



OFFICE OF THE
PARLIAMENTARY
BUDGET OFFICER
BUREAU DU DIRECTEUR
PARLEMENTAIRE DU
BUDGET

CANADA

Fiscal Analysis of Federal Children's Benefits

Ottawa, Canada
1 September 2016
www.pbo-dpb.gc.ca

The mandate of the Parliamentary Budget Officer (PBO) is to provide independent analysis to Parliament on the state of the nation's finances, the Government's estimates and trends in the Canadian economy; and, upon request from a committee or parliamentarian, to estimate the financial cost of any proposal for matters over which Parliament has jurisdiction.

This analysis is based on Statistics Canada's Social Policy Simulation Database and Model. The assumptions and calculations underlying the simulation results were prepared by PBO and the responsibility for the use and interpretation of these data is entirely that of the author.

This report was prepared by the staff of the Parliamentary Budget Officer. Carleigh Malanik wrote the report. Jason Jacques and Mostafa Askari provided comments. Jocelyne Scrim assisted with preparing the report for publication. Please contact pbo-dpb@parl.gc.ca for further information.

Jean-Denis Fréchette
Parliamentary Budget Officer

Table of Contents

Executive Summary	1
1. Introduction	4
2. Old System of Children’s Benefits	6
2.1. Canada Child Tax Benefit	6
2.2. Universal Child Care Benefit	7
3. Canada Child Benefit	8
4. Net Fiscal Cost and Projections	10
5. Distributional Analysis	12
Appendix A: Methodology	15
Appendix B: Sensitivity Analysis	18
Appendix C: CCB Reference Charts	19
Notes	21

Executive Summary

On July 1, 2016, the federal government introduced a new tax-free Canada Child Benefit (CCB) in place of an old framework of children's benefits.

The new benefit replaced the Universal Child Care Benefit (UCCB), the federal Canada Child Tax Benefit (CCTB) and the federal National Child Benefit Supplement (NCB).

Bill C-15 repealed the provision for indexation of the new system of children's benefits and income thresholds in the *Income Tax Act*.¹

PBO's analysis resulted in three key findings:

1. The new system of children's benefits costs more than the old system; however, because the new system is not indexed the cost declines over time.
2. Families with incomes below \$30,000 will receive the largest benefits on average.
3. Since the new system is income tested and the income thresholds are not indexed, over time more families will see their benefits decline and fewer families will receive benefits.

PBO estimates that in 2016-17, payments under the new system will cost the Government \$3.4 billion more than those under the old system. By 2020-21, this net fiscal cost would decline to \$2.5 billion (Summary Table 1).

Summary Table 1

The Canada Child Benefit will have the greatest cost in 2017-18, after which the total and net cost will decline.

Medium-term projection of children's benefits

(billions)		2016-17	2017-18	2018-19	2019-20	2020-21
PBO	New System (CCB)	\$16.9	\$22.4	\$22.0	\$21.8	\$21.5
	Old System (CCTB, NCB and UCCB*)	\$13.5	\$18.1	\$18.2	\$18.6	\$18.9
	Net cost	\$3.4	\$4.3	\$3.8	\$3.2	\$2.5

