equity. None of us has control over the circumstances into which we are born, and discrepancies in outcomes attributed to factors beyond our control, such as family backgrounds, are widely perceived as unjust by citizens in OECD countries (Ciani and Balestra, 2022^[37]).

Apart from considerations of fairness, there are additional concerns regarding the unequal opportunities accessible to children from socio-economically disadvantaged backgrounds. Social cohesion is one such concern. Societies that exhibit little prospect for advancement can cultivate sentiments of exclusion and dissatisfaction among disadvantaged groups (OECD, 2018^[10]). Another concern is economic prosperity. Diminished employment and earnings among adults from disadvantaged backgrounds signify untapped talent and unrealized potential output, while compromised health signifies diminished well-being. Public finances are likely to be impacted as well, with reduced output potentially leading to decreased tax revenues for governments, and lower incomes potentially requiring increased social benefits to support those affected.

3.1. Adult employment penalties

Figure 4 summarises the estimated associations between childhood disadvantage and adult employment status. It shows the total estimated percentage point difference in the probability of employment between individuals in the first (bottom) and third (middle) quintiles on the Index of Childhood Socio-Economic Status, other things being equal, by country. To illustrate the major pathways, the figure also disaggregates this total association into indirect associations (i.e. the portions of the total association that run through our mediators) and the estimated “direct” association (i.e. the portion of the total association that cannot be explained by our included mediators). As touched on below, the latter (the “direct” effect) is best interpreted as reflecting an “unexplained” association between childhood disadvantage and adult employment status and includes the potential role of un-modelled factors such as the development of social and emotional skills (Box 2).

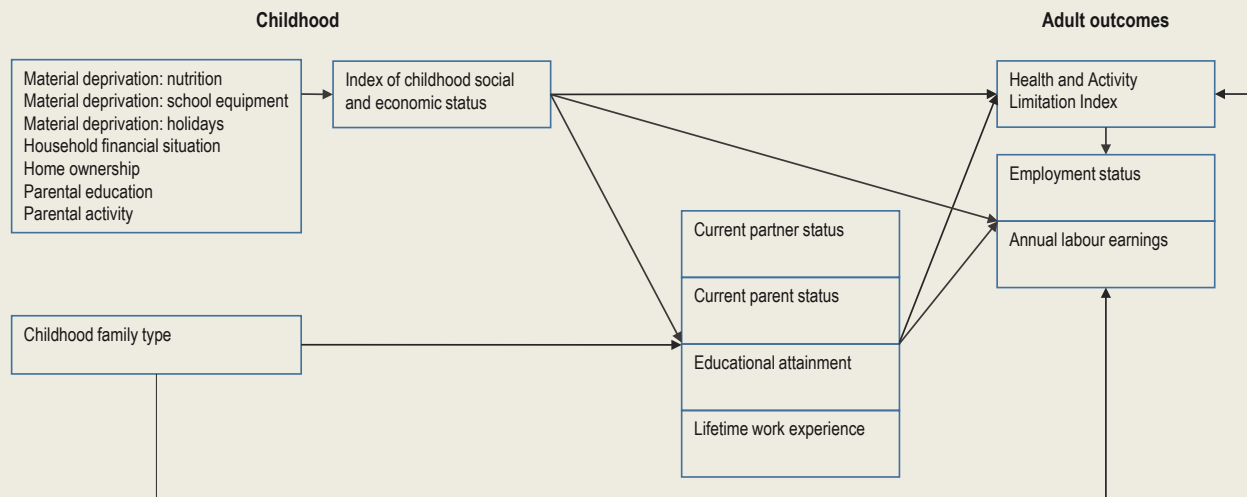
Box 2. Pathway analysis of the impact of childhood circumstances on adult outcomes

In order to examine links between retrospective childhood circumstances and adults outcomes, we separate our variables of interest into those relating to respondents’ childhoods, those relating to their current (adult) outcomes, and those relating to a range of experiences and characteristics that develop throughout childhood and into adulthood that potentially mediate associations between childhood circumstances and adult outcomes. Figure 4 provides a graphical representation of the approach and the modelled potential pathways, with further explanation given below.

Figure 4 display the multiple mechanisms and pathways through which early life circumstances may affect later adult outcomes. It highlights that childhood disadvantage often limits educational attainment, which in turn affects both labour market opportunities and health outcomes in adulthood. Work experience, partnership status, parenthood, and health also play significant roles in shaping adult outcomes. For instance, limited work experience acts as a barrier to employment, while entering into a partnership or having children can mediate associations between childhood disadvantage and labor market outcomes. Moreover, health status is a crucial determinant of labour market outcomes, with poor health often hindering employment. While health can be influenced by employment, it is not included as a mediator in the estimation of the links between childhood disadvantage and health due to technical reasons. Instead, lifetime work experience is considered to capture its potential impact on health outcomes.

Figure 4. Childhood socio-economic status, adult outcomes and our modelled potential pathways

Graphical representation of the modelled pathways between childhood socio-economic status and adult employment and health outcomes



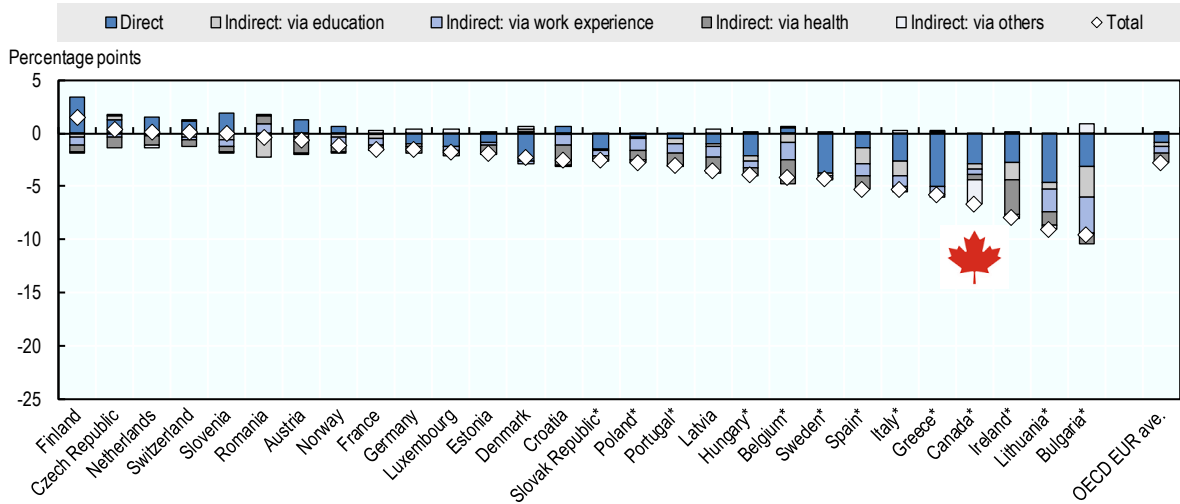
Note: The figure illustrates the modelled pathways only; additional and/or alternative pathways may exist. Examples include the potential influence of current employment and earnings on health outcomes, which partly for technical reasons we do not model explicitly.

The estimates in Figure 5 show negative associations between childhood social and economic disadvantage and employment in many countries, especially for women. In Canada, men and women in the first (bottom) quintile on the ICSES are, respectively, 7 and 8 percentage points less likely to have been employed in the income reference year than individuals in the third (middle) quintile, all else equal. This is well above the average penalty estimated for the covered European OECD countries for men (3 percentage points) and women (6 percentage points). For men, the largest penalties linked to childhood disadvantage are in Ireland – where men in the first (bottom) quintile on the ICSES are 8 percentage points less likely to be in employment than those in the third (middle) quintile – and Lithuania (9 percentage points). For women, the largest penalties are in Spain (16 percentage points) and Ireland (21 percentage points).

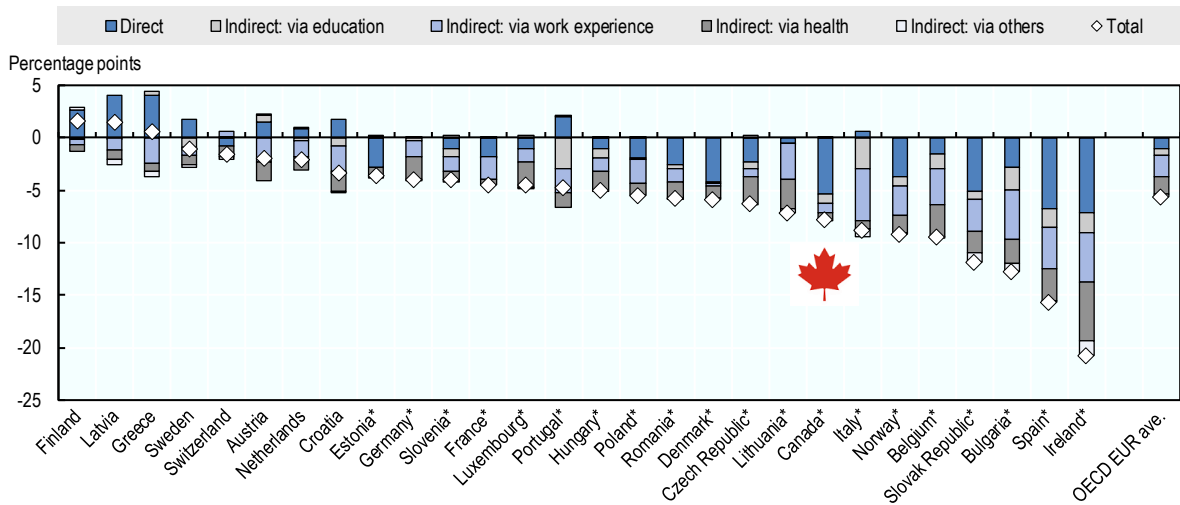
Figure 5. Childhood disadvantage is negatively associated with employment in many countries, especially for women

Estimated percentage point difference in the probability of employment between individuals in the first (bottom) and third (middle) quintiles on the Index of Childhood Socio-Economic Status, by sex and country, with decomposition into direct and indirect associations, 2018

Panel A: Men



Panel B: Women



Note: Summary of estimates from country- and sex-specific two-stage GSEM mediation models with five-year age group fixed effects. Results for employment status are estimated using (weighted) logistic regression. Shown results are based on average marginal effects calculated across the (weighted) sample. In countries marked with an *, the total association is statistically significant at $p < 0.1$. Significance tests are performed at the mean average values of control variables. Indirect associations are approximated using the Karlson, Holm, and Breen (KHB) decomposition method on the second stage regressions. “Employment” refers to respondents who report working (full-time or part-time) as either an employee or self-employed as their main activity status in at least one of the twelve months in the income reference period (2018). For Canada, “employment” refers to respondents who report positive earnings in personal income tax records for the income reference year (2017). “Indirect: via others” refers to the sum of the indirect associations via partner status and the presence of at least one child in the household. See Online Annex Tables A3.1-A3.2 for full underlying results. “OECD EUR ave.” refers to the unweighted average across the 24 covered European OECD countries. It excludes Bulgaria, Croatia and Romania. Estimates are based on population from age 25 to 49 for Canada, and to 59 years old for European countries.

Source: OECD calculations based on the European Union Statistics on Income and Living Conditions (EU-SILC) survey 2019; LISA for Canada.

Much of the overall association between childhood disadvantage and employment runs indirectly through mediators like health status and lifetime work experience (Figure 5). Childhood disadvantage is frequently negatively associated with education, health and the probability of having a fuller employment record, all of which in turn decrease the probability of employment in the income reference year. In Canada, lower outcomes in education, labour market experience, and health account for 8%, 7%, and 8%, respectively, of the employment rate penalty for men. For women, the corresponding figures are 11%, 13%, and 8%. The contribution of work experience to the employment rate penalty experienced by women who grew up with socio-economic disadvantage is significant and greater than that for men. This suggests that these women have more interrupted careers and potentially fewer opportunities to combine work and family compared to their counterparts without such childhood disadvantage.