*UCCB is net of taxes

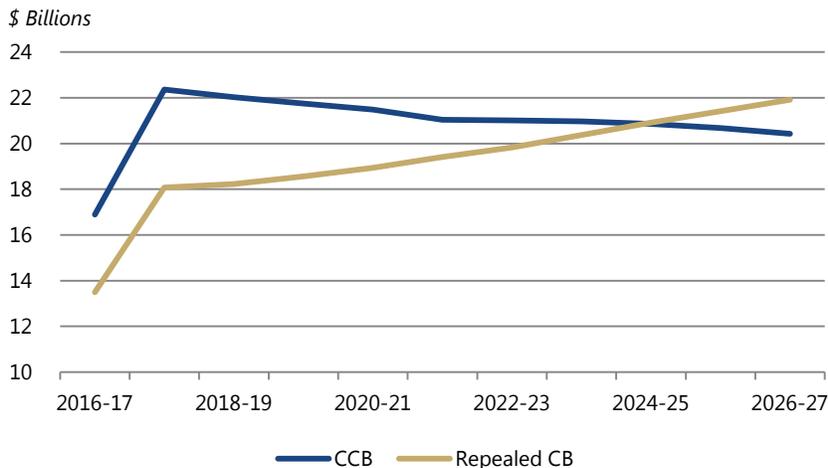
Note: The 2016-17 CCB estimate reflects an implementation date of July 2016, which represents three-quarters of the 2016-17 fiscal year. The old system of children's benefits estimates were adjusted in the same way to provide a consistent comparison over the projection period.

By 2024-25, total net spending on the Canada Child Benefit is projected to fall to that of the old system of children's benefits, had it not been repealed. See Appendix A for details on PBO assumptions.

Summary Figure 1

By 2024-2025 total net spending on the Canada Child Benefit is projected to fall to that of the old system of children’s benefits.

Ten-year projection of children’s benefits



Distributional analysis indicates families will see their average payments increase by \$1,858. However this varies by family income. Families with adjusted net income below \$30,000 will receive the largest payment under the new system on average.

In general, families who were previously eligible for the old system, and who continue to be eligible for the new system, will see their annual federal transfer increase from an average of \$4,439 to \$5,493.

This average increase is attributable to two factors. The first is an overall increase in spending on the new system relative to the old: a gain of roughly 24 per cent in 2017-18.

The second factor is a declining number of families eligible for monthly children’s benefits. In 2017-18, this number will decrease by about 13 per cent (Summary Table 2).

Summary Table 2 **Average family children's benefits will increase**

		2017-18	\$30,000 and less	\$30,001 - \$65,000	\$65,001 and greater	All
New System	Number of families		880,000	874,000	1,799,000	3,552,000
	Total benefits (billions)		\$8.9	\$7.1	\$6.5	\$22.4
	Average benefits		\$10,069	\$8,077	\$3,586	\$6,297
Old System*	Number of families		880,000	874,000	2,381,000	4,072,000
	Total benefits (billions)		\$6.9	\$5.2	\$5.9	\$18.1
	Average benefits		\$7,846	\$5,991	\$2,560	\$4,439

Note: may not sum due to rounding.

*UCCB is net of taxes.

1. Introduction

Effective July 1, 2016, the Universal Child Care Benefit (UCCB), the federal Canada Child Tax Benefit (CCTB) and the federal National Child Benefit Supplement (NCB) were replaced by the monthly Canada Child Benefit (CCB).

This report examines the net fiscal impact of implementing the new system of children's benefits, that is the CCB, and simultaneously repealing the federal portions of the old system, that is, the UCCB, CCTB and NCB.

The report also provides a 10-year projection comparing the new system and the old, as well as a distributional analysis for the 2017-18 fiscal year.

The old system of children's benefits was partially indexed. The CCTB and NCB payments were means-tested and both the payments and income thresholds were indexed to inflation.² Indexation helped ensure the monthly benefits retained their real value, or their buying power.

However, since incomes tend to grow faster than inflation, the proportion of families receiving the benefit declined over time. Together, the CCTB and NCB represented roughly 72.5 per cent of the \$14.3 billion in spending in the old system of children's benefits in 2014-15.³ The UCCB, which comprised the remaining 27.5 per cent of benefits, was not indexed. As such, overall children's benefits were structured to increase over time.

The CCB is not indexed. As such, the real value of the payments, the nominal level of payments for which families are eligible, and the number of eligible families will decline over time. This is because nominal family incomes continue to grow. For some families, their incomes may rise high enough that their benefit payments are reduced to zero.

Table 1-1 provides a brief comparison of children's benefits.