However, in Canada as in several other countries (e.g. Greece, Ireland, Spain), there are also non-negligible “direct” associations between childhood disadvantage and employment – that is, associations between being in the bottom ICSES quintile and employment that hold even after accounting for our selected mediators. Importantly, these associations are likely to be “direct” in a statistical sense only – the statistical association runs directly between childhood disadvantage and employment status, rather than indirectly through our included mediators – and are best interpreted as capturing “unexplained” associations between disadvantage and employment that run through pathways not modelled here. In Canada, the proportion of differences in employment rates not explained by the aforementioned mediators is 43% for men and over 68% for women.

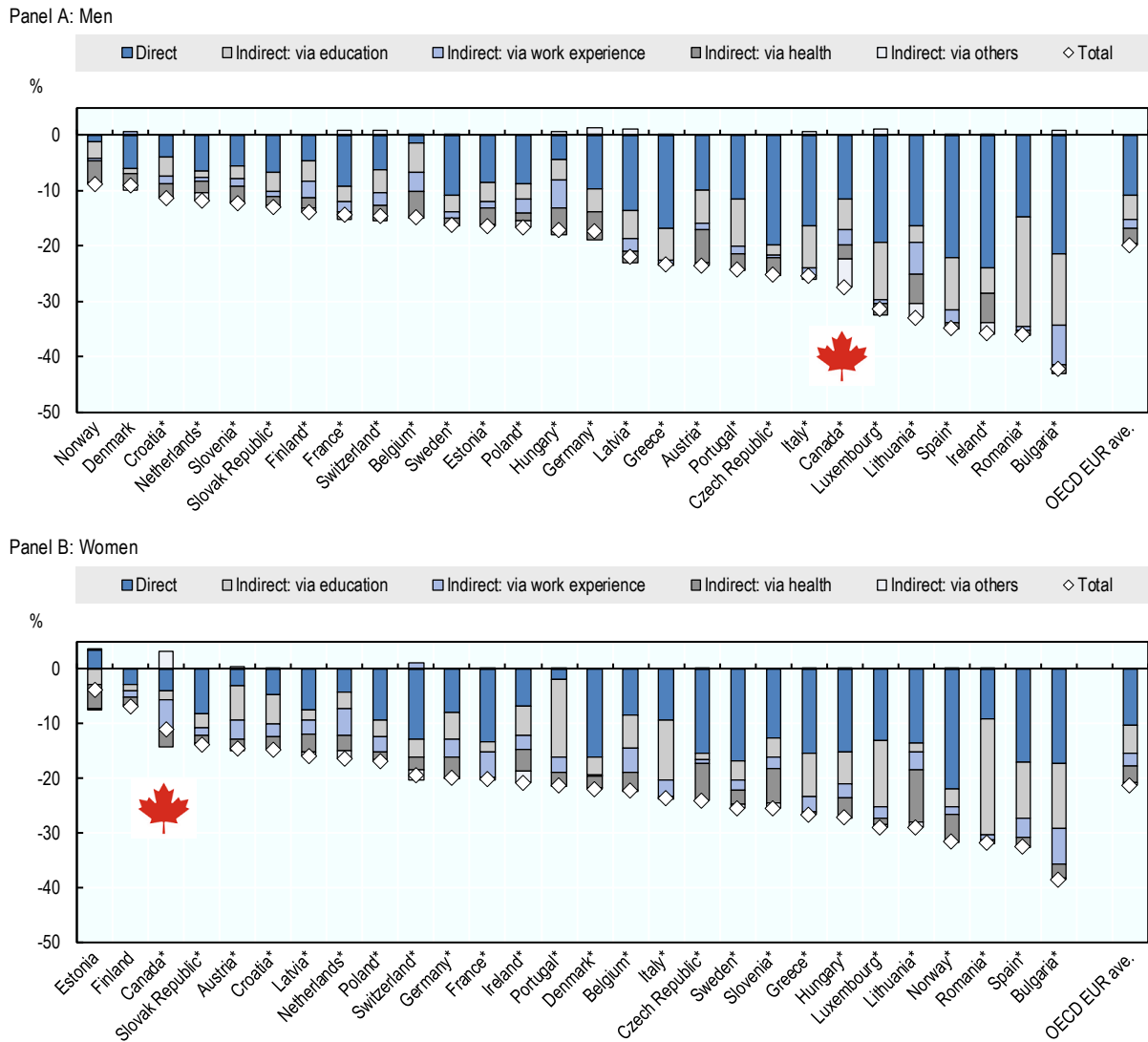
Figure 6 summarises the estimated associations between childhood disadvantage and annual labour earnings. It shows the estimated percentage difference in annual labour earnings between individuals in the first (bottom) and third (middle) quintiles on the Index of Childhood Socio-Economic Status, all other things being equal, with disaggregation into “mediated” and “unexplained” (indirect) associations. These earnings penalties result from a combination of lower wages and salaries and reduced working time. As outlined in the methodological annex, the earnings variable captures total labour earnings (both employee and self-employment earnings) among individuals who reported positive earnings in Canada during the income reference period (2017). For European countries, earnings are measured for those working for at least one month during the income reference period (2018). As a result, differences in earnings between individuals in the first and third quintiles on the ICSES reflect not just differences in occupations and wages but also potential differences in working hours and periods of non-employment.

Associations between childhood social and economic disadvantage and adult annual labour earnings are clear and large. In Canada, workers who experienced a disadvantaged childhood tend to have lower incomes than those in the middle quintile of our measure of childhood socio-economic status, with a difference of 27% for men and 11% for women. This contrast is higher than the average in OECD European countries for men (20%) and lower for women (21%). Yet, in several countries, the earnings penalties associated with childhood disadvantage reach over 30%, with the largest penalties in Bulgaria (42% for men, and 39% for women).

Much of the overall association between childhood social and economic disadvantage and annual earnings works through the envisaged mediators (Figure 6). Education plays the strongest role: in Canada, reduced education accounts for a 5 percentage-point decrease in annual labour earnings for bottom-ICSES-quintile men (about 20% of the overall effect of being in the bottom quintile), and a 1.7 percentage point decrease for bottom-ICSES-quintile women (about 15% of the overall association). Education is a particularly important mediator for women in Portugal (14 percentage points) and for both men and women in Romania (20 and 21 percentage points, respectively). Health status is also important, accounting for about 3 percentage points of the earnings penalty associated with being in the bottom quintile on the ICSES for both men and women (about respectively 10% and 29% of the overall association for respectively men and women in Canada).

Figure 6. Associations between childhood disadvantage and adult earnings are often large

Estimated percentage difference in annual labour earnings between employed individuals in the first (bottom) and third (middle) quintiles on the Index of Childhood Socio-Economic Status, by sex and country, with decomposition into direct and indirect associations, 2018



Note: Summary of estimates from country- and sex-specific two-stage GSEM mediation models with five-year age group fixed effects. Results for (log) annual labour earnings are estimated using (weighted) linear regression. Estimates are expressed as $\exp(b)-1$ (i.e. as percentage differences) for ease of interpretation. In countries marked with an *, the total association is statistically significant at $p < 0.1$. Significance tests are performed at the mean average values of control variables. “Employed” refers to respondents who report working (full-time or part-time) as either an employee or self-employed as their main activity status in at least one of the twelve months in the income reference period (2018). “Annual labour earnings” refers to the sum of employee cash (or near cash) income and cash benefits or losses from self-employment in the income reference year. Respondents reporting zero or negative earnings are excluded. “Indirect: via others” refers to the sum of the indirect associations via partner status and the presence of at least one child in the household. See Online Annex Tables A3.1-A3.2 for full underlying results. “OECD EUR ave.” refers to the unweighted average across the 24 covered European OECD countries. It excludes Bulgaria, Croatia and Romania. Estimates are based on population from age 25 to 49 for Canada, and to 59 years old for European countries. Source: OECD calculations based on the European Union Statistics on Income and Living Conditions (EU-SILC) survey 2019. LISA for Canada.

3.2. Adult health penalties

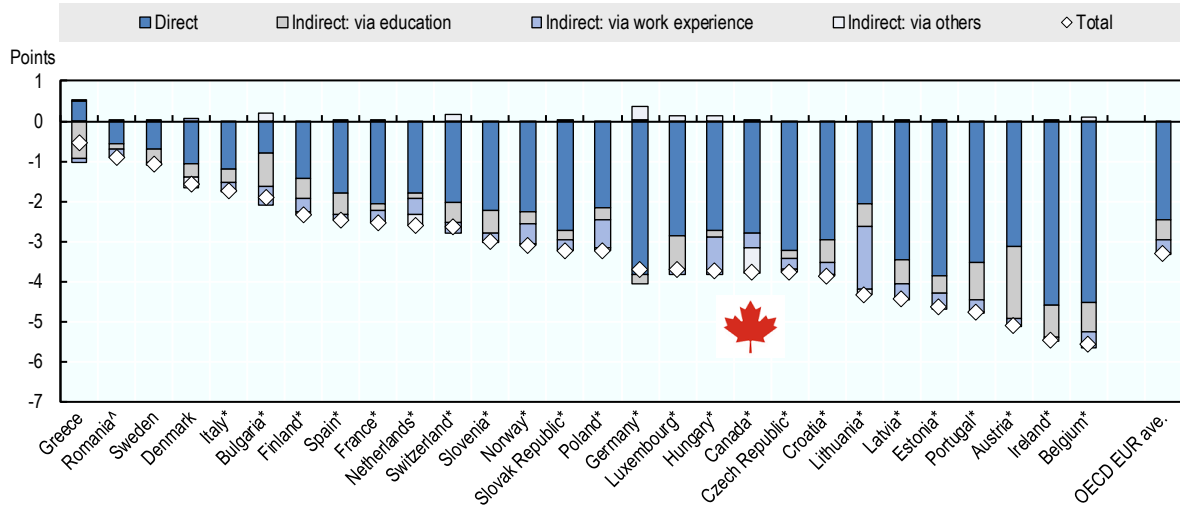
Figure 7 shows important associations between childhood social and economic disadvantage and adult health in most countries as measured by the Health and Activity Limitation Index (HALex). In Canada, men and women in the first (bottom) quintile on the ICSES score, respectively, 4 and 5 percentage points lower on the Health and Activity Limitation Index than individuals in the third (middle) quintile on the ICSES, which is slightly above the average in OECD European countries. This is equivalent on average to a bit more than about a two-week per year reduction in time lived in full health without limitation. For men, among the covered OECD countries, the largest estimated health penalties associated with childhood disadvantage are in Ireland (5.5 percentage points) and Belgium (5.6 points). For women, the largest health penalties are in Slovenia (6.3 percentage points) and Lithuania (6.4 points). The smallest points are typically found in Southern European countries (e.g. Italy and Greece) and Nordic countries (e.g. Finland and Sweden), plus also France for women -the penalty being below 2 points in all these countries.

In most (but not all) of the covered OECD countries, the health penalties associated with childhood social and economic disadvantage are larger for women than for men. This is consistent with existing studies showing that links between childhood socio-economic status and later health are often stronger for women (Flores and Kalwij, 2014^[41]), as well as studies that find that low (current) socio-economic status has a particularly damaging effect on women's (self-reported) health (Roxo, Bamba and Perelman, 2021^[38]).