Table 1-1 Characteristics of children's benefits

Comparison of the old and new system
of children's benefits.

New System CBB	Old System		
	UCCB	CCTB	NCB
Not indexed	Not indexed	Indexed	Indexed
Non taxable	Taxable	Non Taxable	Non Taxable
Means-tested	Not means-tested	Means-tested	Means-tested
\$6,400/year for each child under six years of age.	\$1,920/year for each child under six years of age.	\$1,503/year* for each child under 18 years of age.	\$2,329/year* for first child.
\$5,400/year for each child aged six to 17.	\$720/year for each child aged six to 17.		\$2,060/year* for second child.
			\$1,960/year* for each additional child.
Clawback based on adjusted family net income (ranges from 7 per cent to 32 per cent depending in income group and number of children).	No clawback, but is taxed at the marginal rate of the lower-income partner.	Clawback based on adjusted family net income (2 per cent for families with one child; 4 per cent for families with two or more children).	Clawback based on adjusted family net income (ranges from 12.2 per cent to 33.3 per cent depending on the number of children).

*This is the July 2016 indexed value based on legislation, had the CCTB not been repealed.

The CCTB had a base monthly benefit that was reduced with income via a phase-out rate. Phase-out rates are the proportion of income above a particular threshold (determined by government legislation) by which the benefit is reduced.

That is, for every dollar of income above the threshold a family has, a proportion of that will be subtracted from the base monthly benefit.

2. Old System of Children's Benefits

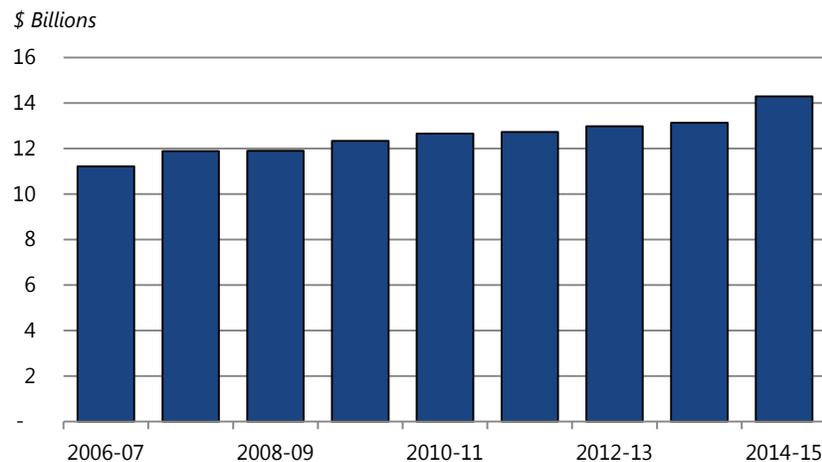
The Canada Child Benefit repealed and replaced both the means-tested Canada Child Tax Benefit, including the National Child Benefit Supplement, (hereafter jointly referred to as the CCTB) and the taxable Universal Child Care Benefit (UCCB). This section describes the old system of children's benefits.

Under the former system, total gross spending rose steadily, from \$11.2 billion in 2006-07 to \$14.4 billion in 2014-15. This was attributable to an increasing eligible population and enrichment of benefits (Figure 2-1).⁴

Figure 2-1

Federal Children's Benefits have grown steadily.

Historical Children's Benefits Expenditures



2.1. Canada Child Tax Benefit

The Canada Child Tax Benefit (CCTB) was a joint federal-provincial initiative to provide tax-free monthly payments to families to assist them with the cost of raising their children. These benefits were means-tested.

That is, the calculation began with a basic monthly benefit for each child and was reduced according to a family's adjusted net income and the number of children per family (Table 2-1).⁵ The 2015 base monthly benefit of \$123 does not vary by the age of the child.⁶

The Government also integrated a National Child Benefit Supplement for low-income families into the CCTB. For 2015, the supplement amounted to \$190 per month for the first child, \$168 per month for the second child, and \$160 per month for each additional child.