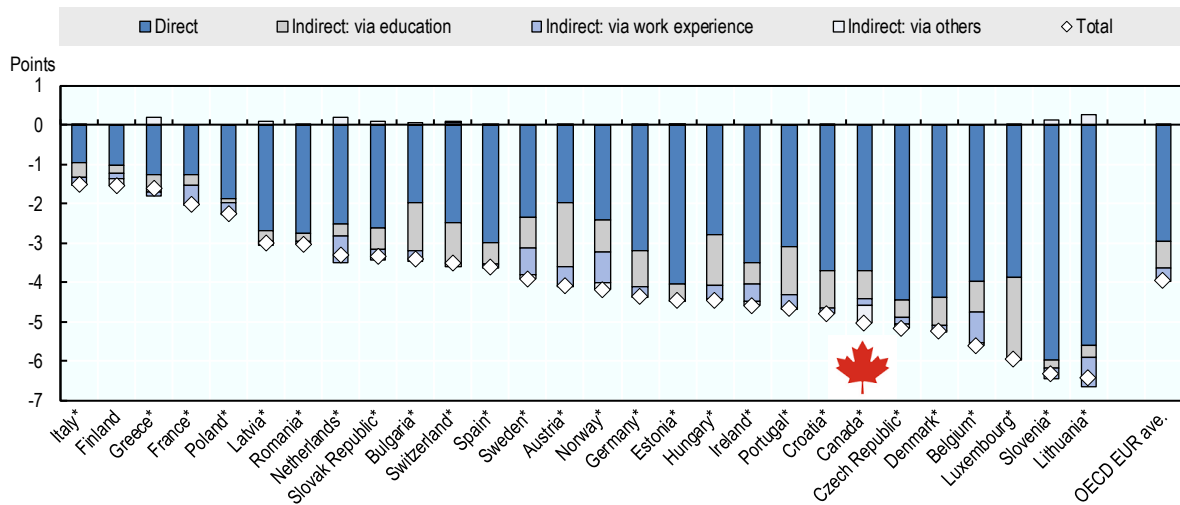
Figure 7. Childhood social and economic disadvantage is associated with poorer self-reported health and activity limitation outcomes

Estimated percentage point difference on the Health and Activity Limitation Index between individuals in the first (bottom) and third (middle) quintiles on the Index of Childhood Socio-Economic Status, by sex and country, with decomposition into direct and indirect associations, 2019

Panel A: Men



Panel B: Women



Note: Summary of estimates from country- and sex-specific two-stage GSEM mediation models with five-year age group fixed effects. Results for the Health and Activity Limitation Index are estimated using (weighted) linear regression. Estimates are multiplied by 100 to ease interpretation. In countries marked with an *, the total association is statistically significant at $p < 0.1$. Significance tests are performed at the mean average values of control variables. ^: No test available. The Health and Activity Limitation Index is a composite measure of health-related quality of life running from zero to one, with one denoting a year lived in full health without limitation and zero a year of life lived in a health state viewed as equivalent to death. “Indirect: via others” refers to the sum of the indirect associations via partner status and the presence of at least one child in the household. See Online Annex Tables A3.1-A3.2 for full results. “OECD EUR ave.” refers to the unweighted average across the 24 covered European OECD countries. It excludes Bulgaria, Croatia and Romania. Estimates are based on population from age 25 to 49 for Canada, and to 59 years old for European countries.

Source: OECD calculations based on the European Union Statistics on Income and Living Conditions (EU-SILC) survey 2019; LISA for Canada.

As with employment and earnings, part of the overall association between childhood social and economic disadvantage and adult health is indirect and runs through the identified mediators (Figure 7). Education plays the largest role in many countries but: In Canada, disadvantage-driven differences in education accounts for a negligible part of the percentage point decrease in the HALex for men (less than 0.1% of the overall association between childhood disadvantage and adult health), but for about 14% of the overall association for women (equivalent to a 0.7 percentage point decrease in the HALex). Lifetime work experience also seems to have an important mediating influence in some countries, including in Canada, possibly reflecting the links between employment, income, and health outcomes. This association represents more than 9.6 percent of the total impact of childhood disadvantage on perceived health for men and 3.6 percent for women.

However, most of the association between childhood social and economic disadvantage and adult health is not mediated by these factors: in Canada as on average in European OECD countries, for both men and women, about three-quarters of the overall difference in scores on the HALex between individuals in the bottom and the middle quintile on the ICSES cannot be accounted for by our included mediators. Part of the explanation may be that socio-economic living conditions in childhood have a direct influence on child health, which, in addition to other factors that add up throughout the life course, is a significant predictor of adult (and old-age) health (Case, Lubotsky and Paxson, 2002^[39]; Flores and Wolfe, 2020^[40]; Pakpahan, Hoffmann and Kröger, 2016^[41]).

3.3. The total monetary value of the labour market and health penalties associated with childhood disadvantage

Figure 8 summarises the estimated total value of the labour market and health penalties associated with childhood social and economic disadvantage. As outlined in Section 1.2, these estimates are calculated by summing the monetised labour market and health penalties associated with childhood disadvantage (Box 3).

Box 3 How the health and labour market penalties associated with childhood disadvantage are monetised?

The monetary value of any labour market penalties associated with childhood socio-economic disadvantage is estimated using an approach that broadly follows Blanden, Hansen, and Machin (2008^[13]; 2010^[14]). For any employment penalties, the total lost employment is calculated by multiplying the estimated percentage point reduction in employment associated with childhood disadvantage by the 20% of the (25- to 59-year-old) population that has grown up in relative disadvantage. This lost employment is then monetised by assuming that had these individuals been in employment, they would have earned at the 25th percentile of their country- and sex-specific earnings distribution. For any earnings penalties, the value of lost earnings per worker is calculated by multiplying the earnings penalty associated with childhood disadvantage by (country- and sex-specific) mean annual labour earnings for workers in the middle (third) quintile on the ICSES. We then aggregate this monetised earnings penalty across all workers who experienced disadvantage in childhood.

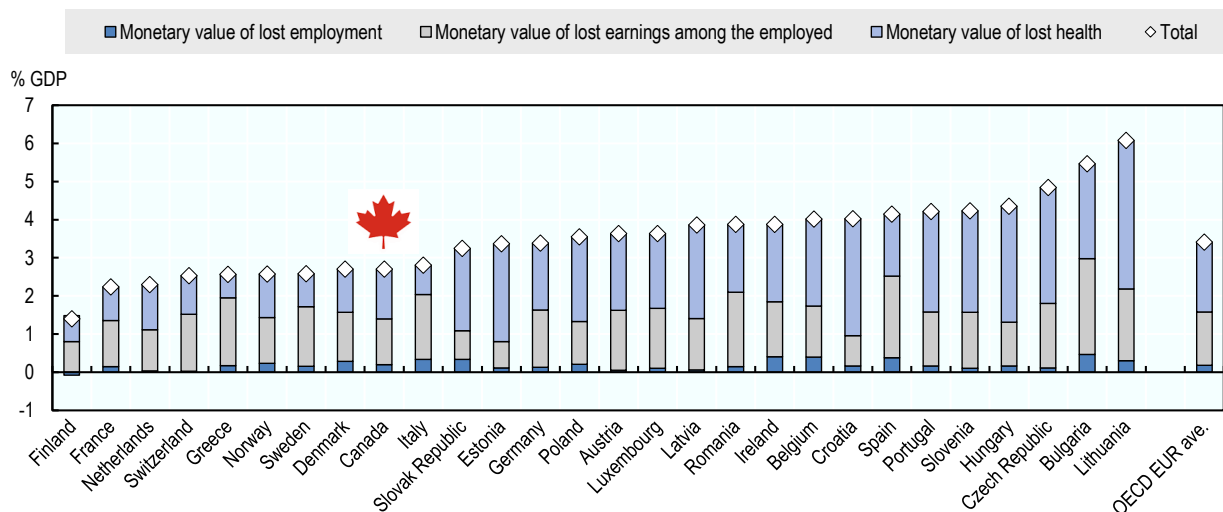
For any health penalties associated with childhood disadvantage, we follow an approach broadly in line with Holzer et al. (2008^[42]). Taking advantage of the fact that our measure of health and activity limitation status (the HALex) is analogous to a quality-adjusted life year, the monetary value of any health penalties associated with childhood disadvantage is estimated by summing the estimated health penalty across the population who experienced childhood disadvantage to arrive at an estimate for total

“lost” quality-adjusted life years. We then assign each of these quality-adjusted life years a country-specific monetary value based on Holzer et al.’s estimate of USD (2006) 200 000 for the annualised value of a statistical life year, with adjustments for inflation and for differences in income levels between countries.

Source: Clarke et al. (2022^[2]), “The economic costs of childhood socio-economic disadvantage in European OECD countries”, *OECD Papers on Well-being and Inequalities*, No. 9, OECD Publishing, Paris, <https://doi.org/10.1787/8c0c66b9-en>.

Figure 8. On average across Canada and European OECD countries, historic childhood disadvantage costs the equivalent of 3.4% of GDP in lost employment, earnings and health

Estimated total monetary value of lost employment, earnings, and health for 25- to 49-year-olds (59 years old for European countries) who grew up in relative disadvantage based on the Index of Childhood Socio-Economic Status, % of GDP, by country, 2018-19, 2017 for Canada



Note: “OECD EUR ave.” refers to the unweighted average across the 24 covered European OECD countries. It excludes Bulgaria, Croatia and Romania.

Source: OECD calculations based on the European Union Statistics on Income and Living Conditions (EU-SILC) survey 2019; LISA for Canada.

Considered together, the overall value of the labour market and health penalties associated with childhood disadvantage is often large (Figure 8). In Canada, the overall value of lost employment, earnings, and health comes to the equivalent of 2.7% of GDP, which is well below the average at 3.4% of GDP for European OECD countries; in other words, through weaker health, reduced employment, and lower earnings, historic childhood disadvantage among 25- to 49-year-olds is costing Canada the equivalent of 2.7% of GDP each and every year. Half of this overall cost comes from the value of lost health (48%), and most of the other half comes from lost earnings among the employees. However, lost earnings for women are comparatively low, which is one of the major reasons for the lower total cost of childhood socio-economic disadvantage in Canada. It is important to note that the relatively low penalty suffered by women as a result of socio-economic disadvantage in childhood may reflect the fact that even women who have not experienced such disadvantage are in relatively low-paid jobs. This is suggested by the gender wage gap, which in Canada is one of the highest among OECD countries (OECD, 2024^[43]).

These economic costs underline the importance of tackling childhood social and economic disadvantage. Ensuring all children start life on an equal footing with full and equal opportunities is first and foremost a matter of equity and fairness. But as the numbers in Figure 8 show, there is also an economic case for

investing in changing the odds for disadvantaged children. The potential gains from reducing current losses in economic output and welfare are substantial.

OECD countries are often already taking many initiatives in many policy areas to improve children's lives, and the amounts involved are already large. For example, Canada spends on average around 3.2% of GDP on children's education, and around 1.9% to support families with children. Not all of these expenditures are specifically targeted at disadvantaged children, and therefore cannot be seen as the resources put already on the table to tackle the costs associated with childhood disadvantage. However, the results in Figure 8 show that despite the many efforts already made, further steps could be taken to improve the situation of socio-economically disadvantaged children, and that these new steps could lead to economic gains, should these efforts lead to higher levels of adult human capital.

4. Policy discussion – Conclusion

As demonstrated in the section 2 of this paper, child poverty has significantly decreased in Canada, particularly since the mid-2010s. This decline is evident in relative terms, with fewer children now experiencing low incomes compared to the median standard of living for families. Additionally, the reduction is observed in absolute terms, as illustrated by the notable decline in the anchored child poverty rate showing the proportion of children living below the poverty line established in 2015.

A large part of this fall is due to the poverty reduction policies that have been stepped up since the mid-2010s (Box 4). However, not all children have benefited from these policies to the same degree, and more can be done to ensure that children from the most vulnerable groups can also be lifted out of poverty. Doing so would ensure that socio-economic disadvantages experienced in childhood do not translate into lifelong disadvantages, particularly in the areas of health and employment.

A comprehensive review of how current policies do or do not reach the most vulnerable groups of children and respond to their needs would be necessary to identify the full range of actions that could be taken to tackle child poverty. Nevertheless, the available evidence suggests a few areas where policies could be made more effective in supporting the most disadvantaged. For instance, efforts could be enhanced to increase the effectiveness of financial support for low-income families with children and better protect them from food insecurity. The development of high-quality care and education services for young children could also be further supported, as it is an important factor in enabling parents (especially mothers) to remain in employment, reconcile work and family life, and is also an important lever for enhancing the educational attainment of socio-economically disadvantaged children.

Box 4. Opportunity for All – Canada's First Poverty Reduction Strategy

On August 21, 2018, the Government of Canada released Opportunity for All: Canada's First Poverty Reduction Strategy, which aims to coordinate efforts across federal, provincial, and territorial governments to address poverty and social exclusion. Among its main targets, it includes a 20% reduction in poverty by 2020 and a 50% reduction in poverty by 2030 based on Canada's Official Poverty Line, which, relative to 2015 levels, would lead to the lowest poverty rate in Canada's history. "Opportunity for All" involves actions and investments that span across the federal government to support the social and economic well-being of all Canadians, including children. Investments cover areas such as housing, clean water, health, transportation, early learning and child care, and skills and employment, which will help address multiple dimensions of poverty. The different intervention areas covered by the strategy include:

Income Support Programs. Canada has several income support programs aimed at helping low-income individuals and families meet their basic needs. These include the Canada Child Benefit (CCB), which provides monthly payments to eligible families to assist with the cost of raising children, and the Guaranteed Income Supplement (GIS), which provides additional income support to low-income seniors.

Employment and Training Programs: To improve employment opportunities for marginalised groups, Canada offers various training and employment programs. For instance, the Skills Development and Job Training programs provide funding for skills training and job placement services to help individuals secure employment.

Affordable Housing Initiatives: Housing affordability is a significant issue affecting low-income individuals and families. Canada has implemented various affordable housing initiatives, including the [National Housing Strategy](#) launched in November 2017, which aims to build and repair affordable housing units across the country, as well as to reduce homelessness and improve the availability and quality of housing for Canadians in need (Government of Canada, 2017^[44]). Targeted population groups include women and children fleeing family violence, Indigenous Peoples, seniors, people with disabilities, people dealing with mental health and addiction issues, veterans, recent immigrants (including refugees), racialised groups, LGBTQ2+ communities, and young adults. The federal government is collaborating with provinces, territories, and municipalities throughout Canada to dismantle local zoning barriers and establish conducive conditions for a swift augmentation of Canada's housing inventory.

Education and Skills Development: Access to education and skill development opportunities is crucial for breaking the cycle of poverty. Canada invests in education through programs such as the Canada Student Loans Program and grants for low-income students. Additionally, initiatives aimed at improving access to early childhood education and care help support families and promote child development.

Healthcare and Social Services: Access to healthcare and social services is essential for addressing poverty and promoting well-being. Canada's universal healthcare system ensures that all residents have access to essential healthcare services regardless of their income. Social services such as child care support, mental health services, and addiction treatment programs also play a role in supporting individuals and families in need. Parents and guardians may also be eligible from May 2024 to Canada Dental Benefit if they pay for dental care for a child under 12 years old who does not have access to a private dental insurance plan.

Community Support Programs: Community-based organizations and initiatives play a vital role in supporting individuals and families experiencing poverty. Canada funds various community support programs and services, including food banks, homeless shelters and community centers, to provide assistance and resources to those in need.

Statistics Canada has released an online dashboard of indicators in its "[Dimensions of Poverty Hub](#)" to track progress on many dimensions of poverty. The dashboard tracks, for example, the reduction in food insecurity levels, the attainment of skills required to get good jobs and the number of Canadians with enough savings to handle setbacks in their lives. These measures of poverty will help to monitor progress on the Poverty Reduction Strategy: living with dignity, having access to opportunity and remaining resilient in the face of adversity.

Source: Government of Canada (2022^[16]) and Employment and Social Development Canada (2018^[45]; 2021^[46]).

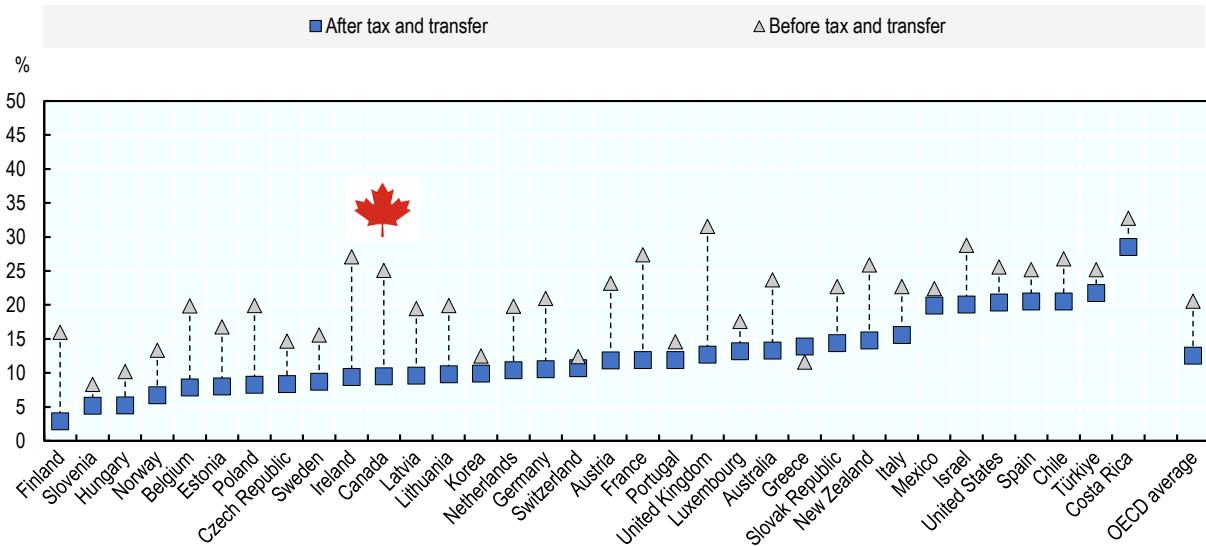
4.1. Enhancing benefits towards families most in needs

In Canada, the impact of income transfers on child poverty has more than doubled since 2015, when these transfers reduced the poverty rate by 30%, from 25% to 17% after transfers (Thévenon, 2018^[47]). In 2021, public income transfers contributed to massively attenuate the exposure of children to child poverty. The relative poverty rate is decreased by 62%, dropping from 25.1 percentage points before transfers to 9.5 after transfers (Figure 9). Only Finland and Ireland exhibit a greater relative reduction in the child

poverty rate after transfers, with child poverty rates being reduced by 82% and 65% respectively, while the OECD average is nearly half as much (39%).

Figure 9. In Canada, cash transfers result in a 70% reduction in relative child poverty.

Child relative income poverty rates (%), before and after tax and transfer, 0- to 17-year-olds, 2020 or latest available



Note: Income year data refer 2022 for Chile, Costa Rica and the United States; 2021 for Austria, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Estonia, France, Greece, Hungary, Ireland, Italy, Korea, Lithuania, Luxembourg, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain and the United Kingdom; 2020 for Germany, Switzerland and Türkiye.

Source: OECD Income Distribution Database, oe.cd/idd.

This increase in cash assistance has played an important role in reducing the number of children living on low incomes. This expansion largely followed the introduction of the [Canada Child Benefit](#) (CCB) in 2016, replacing the Child Tax Benefit, the National Child Benefit Supplement, and the Universal Child Care Benefit to provide an all-in-one federal government transfer aimed at helping low- to middle-income families with the cost of raising children (Canada Revenue Agency, 2023^[48]). The CCB provides monthly tax-free benefits to households with children under 18 years of age. It has been indexed since 2018 to adjust for the rising cost of living. The CCB may include the [child disability benefit](#) and any related [provincial and territorial child benefits](#)³. Compared to the former benefits, the CCB increased benefit levels, but also introduced more means testing, reducing the net benefits received by higher income families.

From July 2023 to June 2024, for families with less than CAD 34 863 in annual adjusted family net income, the CCB provides a maximum annual benefit of CAD 7 437 per child under the age of 6 and of CAD 6 275 per child aged 6 to 17. The CCB decreases gradually for families whose income exceeds CAD 34 863 and excludes the highest income families. From July 2023 to June 2024, the disability benefit amounts to an additional CAD 3 173 of annual benefit per eligible child, with a gradual reduction starting with families whose income exceeds CAD 75 537.

³ For example, the Ontario government offers additional financial support to families through programs such as the [Ontario Child Benefit \(OCB\)](#) – CAD 133.91 per month for each child under 18 years of age; the Quebec government provides its own child benefit programme called the [Quebec Family Allowance \(Allocation Familiale\)](#). This program supplements the federal CCB and provides additional financial assistance to families with children (CAD 243.58 per month with an additional CAD 86.5 for single-parent households).

However, many families in Canada remain income poor, as the income support provided by the Canada Child Benefit (CCB) has only been able to lift families with relatively low or moderate poverty gaps above the poverty threshold (Box 5). In contrast, its impact has been less effective for families experiencing deeper levels of poverty (Sarilo, 2021^[49]). The reasons put forward are twofold: 1) the CCB failed to provide sufficient financial support to ensure families with lower income can fully escape poverty, and 2) there are barriers⁴ preventing families from marginalised communities from accessing the benefit (Campaign 2000 & PROOF, 2022^[50]).

The CCB has helped to reduce exposure to certain forms of material deprivation, including food insecurity. However, not all children have benefited equally. Men et al (2023^[51]) estimated that receiving the additional Canada Child Benefit (CAD 724 on average) was linked to a 2.9 percentage points lower probability of experiencing food insecurity among recipients with children under 6 years of age (from 24.30% to 21.42%). The impact of this additional financial support on reducing the risk of food insecurity seemed more pronounced for families with low incomes, renters, and single-parent families. In single-parent families with children under 6, the reception of the CCB was associated with an estimated 6-percentage point lower probability of experiencing food insecurity. Despite these decreases, it is estimated that in 2021, almost 1.4 million children under 18 (i.e. 1 in 5 children) lived in households affected by food insecurity (Li, Fafard St-Germain and Tarasuk, 2022^[22]).

The Canada Child Benefit (CCB) could become a more effective tool in shielding low-income families from food insecurity and other forms of material deprivation by augmenting the amount paid to lower-income families and ensuring accessibility for marginalised families. This objective might be attainable without additional public finance burden by reallocating benefits from higher-income families, where the risk of food insecurity can be lower, to lower-income families. The available evidence suggests that increasing financial support for lower-income households could decrease the incidence of food insecurity and enhance their material situation, all without adversely affecting parents' labour supply (Box 5). Also, given the much higher risk of poverty among single-parent families, additional support targeting these groups in particular could significantly help reduce child poverty.

Ensuring access to benefits, including the CCB of households with informal family arrangements and regardless of the lack of identification like social insurance number, immigration or citizenship status, a Canada Revenue Agency (CRA) account or a fixed address is one option to expand coverage and reduce child poverty further (Campaign 2000, 2022^[19]; Campaign 2000 & PROOF, 2022^[50]). To receive the CCB, carers must be the person primary responsible for the child. It was suggested that broadening the current criteria to kinship, customary care, and families caring for children outside a formal arrangement would help expand the CCB's reach and better reflect lived realities. For instance, in 2020-21, nearly 1 700 First Nations, Inuit and Métis children and youth in Ontario were in customary care arrangements overseen by children's aid societies (Government of Ontario, 2022^[52]). Parents who are refugee claimants or who do not meet the current immigration status criteria are also ineligible for the CCB (Connecting Ottawa, 2022^[53]). This ineligibility can have adverse consequences on the children of immigrant families, who are disproportionately affected by poverty. In 2018, the poverty rates of families with children whose head was a recent immigrant (i.e. in Canada for less than 10 years) was 21.1% (Employment and Social Development Canada, 2021^[46]). The lack of financial assistance can impede on children's health and development, as well as on their income security and housing stability (Canadian Council for Refugees, 2020^[54]).

In all, measures can be proposed to improve the CCB's effectiveness, such as introducing a supplement on a per child basis, creating a supplement for remote and Northern communities to address local

⁴ Barriers to claiming the CCB include literacy levels or inability to communicate in either of Canada's official languages, reluctance to disclose personal and financial information to the government, the requirement to file a tax return to access benefits, the need to provide additional identification or documentation, such as a social insurance number limited access to financial services (such as a bank account where the benefit can be deposited automatically).

vulnerabilities, lifting the ineligibility for CCB of families with a precarious immigration status, and broadening access to CCB for carers outside of formal family arrangements (Campaign 2000 & PROOF, 2022^[50]).