These benefits, as well as the income thresholds for which the reduction to the monthly benefits was calculated, were indexed to the Consumer Price Index (CPI).

Table 2-1 Snapshot of the CCTB

The CCTB was an indexed, means-tested benefit.

	Income Thresholds	Phase-out rate	Monthly benefit*	Distribution in 2015
CCTB	\$0 - \$44,701			
	One child	2.0%	\$123	43.5%
	Two or more children	4.0%	+\$9	56.5%
NCB	\$0 - \$26,021			
	One child	12.2%	\$190	46.5%
	Two children	23.0%	\$168	36.7%
	Three or more children	33.3%	\$160	16.8%

* July 2015 to June 2016 amount

In 2014-15, the Government reported spending a total of \$10.4 billion on the federal share of the CCTB.⁷ PBO estimates it would have spent \$11.3 billion on the CCTB in 2016-17. This total would have risen to \$12.0 billion in 2020-21 had it not been repealed.

2.2. Universal Child Care Benefit

The Universal Child Care Benefit (UCCB) was introduced in 2006 to support families in their child care choices by providing parents with \$100 of monthly taxable income per child under the age of six.⁸

These amounts were enriched in 2015, when the UCCB was enhanced to \$160 a month for children under six, and expanded to provide \$60 a month per child aged six to 17.

While the UCCB payments were not indexed, it was a taxable benefit and the income tax brackets are indexed.^{9, 10} Therefore, the amount of taxes paid on the UCCB would remain relatively stable over time. Families' whose income grew faster than inflation would potentially enter a higher income bracket, pay more taxes on the UCCB and thus see the value of their net UCCB decrease.

In 2014-15, the Government reported gross UCCB expenses amounting to over \$3.9 billion.¹¹ This amount includes three months of the 2015 enhancements of the UCCB. Since the UCCB is taxable and, therefore, a revenue source for the government, the net cost would be lower.

PBO estimates the UCCB would have had a net cost of \$6.7 billion in 2016-17 and \$7.0 billion by 2020-21, if it had not been repealed. These estimates reflect the 2015 enhancements of the UCCB for a full fiscal year.

3. Canada Child Benefit

The Canada Child Benefit (CCB) is a tax-free, means-tested annual benefit of \$6,400 for children under six and \$5,400 for children aged six through 17.^{12, 13} The amount is reduced using a graduated phase-out rate based on family income and the number of children.¹⁴

Families with adjusted net income greater than \$30,000 will have a phase-out rate of between 7.0 per cent and 23.0 per cent, depending on the number of children in their family. These phase-out rates increase further once adjusted family income rises above \$65,000 (Table 3-1).

Table 3-1 Snapshot of the CCB

More families eligible for the CCB will move into higher income thresholds over time. As a result, the proportion of families with children under the age of 18 eligible for the CCB will decline.

Family Adjusted Net Income	Marginal Phase-out rate	Distribution in 2017	Distribution in 2021
		(Calendar Year)	
\$0 - \$30,000	0%	21.9%	18.9%
Family with one child	0%	10.1%	8.6%
Family with two children	0%	8.2%	7.0%
Family with three children	0%	2.5%	2.3%
Family with four or more children	0%	1.1%	1.0%
\$30,001 – \$65,000		21.7%	19.1%
Family with one child	7.0%	10.3%	9.0%
Family with two children	13.5%	7.8%	6.9%
Family with three children	19.0%	2.5%	2.2%
Family with four or more children	23.0%	1.0%	1.0%
\$65,001 +		43.9%	45.5%
Family with one child	3.2%	17.0%	17.6%
Family with two children	5.7%	20.4%	20.8%
Family with three children	8.0%	5.3%	5.7%
Family with four or more children	9.0%	1.2%	1.4%
Families eligible for the CCB	-	87.5%	83.4%

Notes: The denominator is the number of families with children under the age of 18. As such, values do not add to 100 per cent.