Improving areas of children's well-being such as housing and health are also among the goals of the "Opportunity for All" poverty reduction strategy. Regarding housing, the National Housing Strategy evaluates the proportion of the intervention budget and the number of programmes that have an impact on women and children. As of September 30, 2023, it is estimated that the NHS has committed an estimated CAD 11.30 billion towards meeting the housing needs of women and their children, which includes funding for the construction, repair and support of 268 497 housing units. This constitutes 30% of all NHS funding committed, surpassing the target commitment to allocate at least 25% of all NHS investments to support their needs (National Housing Strategy - September 2023, 2023^[55]).

However, there is no impact study assessing whether and to what extent the CCB or programmes implemented in the NHS have improved the quality of the housing in which children live and reduced the number of children who live in unacceptable housing.⁵ Additionally, data from the 2021 Census suggest a need to strengthen actions to better cover children in efforts to improve housing conditions, since more than a third of children under 15 (34%) are deemed to be living in unacceptable housing, making this age group, alongside young adults, the most affected by housing issues.

Similarly, by increasing cash support for families with children and providing health and social services, one of the objectives of the "Opportunity for All" strategy is to improve the health of disadvantaged children. This objective is crucial because, as previously established, health issues such as overweight and obesity among adolescents are comparatively prevalent in Canada (section 2). Moreover, poor health in adulthood has significant repercussions on labour market outcomes for adults who experienced disadvantaged childhoods (section 3). Food security plays certainly a vital role in helping children develop good health and avoid physical or mental health problems associated with food insecurity (Campaign 2000 & PROOF, 2022^[50]). However, this aspect only captures a small part of how addressing child poverty can contribute to enhancing children's health.

Developing more information on the number of children covered by healthcare and social services, as well as on the composition of their waiting lists, could help shed light on the effectiveness of the programmes implemented to develop health care access of vulnerable groups of children. Regular monitoring of the number of children with unmet health care would enable to gauge whether policies are adequate to address the challenges in this area. Currently, available information on access to health care or unmet health needs (notably through the [Dimensions of Poverty Hub](#)) often overlooks children; and the 2021 *Canadian Community Health Survey* statistics on unmet need and waiting for care do not include information for children under 12 (Statistics Canada, 2023^[56]). The results of the 2023 *Canadian Health Survey on Children and Youth* will certainly help to partially fill this gap for the 10 provinces covered by the survey. However, the survey does not include children and youth living in the territories, on First Nation reserves and other First Nations, Inuit and Metis settlements in the provinces, children and youth living in foster homes, and the institutionalized population.

⁵ Acceptable housing refers to whether a private household's housing meets each of the three standards established by the Canada Mortgage and Housing Corporation (CMHC) for affordability, suitability and condition of dwelling. Affordable housing has shelter costs equal to less than 30% of total before-tax household income. Suitable housing has enough bedrooms for the size and composition of resident households according to the National Occupancy Standard (NOS), conceived by the CMHC and provincial and territorial representatives. Housing meets the condition of dwelling standard when its residents report it as not requiring any major repairs. Housing that is affordable, suitable in size, and not in need of major repairs, is considered to be acceptable.

Box 5. What impact did the Canadian Child Benefit have on child poverty?

In a report published in 2021, it was estimated that 367 000 children were lifted out of poverty from 2015 to 2019 largely as a result of the introduction of the Canada Child Benefit (Employment and Social Development Canada, 2021^[46]). Assessments of the impact of the CCB on child poverty and the poverty of children's families show that it has had a definite but mixed impact.

Sarlo (2021^[49]) conducted a simulation to compare the CCB's effectiveness in reducing child poverty with the Canada Child Tax Benefit and the Universal Child Care Benefit. Using two poverty measures, the Low-Income Cut-Off and the Market Basket Measure, Sarlo found that the CCB outperformed the other benefits, especially under the Market Basket Measure. He argues that the CCB disproportionately assists lower-middle-income families, directing a larger portion of funding to what he classifies as the middle class compared to the previous benefit package.

Another study by Baker et al. (2021^[57]) focused on the CCB's impact on child poverty, particularly in single-parent families. They assessed the effects of the Universal Child Care Benefit expansion and the introduction of benefits for older children. The research found a 5-percentage points reduction in poverty among single mothers and a 2-percentage points reduction for married women after both the Universal Child Care Benefit expansion and the CCB, with a larger decrease generally observed after the CCB's introduction. However, the study suggests that the CCB may only account for part of the reduction in poverty among single mothers. They also find no evidence that either the expansion of the UCCB nor the introduction of the CCB, had a significant impact on the labour supply of single or married women with treated children.

Analysing microdata from the Canadian Income Survey, Dudu et al. (2021^[58]) estimated that the CCB effectively increased incomes for two-parent families with primary earners earning less than CAD 30 000 annually. For families with primary earners between CAD 30 000 and CAD 60 000, the economic gains were offset by reduced working hours, income, and labour-force participation among secondary earners, indicating nuanced impacts across income groups. These considerations suggest that higher benefits might discourage work, especially at higher family income levels. Those in the low-income group, who in aggregate are less likely to have their benefits clawed back, do not see their labour supply decrease. This may suggest that future enhancements in benefits should be better-targeted to families most in need, rather than extended to families in middle- and upper-income ranges.

4.2. Keep on enhancing access to good quality early childhood education and care services

The employment of parents, particularly mothers, plays a crucial role in combating poverty among families and children. It provides an additional source of income, which, when added to the partner's income, increases the chances of achieving a total income above the poverty threshold. Additionally, it offers economic security, guarding against the risk of falling into excessive poverty if the partner loses their job or if parents separate. Given that children of separated couples are more likely to live with their mother after separation, mothers' employment stands as an essential factor in preventing the risk of poverty.

In Canada, nearly 77% of mothers with children under the age of 18 were employed in 2021, a relatively high rate compared to other OECD countries. However, not all mothers are employed with the same frequency: approximately 71% of mothers with a child under the age of 6 have a job, while almost 81% of mothers with a child aged between 6 and 17 are employed. Additionally, mothers with a low level of education are less likely to be in employment (44%) compared to those with a tertiary education

qualification (81%) (OECD, 2024^[59]). Therefore, there is scope to help mothers of young children and/or with a low level of education to take up a job and reconcile work and family life.

The provision of early childhood education and care services is an essential part of the support system that enables mothers to work when they have a pre-school-age child. In Canada, legislative and regulatory responsibility for early childhood education and care fall primarily within Provincial and territorial jurisdiction. Each province and territory in Canada has its own system for the planning, funding, and delivery of early childhood education and care programs.

The sector of early childhood education and care has been the focus of growing public investment for more than a decade, and public expenditure has continued to rise in recent years: spending by provinces and territories rose by over CAD 3 billion between 2017 and 2020, which is more than twice the amount of new federal transfers through the bilateral agreements (Akbari, McCuaig and Foster, 2021^[60]). Not all the provinces and territories have increased their spending to the same extent, however: Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, and British Columbia, boosted their spending on ECEC by over 20 percent between 2017 and 2020, and overall, Alberta and Newfoundland and Labrador have almost tripled their funding since the early 2010s.

Since 2015, the federal government has been playing a more significant role in early childhood education and care, working in partnership with provinces, territories, and Indigenous peoples. The Multilateral early learning and child care Framework was signed in 2017 and has been implemented through negotiated, bilateral agreements between the federal government and each province and territory to address the unique child care needs of each jurisdiction. Building on previous federal investments and the Multilateral Framework, the Government of Canada made an investment of over CAD 30 billion over five years as part of its 2021 federal budget to build a Canada-wide early learning and child care system with provinces, territories, and Indigenous peoples (Department of Finance, 2021^[61]). The goal and vision of the Canada-wide system is for families to have access to affordable, high-quality, flexible and inclusive early childhood education and care services, no matter where they live. One aim of this increased investment is an expansion of over 250 000 new regulated child care spaces across the country by March 2026. It also seeks to reduce average fees for regulated child care to CAD 10/day also by March 2026. Each of the Canada-wide bilateral agreements also contain commitments to support a highly qualified ECEC workforce, such as wage grids and initiatives to increase the percentage of certified early childhood educators in jurisdictions.

Historical trends in the coverage of child care services are mixed. According to Early Childhood Education Report's benchmarks of quality related to access – the percentage of 2- to 4-year-old children regularly attending regulated group child care and school-operated programs has remained more or less stable at 55% between 2017 and 2020. However, this stability is the outcome of contrasting upward trends in certain regions (NT, NB, BC) and downward trends in others (e.g., ON, YT, NU, MB) (Akbari, McCuaig and Foster, 2021^[60]). The decline in child care use during the 2019 and 2020 COVID-19 pandemic largely explains this phenomenon. It appears that the disruption of child care services for young children has had persistent effects on the utilisation of formal child care, with usage remaining below pre-pandemic levels in 2021 (Findlay and Wei, 2021^[62]).

Trends in child care arrangements since the end of the pandemic are also mixed. A recent report released by Statistics Canada indicates that in 2023, just over half (56%) of children aged 0 to 5 years were in licensed or unlicensed child care in Canada (Statistics Canada, 2023^[63]). While this rate was higher than it was in 2020 (52%), it has not yet reached the 2019 pre-pandemic level when 60% of children in this age group were in child care.⁶ Additionally, trends differ by the type of child care arrangement. Just over one-third (34%) of children attended centre-based care in 2023, a higher proportion than was recorded in 2019

⁶ In Yukon alone, the coverage rate for child care facilities for children aged 0 to 5 has significantly surpassed the 2019 level (Statistics Canada, 2023^[63]).

(31%). In contrast, the coverage of home-based child care in 2023 (9% of children aged 0 to 5 years) did not return to pre-pandemic levels (12% in 2019).

There are many reasons given for not using child care. In 2023, the most common reasons cited by parents not using child care were on parental leave (28%) or prefer to stay at home (35%), but almost a quarter (23%) stated that the cost is too high and 18% mention the lack of spaces (this last reason is up from 2019 when only 7% of parents mentioned it). It is also worth noting that difficulties in finding a place are increasingly stated by parents who use child care. Additionally, the challenges faced in finding child care often result in negative impacts on the working life of families, with parents using child care having to change their work or study schedules (34%), work fewer hours (33%) or postpone a return to work (31%) (Statistics Canada, 2023^[63]). Hence, it is crucial that the prospective expansion of child care facilities aligns with parents' challenges in balancing work and family life and offers affordable child care spaces for low-income families. It requires stronger efforts being made to reduce the cost of formal child care where the median urban centres fees are particularly high (Department of Finance, 2021^[61]). Providing child care that is both affordable and tailored to the needs of single-parent families will be crucial in making the investments planned in this area impactful by reducing the income poverty of children in single-parent households.

Another important challenge is that increasing public provision of places in education and care services benefits low-income groups. Results from the 2019 Survey on Early Learning and Child Care Arrangements suggest that low-income families were around 20% less likely than non-low-income families to use non-parental child care⁷ (Findlay, Wei and Arim, 2021^[64]). Even when other sociodemographic characteristics, including child age and parental working status, were controlled for, the differences in child care use across family income and parental education levels shrank but persisted. As a result of difficulties in finding child care, low-income parents and lone parents were more than twice as likely to postpone or interrupt their education or training compared to non-low-income parents and parents in two-parent families. This may be because low-income parents and parents with low education are more likely to have additional barriers to accessing child care, such as high child care costs, non-standard working schedules, (Findlay, Wei and Arim, 2021^[64]). Another potential explanation is that more highly educated parents value different aspects of child care compared with parents with lower educational achievement. Finally, a significant number of children not yet in Kindergartens in certain provinces live in child care deserts,⁸ from 11% in Quebec to 92% in Saskatchewan (Macdonald and Friendly, 2023^[65]). Prioritising the development of child care provision in these areas is a way of combating the spatial inequalities that intersect with families' socio-economic status. The quality of child care services is also crucial for achieving the anticipated positive impact on children's development and overall well-being. Well-being encompasses not only the cognitive dimension but also the socio-emotional aspects and the physical and mental health of children. Given that children from socio-economically disadvantaged families are at a higher risk of facing challenges in these areas, high quality child care is especially vital in supporting the well-being outcomes of this population.

⁷ Even when other sociodemographic characteristics, including child age and parental working status, were controlled for, the differences in child care use across family income and parental education levels shrank but persisted. This may be because low-income parents and parents with low education are more likely to have additional barriers to accessing child care, such as high child care costs and non-standard working schedules. Another potential explanation is that more highly educated parents value different aspects of child care compared with parents with lower educational achievement.

⁸ A child care desert is defined as a Forward Sortation Area (FSA) with more than three children who are not yet in Kindergarten for every licensed full-time space (Macdonald and Friendly, 2023^[65]). The Forward Sortation Area (FSA) is the first three digits of the postal code as the lowest level of geographic identification. The FSA defines an area in which a child lives and where one might reasonably expect to find a school, child care and other services.

High-quality early childhood education and care to support optimal child development depends on the recruitment and retention of qualified and resourced carers and educators. Many provinces and territories have strengthened their requirement and offers support to improve educator training and qualification (Akbari, McCuaig and Foster, 2021^[60]). For example, New Brunswick has witnessed a transformation from one in four staff with early childhood qualifications in child care centres to one in two. Prince Edward Island provides a quality enhancement grant aimed at supporting child care staff in achieving certification and elevating the credentials of already qualified educators. Newfoundland and Labrador has heightened training requirements and expanded graduate bursary programs. Nevertheless, shortages of educators have prompted some provinces to lower qualification standards. Ontario, for instance, has proposed legislative amendments allowing individuals not registered with the College of ECEs to be considered as "qualified staff" for licensed child care serving children aged 4 years and older. Furthermore, Alberta has discontinued the child care accreditation system, which previously incentivised the hiring of qualified staff in centres.

Loosening quality standards aims to expand the availability of places for disadvantaged children. However, the anticipated impact is uncertain. While it may positively affect the socio-economic status of families by facilitating quicker parental participation in the labour market, the shortage of qualified educators could adversely affect efforts to narrow developmental disparities and enhance future outcomes for socio-economically disadvantaged children. To address this risk, it is important to strengthen professional training opportunities for child care workers as a way to foster service quality while recruiting at lower levels.

The shortage of adequately trained carers and educators poses a common challenge for all OECD countries (Farewell et al., 2022^[66]; Bigras et al., 2022^[67]). Addressing this issue entails enhancing the sector's attractiveness and promoting the well-being of carers and educators by providing supportive working conditions to achieve a better balance between job demands and resources and offering salaries commensurate with those of workers with equivalent levels of education and training in other sectors (Grant, Jeon and Buettner, 2019^[68]). Additionally, attracting and recruiting younger generations to this field is crucial, necessitating efforts to increase public recognition of societal value of early childhood education and the important role of early childhood educators.

4.3. Increasing support for equal opportunities: how Canadians perceive this challenge

Addressing childhood disadvantage and enhancing the life outcomes of vulnerable children necessitates a broader range of policies than those previously discussed. An important question arises: Do national populations share the perception that disadvantaged children, on average, face diminished economic and social opportunities? Furthermore, which policy measures should be prioritized to foster greater equality of opportunity? To facilitate discussion on these matters, we utilize findings from multiple waves of the OECD *Risks that Matter Surveys*. These surveys gather insights from individuals across OECD countries regarding social risks and corresponding policy solutions.

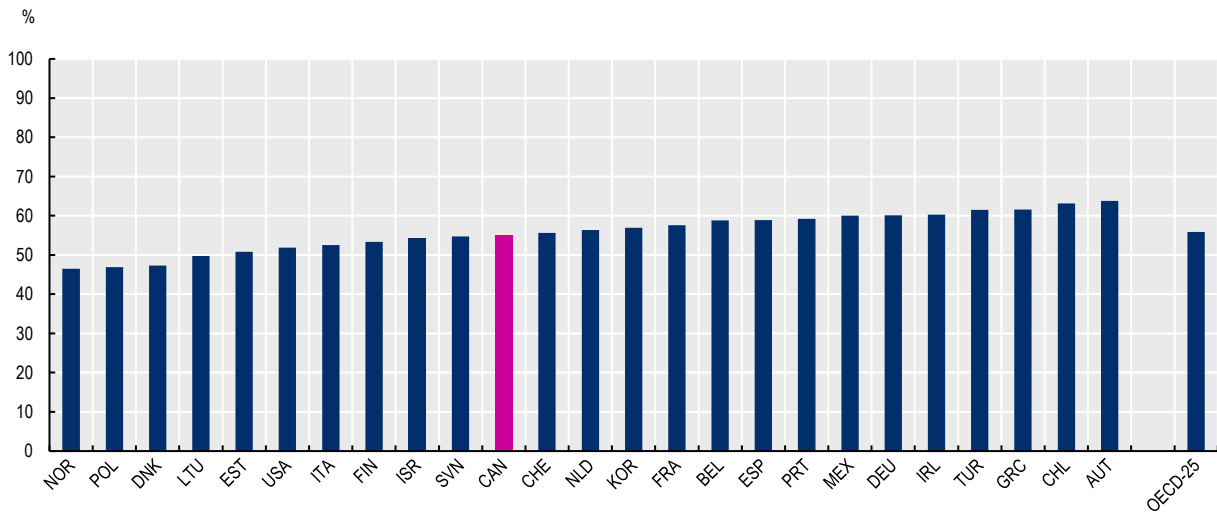
In Canada, as in other OECD countries, there is a perception that children from the poorest households are likely to remain poor in adulthood. Canadians aged 18 to 64 believe, on average, that out of 100 children from the poorest 10% of households, more than half (55) will live in a very poor household (the poorest 10%) in adulthood (Figure 10). According to this indicator, the perception of the risk of being stuck on the floor when growing up in a very poor family is less pronounced than in other countries, such as Austria, where it is thought, on average, that almost two-thirds (63%) of children from very poor households will remain so in adulthood.

This figure can be related to the level of social mobility as captured by the intergenerational elasticity of earnings, to assess if this perception aligns with the reality of social mobility. In Figure 11, Canada occupies

a median position, characterised by a moderate level of earnings elasticity (and consequently greater social mobility compared to countries further to the right on the graph), along with a perception of the risk of poor children remaining in the same situation in adulthood that is also comparatively moderate. Therefore, in comparison with other countries, Canadians’ perceptions of the risk of poor children remaining in the same situation into adulthood appear to be fairly consistent with the level of intergenerational immobility in earnings.

Figure 10. In Canada, as in other OECD countries, people believe that children from poor families have limited opportunities to move up the income ladder

Average perceived probability that children coming from the poorest households (bottom 10%) in terms of income will remain in a poor household (bottom 10%) once they become adults, 18- to 64-year-olds, OECD countries, 2020

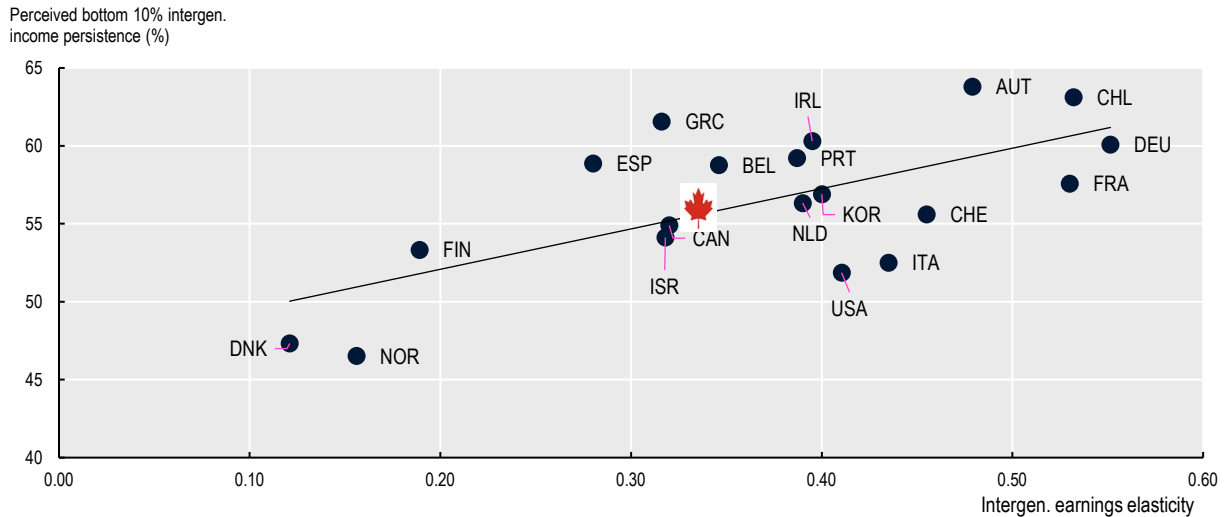


Note: Data refer to the mean average answers to the question “In your country, out of 100 children coming from the poorest 10% of households in terms of income, how many do you think will still be living in a poor household (the poorest 10%) once they become adults? Please note that we refer to the poorest in terms of post-tax and benefit income.”

Source: OECD (2021), Does Inequality Matter?: How People Perceive Economic Disparities and Social Mobility, OECD Publishing, Paris, <https://doi.org/10.1787/3023ed40-en>, based on data from the OECD Risks That Matter survey 2020.

Figure 11. In Canada, moderate intergenerational mobility coincides with a perception of moderate transmission of poverty

Scatterplot between the intergenerational father-son earnings elasticity and the average perceived probability that a child coming from the poorest 10% of households will remain in the poorest 10% once they become an adult, OECD countries

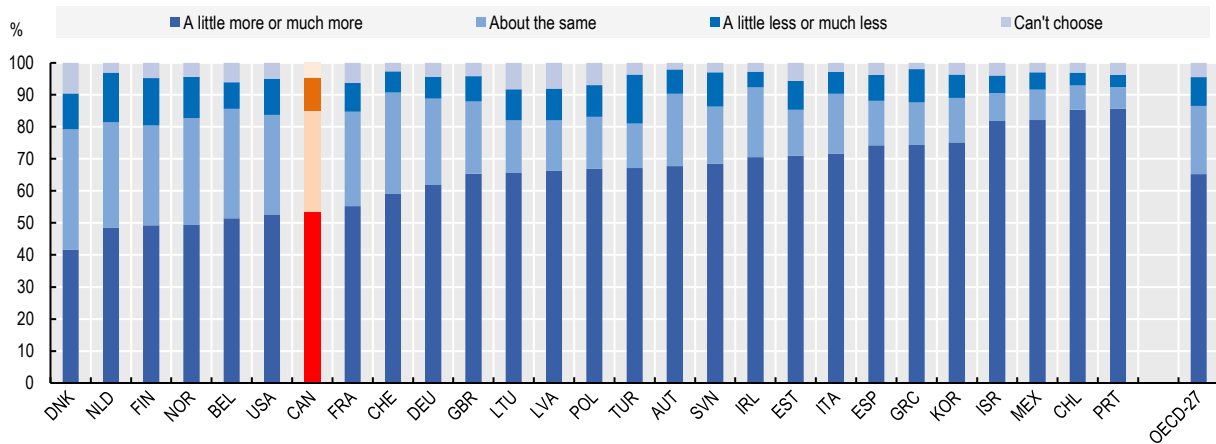


Note: Intergenerational earnings elasticity estimates are based on a cohort of men born approximately 1960-1980 (1975 for Israel), with both their and their fathers' earnings measured at around ages 30-50 (for Israel, age 35 to 39 for children and 41-50 on average for their parents). Average perceived probability data refer to the mean average answers to the question "In your country, out of 100 children coming from the poorest 10% of households in terms of income, how many do you think will still be living in a poor household (the poorest 10%) once they become adults? Please note that we refer to the poorest in terms of post-tax and benefit income." among respondents age 18 to 64 years-old. Source: OECD (2021^[69]), *Does Inequality Matter?: How People Perceive Economic Disparities and Social Mobility*, OECD Publishing, Paris, <https://doi.org/10.1787/3023ed40-en>, based on data from the OECD Risks That Matter survey 2020, and Heller (2020^[70]), *Intergenerational Mobility in Israel, State of Israel National Insurance Institute Discussion Paper No. 134*, https://www.btl.gov.il/Publications/research/Pages/mechkar_134.aspx, for Israel.