The distribution is of the number of families.

In 2017, about 3.6 million families will be eligible for the CCB. Roughly 888,000 have an adjusted net family income of \$30,000 or less; 881,000 have incomes of between \$30,001 and \$65,000; and 1,785,000 have incomes greater than \$65,000.¹⁵

By 2021, these proportions will change slightly, as families move into higher income groups owing to the lack of indexation for income thresholds.

PBO estimates total spending on the CCB will amount to \$16.9 billion in 2016-17. This amount will increase once it has been in place for a full fiscal year (\$22.4 billion in 2017-18). Then it will decline steadily over time, falling to \$21.5 billion in 2020-21.

4. Net Fiscal Cost and Projections

The CCB came into effect July 1, 2016, half-way through the calendar year and one-quarter of the way through the fiscal year. PBO pro-rated the cost for the nine months during 2016-17 in which the new CCB will be in effect. As a result, PBO estimates a net fiscal increase of \$3.4 billion in 2016-17 over the cost of benefits under the former framework.

In 2017-18, the first fiscal year in which the CCB will be fully implemented, PBO estimates its total cost will be \$22.4 billion. This would represent a net fiscal increase of \$4.3 billion.

By 2020-21, the total cost will decline to a projected \$21.5 billion and the net fiscal cost will drop to \$2.5 billion (Table 4-1). Much of this fiscal cost is explained by the increase in benefits, while a small amount is due to a reduction in tax revenues. These results are consistent with the estimates in Budget 2016.

Table 4-1 Net cost of the CCB estimated to decline over time

The Canada Child Benefit will have the greatest cost in 2017-18, after which the total and net cost will decline.

<i>(billions)</i>	2016-17	2017-18	2018-19	2019-20	2020-21
CCB	\$16.9	\$22.4	\$22.0	\$21.8	\$21.5
CCTB, NCB and UCCB*	\$13.5	\$18.1	\$18.2	\$18.6	\$18.9
Net cost of CCB	\$3.4	\$4.3	\$3.8	\$3.2	\$2.5

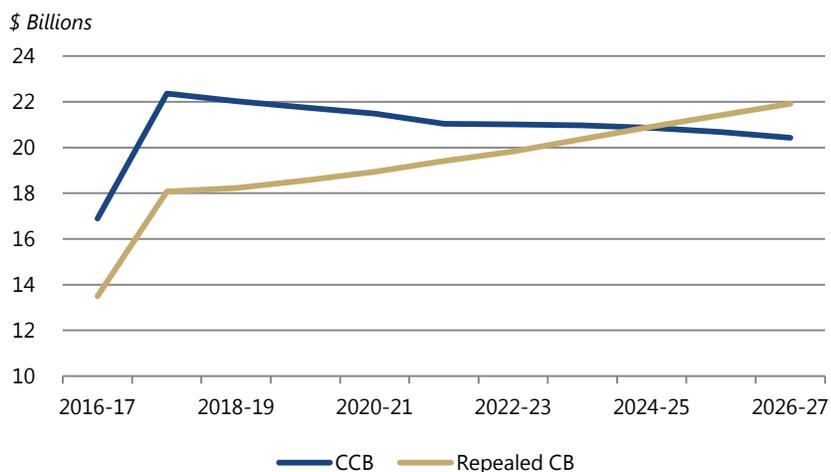
*UCCB is net of taxes

The legislation in Bill C-15 removed indexation of benefits. This means that over time, inflation will reduce the real value of the monthly CCB payments. In addition, without any adjustments to the income thresholds, cohorts of families will see their wages increase high enough to reduce their monthly benefits, and in some cases, make them ineligible altogether.

As a result, PBO estimates that the value of CCB payments will decrease over time. By 2024-25, total CCB payments will fall slightly below those of the projected value of the old system of children's benefits, had they not been repealed (Figure 4-1). Appendix A provides details on PBO assumptions.

Figure 4-1 Ten-year projection of children's benefits

Total spending on the new CCB is projected to decline below that of the old system of Children's Benefits.



5. Distributional Analysis

PBO prepared a distributional analysis that shows the average family's child benefits for the 2017-18 fiscal year. This is compared to the average family's benefits under the former framework.

The analysis projects that average benefits will increase by roughly \$1,858, which decreases by family income. The number of families eligible for children's benefits will decrease, given that the UCCB was not means-tested (Table 5-1).

Table 5-1 Average children's benefit payments will increase

While the average benefits will increase for eligible families, the number of eligible families will decline.

	2017-18			
	Old System Children's Benefits*		New System of Children's Benefits	
Family Adjusted Net Income	Average benefit	# of eligible families	Average benefit	# of eligible families
\$0 - \$30,000	\$7,846	880,000	\$10,069	880,000
\$30,001 - \$65,000	\$5,991	874,000	\$8,077	874,000
\$65,001+	\$2,560	2,318,000	\$3,586	1,799,000
All	\$4,439	4,072,000	\$6,297	3,552,000

*net of income tax on UCCB

Families with an adjusted net income below \$30,000 will continue to receive the largest average benefit payments.¹⁶

Table 5-2 Families will see their average benefits increase

Families that were previously eligible for the old system of children's benefits will see their benefits increase from an average of \$4,439 to \$5,493.

2017-18	New system of Children's Benefits among the same families eligible for the old system	
Family by benefit	Average benefit	# of eligible families
\$0 - \$30,000	\$10,069	880,000
\$30,001 - \$65,000	\$8,077	874,000
\$65,001	\$2,783	2,318,000
All	\$5,493	4,072,000

*Compared to old system of Children's Benefits

The age of the child is one factor in determining the total payment for each family. Families with younger children receive a higher benefit than families with older children. The number of children in each family is also a determining factor. This explains how the average benefit per family can be greater than the base CCB figures of \$6,400 for children under six and \$5,400 for children aged six through 17 (described in Section 3).

Table 5-3 Children's benefits vary by family characteristics

Average benefits differ depending on family characteristics.

Families with only young children (under six years of age)			Families with a combination of young and old children		
	Old	New		Old	New
\$0-\$30,000	\$7,294	\$9,127	\$0-\$30,000	\$12,103	\$15,696
\$30,001-\$65,000	\$5,694	\$7,445	\$30,001-\$65,000	\$10,009	\$13,294
\$65,001+	\$3,053	\$3,743	\$65,001+	\$4,204	\$5,482
All	\$4,588	\$5,953	All	\$7,131	\$9,769
Families with only older children (between ages six and 17, inclusive)			Families with children (under 18 years of age)		
	Old	New		Old	New
\$0-\$30,000	\$6,625	\$8,568	\$0-\$30,000	\$7,846	\$10,069
\$30,001-\$65,000	\$4,955	\$6,841	\$30,001-\$65,000	\$5,991	\$8,077
\$65,001+	\$1,791	\$2,798	\$65,001+	\$2,560	\$3,586
All	\$3,490	\$5,270	All	\$4,439	\$6,297