The next question, then, is to consider the perception of the need for action to further promote equal opportunities. In Canada, a small majority (less than 54%) of adults aged 18 to 65 feel that more could be done in this direction (Figure 12). This proportion is well below the OECD average (65%), and it could decrease further as the rollout of the national child care reform continues. In other words, while in many countries, a strong majority believes that more, and even much more, can be done to improve equality of opportunity, there is less of a consensus in Canada. This can certainly be explained in part by the combination of the fact that, while penalties for poor (or socio-economically disadvantaged) children do exist in Canada, they remain fairly moderate compared to other countries, and that the fight against child poverty has recently been targeted as a priority for public policy action.

Figure 12. A small majority of Canadians think that more should be done to ensure equal opportunities in life

Distribution of responses to the question “How much should be done to make sure that everyone has an equal opportunity to get ahead in life?”, 18- to 64-year-olds, Israel and OECD-27 average, 2022



Note: Distribution of responses to the question “How much should be done to make sure that everyone has an equal opportunity to get ahead in life?”, 18- to-64-year-olds, Israel and OECD-27 average, 2022.

Source: OECD estimates based on the Opportunities module of the OECD Risks that Matter Survey 2022, <http://oe.cd/rtm>.

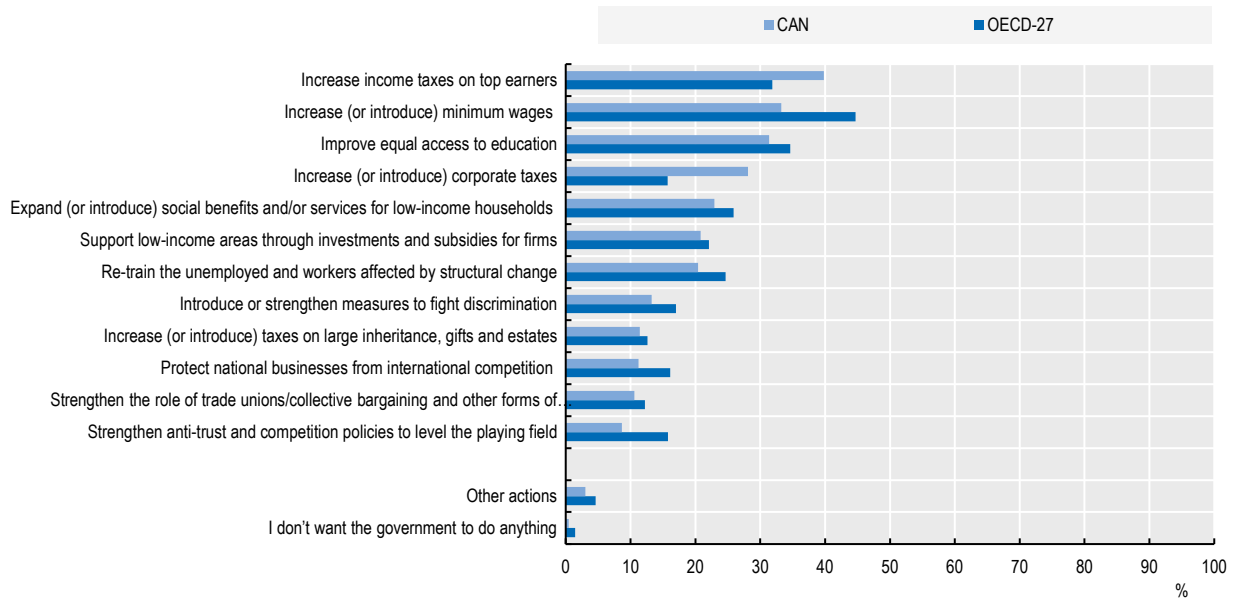
A wide range of policy measures can help to create better opportunities for disadvantaged children and improve social mobility. The *2022 Risk that Matters Opportunities module* presented respondents with a basket of possible measures from which they were asked to select no more than 4. Findings from this survey suggest that Canadian people tend to perceive increases in taxes – specifically on top earners or corporate taxes – as relevant options to promote more equal opportunities. Tax-related measures are accorded higher importance compared to the average priority seen in OECD countries: almost 40% of adults think that increasing taxes on top earners is essential to reduce inequalities and promote equal opportunities, compared with 31% on average in the OECD (Figure 13). Additionally, around 50% of Canadian respondents (43% across the OECD) to the survey reported that they would be willing to pay an additional 2% of their income in taxes or social contributions for better provision of and access to healthcare (OECD, 2023^[71]). This suggests decent support for increasing taxes to enhance social services.

Other options with comparatively high levels of support include strengthening equal access to education, mentioned by 31% of respondents. This finding aligns with those of the previous section, which highlighted that the lower chances of obtaining a tertiary level of education are an important factor contributing to labour income penalties for socioeconomically disadvantaged children. Similarly, one third of respondents mention that increasing minimum wages is a relevant option, which matches with the finding that the lower work experience of adults with a disadvantaged childhood has been an important factor contributing to the earnings penalty in adulthood. Therefore, increases in minimum wages could be viewed as an option to compensate for earnings that remain at a low level, but it necessitates regular adjustments of minimum wages based on a broader assessment of their impact on the economy and labour market, including the demand for low-skilled workers (OECD, 2023^[72]).

Interestingly, just over a fifth of respondents (23%) mentioned the option of expanding social benefits and services for low-income families, which is below the OECD average. To a large part, this is certainly due to the fact that, as developed in the preceding paragraphs, action in these areas has been relatively significant in Canada in recent years. Nevertheless, as pointed out, policy gaps exist and could be filled to improve access to care and education services for the most socio-economically disadvantaged groups of children.

Figure 13. In Canada, 4 out of 10 adults perceive increases in tax on the top earners as an option to foster equal opportunities

Percentage choosing each action as one of their top four actions for reducing economic inequality and/or fostering equal opportunities, 18- to 64-year-olds, Israel and OECD-27 average, 2022



Note: Respondents were asked "Which of the following actions – promoted by all levels of government – do you think are the most important in order to reduce economic inequality and/or foster equal opportunities in [country]? Please select up to 4 actions." Data refer to the share choosing each action as one of their four choices. Actions are sorted according to the share in Canada choosing each. "OECD-27" average refers to the unweighted average across the 27 covered OECD countries.

Source: OECD estimates based on the Opportunities module of the OECD Risks that Matter Survey 2022, <http://oe.cd/rtm>.

Overall, this analysis has shown that child poverty has been significantly reduced in recent years in Canada, partly as a result of increased support for families with children since the mid-2010s. However, these measures only partially address the disadvantages faced by socio-economically disadvantaged children in childhood and adulthood. On the one hand, cash transfers and early childhood education and care services do not benefit children from very low-income families, Indigenous communities, or racialised groups as much as they could. On the other hand, the analysis of the consequences of childhood socio-economic disadvantage on adult education, the labour market, and health outcomes shows that the reduced chances of attaining a higher level of education, accumulating work experience, and poorer health significantly contribute to lower incomes for these populations in adulthood. This, for the country as a whole, can be viewed as a loss of potential for productivity and growth. Strengthening efforts to tackle the drivers of disadvantages experienced in adulthood, in addition to measures to address the gaps in policies aimed at reducing child poverty, are crucial to better promote equality of opportunity and social mobility in Canada.

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Annex A. Methodology

Data

This paper builds on the findings shown in “The economic costs of childhood socio-economic disadvantage in European OECD countries” (Clarke et al., 2022^[2]); for Canada, estimates are based on the individual-level data from Wave 4 (2018) of the Longitudinal and International Study of Adults (LISA), a biennial panel survey which follows a sample of households representative of the population living in Canada’s ten provinces at the time of the first wave (2012). The survey collects information on a broad range of topics, including education and training, labour market outcomes, health, and family. In addition, survey respondents are linked to their own and their family members’ personal income tax records, from 1982 to the last fiscal year prior to the survey year. This set of files is called the LISA Intergenerational Family Files. Among other things, it allows to identify parent-child pairs and, therefore, to conduct research on the intergenerational transmission of disadvantage. These linkages are available for people born in 1963 or later, who are at most 55 years old in 2018. Due to the administrative nature of the parent-child linkages, the sample for which intergenerational analysis can be conducted is restricted to Canadian-born children or to immigrants arrived in Canada at the latest by age 15 (Simard-Duplain and St-Denis, 2020^[73]; 2020^[74]).

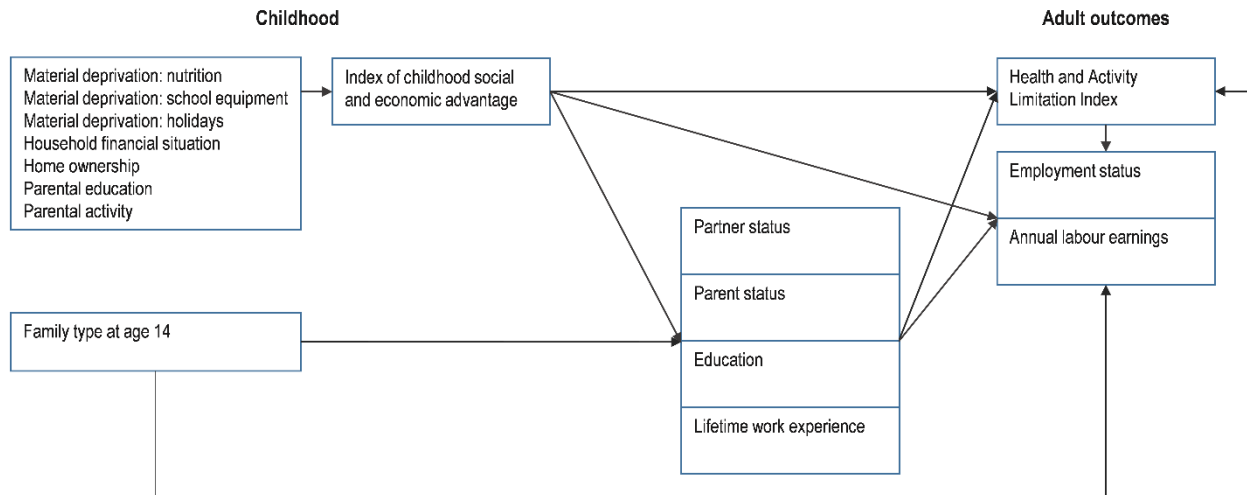
For OECD European countries, the data used are from the 2019 round of the European Union Statistics on Income and Living Conditions (EU SILC 2019) survey, a collection of harmonised representative household surveys providing information on income, social inclusion and living conditions in the European Union Member States, plus Iceland, Norway and Switzerland. Of particular interest are a series of retrospective variables in EU SILC 2019’s ad-hoc module providing information on respondents’ background they were children around age 14.

Approach and measurement

We explore associations between variables on childhood socio-economic status and adult employment and health outcomes using a life course approach. Figure A.A.1 provides a graphical representation of our approach and the modelled potential pathways.

Figure A A.1. Childhood socio-economic status, adult outcomes, and our modelled potential pathways

Graphical representation of the modelled pathways between childhood socio-economic status and adult employment and health outcomes



Childhood circumstances

At the childhood stage, we are interested primarily in the social and economic resources available to respondents when they were children. It is fairly well established in the literature that children from low socio-economic backgrounds experience disadvantages in many areas of well-being as compared to their more fortunate peers. Generally speaking, childhood social and economic disadvantage is associated with fewer material resources at home and in the neighbourhood, lower levels of household economic security, and often also with higher levels of family stress and as a result lower quality parents-children interactions. Beside the economic and material dimension, childhood disadvantage carries a social dimension linked to differences in family functioning and parenting behaviours.

Parental education is typically used as a proxy to capture social differences in family environment, and it is shown that its explanatory power of the gaps in early language development is larger than those of family income (Volodina et al., 2022^[75]). It also explains gaps in early primary school achievements (Drager, Schneider and Washbrook, 2022^[76]).

Against this background, we measure the social and economic resources available to children through a composite index (the Index of Childhood Social and Economic Disadvantage, or ICSED) constructed from four variables built on information from the LISA survey and the LISA Intergenerational Family Files. These component variables reflect not just respondents’ family economic resources in childhood, but also the education level and labour market status of their parents. This is in line with much of the international child literature, which typically measures children’s socio-economic status through a combination of one or more measures covering parental education, parental occupational status, and/or household income or household possessions.