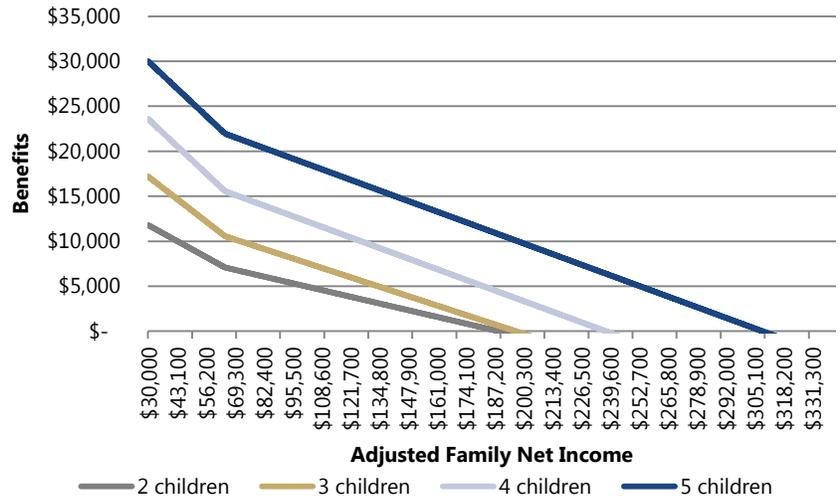
Families with a combination of young and old children have a greater number of children on average (that is, as least two) than families with only young or only older children (that is, at least one). As such, the average benefits appear to be greater. In fact, a family with two young children would receive a greater amount than a family with either a combination of one young and one older child, and a family with two older children.

Figure 5-1 calculates the annual benefit payments to families according to their adjusted family net income for families with a combination of both younger and older children. Where there is an odd number of children, the assumption is that there are more children under the age of six than over.

The maximum benefit is payable to families with incomes below \$30,000. The number of children determines the family's phase-out rate, which determines their clawback (that is, the amount by which the maximum base benefit is reduced).

Families with higher incomes can continue to be eligible for the new system of child benefits, depending on the number and age of their eligible children. Appendix C provides two additional scenarios demonstrating the level of benefits payable to families depending on their characteristics.

Figure 5-1 Benefits per family with children under 18 years of age



Appendix A: Methodology

To estimate the level of spending on children's benefits for both the aggregate (that is, total) and per-family, PBO used three data sources: Statistics Canada's Social Policy Simulation and Database and Model (SPSDM); custom data from Statistics Canada's T1 Family File; and the Public Accounts of Canada for data verification where available.

First, PBO used the SPSPDM to estimate the historical level of spending on the old system of children's benefits. After comparing the estimates for the CCTB and UCCB against those of the Public Accounts, PBO calculated an adjustment factor, which reflected the fact that Public Accounts data were on average 18 per cent higher than the estimates produced by the SPSPDM.

Using custom data from Statistics Canada, PBO was able to determine that the number of low-income families was relatively under-represented for the calculation of the CCTB, as was their total level of CCTB payments. Families in other income groups were close, though PBO used an adjustment factor for consistency.

Similarly, PBO determined the UCCB results would also require a small adjustment to be more consistent with the historical gap between SPSPDM results and those of the Public Accounts. Table A-1 lists the adjustment factors used.

Historical data for the CCB, however, were not available for comparison. Therefore, PBO used custom data from Statistics Canada, which calculated the level of the CCB for families by income group and the number of children (one to four or more), using the 2013 and 2012 T1 Family File.

Since the CCB did not actually exist in 2013, PBO deflated the 2016 benefit amounts and income thresholds to 2013 using historical CPI growth rates, and provided the data to Statistics Canada for calculation. Even though the CCB is not indexed, doing so ensured the 2013 calculation would resemble results indicative of a 'first year of implementation'.

Table A-2 provides the CPI growth rates used to deflate the 2016 benefit levels and income thresholds, as well as the derived 2013 CCB benefit levels and income thresholds used in the calculation.

Second, PBO estimated the level of spending on children's benefits for 2016 to 2021 using the SPSPDM. Then, PBO applied the 2013 adjustment factor for all years. That is, PBO assumes this adjustment factor will remain stable over time.