Two of these four component variables concentrate on family economic resources in childhood:

- *Parental income quintile* reflects total after-tax family income when the child was 10 to 14 years old. The income variable used includes paid- and self-employment income, government transfers, and capital income. For families where there are two parents present, total family income is equal

to the sum of income reported by both parents. Parents are then ranked into quintiles based on their total family income, separately by childbirth cohort.

- *Capital income receipt* captures whether the family received any capital income when the child was 10 to 14 years old. It is a binary variable equal to one if the family received capital income over the period, and zero otherwise.

The final two component variables reflect aspects of the broader social, cultural and economic environment in which the respondents grew up:

- *Parental education* captures the highest level of education attained by either of the respondent's (known) parents. It is a three-part variable, set to one (low) if the highest level of education is at most a high school diploma or equivalent, 2 (medium) if it corresponds to an apprenticeship, trade or vocational certificate or diploma, and 3 (high) if it corresponds to a non-university certificate or diploma from a college or other educational institution or to a university certificate, diploma or degree.
- *Parental activity* status measures the number of the respondent's (known) parents in employment (i.e., with positive paid or self-employment income) when age 10-14 and is used to capture parental earnings potential in place of reliable information on parental occupation. It is a three-part variable, set to zero if no (known) parents were employed (either as an employee or as self-employed) when the respondent was age 10-14, one if one (known) parent was employed, and two if two (known) parents were employed when the respondent was age 10-14.

We construct the ICSED itself using polychoric Principal Component Analysis (PCA) (Kolenikov and Angeles, 2009^[77]). We run polychoric PCA on the sample and keep the first principal component (PC), which explains the largest proportion of the total variance, as a measure of a respondent's socio-economic status during childhood (Flores, García-Gómez and Kalwij, 2020^[78]). We then split the index into quintiles based on scores on the first PC. Respondents in the first (bottom) quintile represent those who experienced the most disadvantaged childhoods within the given country, and those in the fifth (top) quintile the most advantaged childhoods. For European countries, the same Index is estimated based on the pooled (cross-national) sample, and then split in country-specific quintiles.

Lastly, we also construct a measure of childhood family type. This is a binary measure set equal to one if the respondent reports that they were living with two parents in the same household at age 15, and zero if they report living with one or no parents in the same household at age 15.

Adult outcomes

At the adult outcome stage, we focus on outcomes in two main areas: labour market outcomes, and health outcomes.

We measure adult labour market outcomes through two variables: *employment status* in the income reference year, and *(log) annual labour earnings*. With respect to earnings, for this paper, we are most interested in how disadvantage affects the total amounts actually earned (or, equivalently, total actual output) over the income reference year, rather than wage rates or measures of labour productivity more narrowly. Focusing on total actual annual earnings helps us aggregate the effects of childhood disadvantage on earnings without the complexity of modelling or making assumptions about how disadvantage also effects working time, the frequency and distribution of second jobs, etc. The variable on *annual labour earnings* is constructed as the sum of employee cash income and cash benefits or losses from self-employment across the entire income reference year (2017 for Canada and 2018 for European countries) with *no* adjustment for working hours, second jobs, or periods of non-employment across the year. All respondents with positive labour earnings in the income reference year are included.

We construct our *employment status* variable to be consistent with our *annual labour earnings* variable. We measure employment status using a dummy variable corresponding to the income reference year (2017) in its entirety, with the variable set to one if the respondent reports positive paid or self-employment income in their personal income tax records. Using the entire year as the reference period helps avoid mismatch between our employment and earnings variables, and in particular helps us avoid issues with double-counting the effects of any periods of non-employment.

Again, this construction should be kept in mind when interpreting results. Our *employment status* variable should be interpreted as reflecting the probability of *any* employment over the whole income reference year or, equivalently, to the probability of avoiding long-term non-employment (i.e. spending at least twelve months outside employment). It provides no information about the stability or duration of this employment, which is instead absorbed into our earnings measure. Compared to a more conventional employment status indicator, which would typically use employment in the survey reference week, our measure is likely to produce higher rates of employment in general, and lower differences in employment between groups. As a result, our employment results are likely to be relatively conservative.

As is common in the literature on childhood socio-economic status and later health outcomes (Johnson and Schoeni, 2011^[79]; Halliday, Mazumder and Wong, 2021^[80]), we capture adult health using the *Health and Activity Limitation Index* (HALex). Originally developed by the National Center for Health Statistics (Erickson, 1995^[81]), the HALex is a composite measure that combines information on general activity limitations due to health problems (GALI) and self-reported health status (SRHS) to produce a continuous measure akin to a quality adjusted life year (QALY). The resulting variable varies between zero and one and measures the percentage of a healthy life year, with one denoting a year in full health without limitation and zero a health state viewed as equivalent to death.⁹

Table 1 reports basic statistics for our adult outcome variables in Canada. It should be noted that the employment rates for women are significantly higher (+7-8 percentage points) in the analysis sample taken from the LISA survey than in the official employment statistics for similar age categories. This reflects the trade-off made by using data based on the administrative linkage of children to parents. On the one hand, the sample excludes immigrants who arrived in Canada after the age of 15. In the 25-54 age group, in 2017, the male-female gap in the employment rate is considerably smaller for people born in Canada (4.2 points) than for the general population (7.4 points) (Statistics Canada, 2024^[82]). On the other hand, the administrative linkage also leads to slight selection in favour of people who are likely to have greater labour market. This stems from the fact that in order to make the parent-child linkage, we must necessarily observe both parents and children in a year when both generations are filing an income tax return. As a result, the respondents included in the intergenerational sample are more educated on average, report more educated parents, and are more likely to have grown up in nuclear families (Simard-Duplain and St-Denis, 2020^[74]). However, this has little impact on the intergenerational income correlation estimates

⁹ Values for each of the possible combination of self-reported health status and activity limitation are assigned using multi-attribute utility scaling based on responses provided by the U.S population in the 1990 National Health Survey (Erickson, 1995^[81]). Values range from 1.00 for persons who have no activity limitation and are in excellent health to 0.10 for persons who are limited in their activities and are in poor health. According to these values, if a person lives 1 year in excellent health and has no limitation in activity, then he or she has 1 full year of healthy life. Other health states result in less than a full year of healthy life. For example, a health state that is defined as being limited in major activity and in good health represents a person having 67 percent of full function for the year. The values for each possible combination of SRHS and GALI are as follows: 1= "Excellent SRHS and Not limited in GALI", 0.92="Very good SRHS and Not limited in GALI ", 0.84 "Good SRHS and Not limited in GALI" or "Excellent SRHS and Limited in GALI", 0.77 "Very good SRHS and Limited in GALI", 0.70 "Good SRHS and Limited in GALI", 0.63="Fair SRHS and Not limited in GALI", 0.57="Excellent SRHS and Strongly limited in GALI", 0.51="Very good SRHS and Strongly limited in GALI", 0.50="Fair SRHS and Limited in GALI", 0.47="Bad SRHS and Not limited in GALI", 0.45="Good SRHS and Strongly limited in GALI", 0.36="Bad SRHS and Limited in GALI", 0.29="Fair SRHS and Strongly limited in GALI", and 0.17="Bad SRHS and Strongly limited in GALI".

(Simard-Duplain and St-Denis, 2020^[73]). It should also be noted that this type of selection is common to all databases that use tax data to establish parent-child links.

It is also notable that the earnings of men in the 4th quintile are lower than those in the two quintiles surrounding it. This is consistent with the previously mentioned results, indicating that differences in the middle of the parental income distribution are not monotonic, and that children in the 3rd quintile of parental income fare better in terms of adult employment and income than children in the 4th quintile. (Simard-Duplain and St-Denis, 2020^[73]).

Table A A.1. Adult labour market and health outcomes in Canada

Key adult labour market and health outcomes, by sex, 25- to 49-year-olds, 2018

| | Employed in the income reference year (2017) | | Annual labour earnings in the income reference year (2017) | | Health and Activity Limitation Index | |
|---|--|-------|--|--------|--------------------------------------|-------|
| | % | | (\$CAD) | | Mean score | |
| | Men | Women | Men | Women | Men | Women |
| Total | 88.4 | 88.5 | 70 000 | 50 600 | 0.84 | 0.83 |
| By quintile of Childhood Socio-economic Index | | | | | | |
| 1st quintile | 83.6 | 81.9 | 60 500 | 40 900 | 0.82 | 0.79 |
| 2nd quintile | 87.5 | 84.5 | 66 400 | 48 300 | 0.82 | 0.82 |
| 3rd quintile | 92.5 | 90.9 | 77 000 | 46 300 | 0.87 | 0.86 |
| 4th quintile | 88.9 | 91.7 | 71 300 | 51 800 | 0.85 | 0.84 |
| 5th quintile | 91.3 | 94.1 | 77 400 | 66 100 | 0.85 | 0.84 |

Note: "Employment" refers to respondents who report working (full-time or part-time) as either an employee or self-employed as their main activity status in at least one of the twelve months in the income reference period (2017). "Annual labour earnings" refers to the sum of employee cash (or near cash) income and cash benefits or losses from self-employment in the income reference year. Respondents reporting zero or negative earnings are excluded.

Source: Longitudinal and International Study of Adults (LISA) 2018.

Mediators and controls

As touched on in the introduction, there are multiple mechanisms and pathways through which early life circumstances may affect later adult outcomes. Education and skill development is perhaps the most widely discussed pathway, but other factors, including health and patterns of family formation, may play a role too. Variable availability in our source dataset places some limits on the number and types of mediators that we are able to include in our analysis. Nonetheless, we are able to explore the competing roles of educational attainment, lifetime work experience, partner and parent status, plus also health status for our estimates relating to labour market outcomes.

Education is likely to be one of the most important mediating factors, both for labour market outcomes and for health outcomes. Childhood disadvantage often limits what children learn and achieve in education, and children's education in turn plays a strong role in shaping both labour market opportunities and health outcomes in later life. We measure education using a binary variable set to one if the respondent has at least some post-secondary education, and zero otherwise.

Work experience is a second potential mediator, particularly for labour market outcomes. As illustrated by past OECD work on joblessness and labour market opportunities, prior work experience plays a major role in shaping labour market opportunities, with limited work experience acting as an important barrier to employment. But work experience may itself be influenced by childhood disadvantage: young people from disadvantaged backgrounds are far more likely to be unemployed or inactive than those from more advantaged positions. We measure an individual's total relative work experience as the ratio of the reported number of years spent in paid work to the potential total number of years the individual could have spent

in paid work in the absence of any years of non-employment, with the latter determined by their age and the typical graduation age for their highest completed level of education. We then transform this ratio into a binary indicator set to zero for individuals with an actual-to-potential work experience ratio of between 0 and 60% (no or low relative work experience), and one for those with a work experience ratio above 60% (medium to high relative work experience).

Two demographic behaviours – namely entering into a partnership and having children – may also potentially mediate associations between childhood disadvantage and later adult outcomes, particularly labour market outcomes, and especially for women. We measure a respondent's current partner status using a binary variable equal to one if they report a spouse or partner living in the same household, and zero if they do not. LISA respondents are asked to report the number of own children living with them. The parent status variable is set to one if there is at least one dependent child (household member aged under 18 or aged 18-24, economically inactive and living with at least one parent) in the household, and zero if there is not.

Lastly, for estimates relating to our labour market outcomes, we also include health status (as measured by the HALex) as an additional mediator. Health is an important determinant of labour market outcomes with health-driven activity limitations, disabilities, or poor health more generally often acting as a barrier to employment. Employment may also influence health too, both negatively (e.g. through occupational injuries) and positively (e.g. by providing income and other health-supporting resources). Partly for technical reasons, we do not include our labour market outcome variables as mediators when estimating the links between childhood disadvantage and health. We do, however, continue to include our measure of lifetime work experience to capture the potential role that longer or short work histories may play in shaping current health outcomes.

Finally, across all our estimates, we also include a set of five-year age group fixed effects to control for possible secular trends and/or cohort-specific effects.