Table A-1 Adjustment factors applied to SPSDM data

	CCTB dollar	CCTB recipient	UCCB dollar	CCB dollar	CCB recipient
Income group 1	1.171	1.258	0.98	1.220	*
Income group 2	1.091	0.918	0.98	0.920	*
Income group 3	1.387	1.038	0.98	0.858	0.936

* This number of CCB recipients was set equal to the number of adjusted CCTB recipients

Table A-2 CCB assumptions for custom data request

	CPI growth rate	Benefit Level (young children)	Benefit Level (older children)	First Income Threshold	Second Income Threshold
2016	1.3%	\$6,400	\$5,400	\$30,000	\$65,000
2015	1.7%	\$6,320	\$5,332	\$29,623	\$64,182
2014	0.9%	\$6,213	\$5,242	\$29,125	\$63,104
2013	1.9%	\$6,155	\$5,194	\$28,853	\$62,515

To produce a 10-year projection of the CCB, PBO created a satellite model that produced very similar results to the adjusted SPSDM estimates. Data for this model included the same custom CCB data from Statistics Canada, as well as publicly available T1 Family File data.

The model builds two main variables for the projection period: the annual base benefit per family by net adjusted family income and the number of children, and the clawback per family by net adjusted family income and the number of children. Subtracting the clawback from the base benefit for each group, then summing, produces the aggregate level of CCB spending.

The main factors in determining the base benefit include projections of total population of children under the age of six and those aged six to 17, as well as the base benefit amounts (that is, \$6,400 and \$5,400 in 2016). To assign these children to families based on the family's income group and size, PBO used the 2012 and 2013 distribution determined from the custom data calculated by Statistics Canada.

To project this distribution into the future, PBO used the 2012-13 growth rate, and projected forward using the year-over-year growth rate. This distribution was applied evenly for children under the age of six and for those aged six to 17.

Projecting the clawback required several more calculations. The main factors used were the number of families eligible for the CCB in each of the adjusted net income groups, the number of children, the average net adjusted income for each income group, and the phase-out rates and income thresholds.

To determine the number of eligible families in each sub-group, PBO started with the data acquired for 2012 and 2013. Comparing the number of eligible families to publicly available data on the total number of families for the same two years, PBO created ratios that were applied to historical data. Specifically, PBO used T1 Family File data from 2000 to 2013 and applied the average 2012-13 ratios.

To project this into the future, PBO used the average annual growth rates of the publicly available variables (used as denominators in the ratios) for families with income under \$65,000, and the average annual growth rates from the SPSPDM for families with income \$65,000 and over.

Using the rates from the SPSPDM for the latter group ensures that PBO reflects the number of families moving into this higher income group and the number of families becoming ineligible because of their growing income.

Estimating the historical average family adjusted net income was a similar process, with one exception. PBO used the SPSPDM to calculate the average annual growth rate of the average family adjusted net income by income group (for 2013 to 2021), rather than the historical growth rates. This is because the average family adjusted net incomes would otherwise outgrow the threshold by which it was contained, which is not possible.

The phase-out rates remain static throughout time. The income thresholds for 2013 and 2012 were the deflated values. However, from 2016 to the end of the projection period, PBO used the 2016 income thresholds levels. This reflects the fact that the CCB is not indexed. Appendix B presents estimates where this assumption is relaxed.

With the projected clawback factors, PBO calculated the total clawback for families with income between \$30,000 and \$65,000 as:

$$[(Y_i - TH_i) * N_{i,k} * POR_{i,k}]$$

The calculation for the clawback for families with income above \$65,000 is:

$$[(TH_j - TH_i) * N_{j,k} * POR_{j,k}] + [(Y_j - TH_j) * N_{j,k} * POR_{j,k}]$$

Where Y_i is the average adjusted family net income for income group i , TH_i is the threshold for income group i (that is, \$30,000 for income the baseline scenario), $N_{i,k}$ is the number of families in income group i with k number of kids, and $POR_{i,k}$ is the phase-out rate for income group i with k number of kids. TH_j is the threshold for income group j (that is, \$65,000 for the baseline scenario), $N_{j,k}$ is the number of families in income group j with k number of kids, and $POR_{j,k}$ is the phase-out rate for income group j with k number of kids.

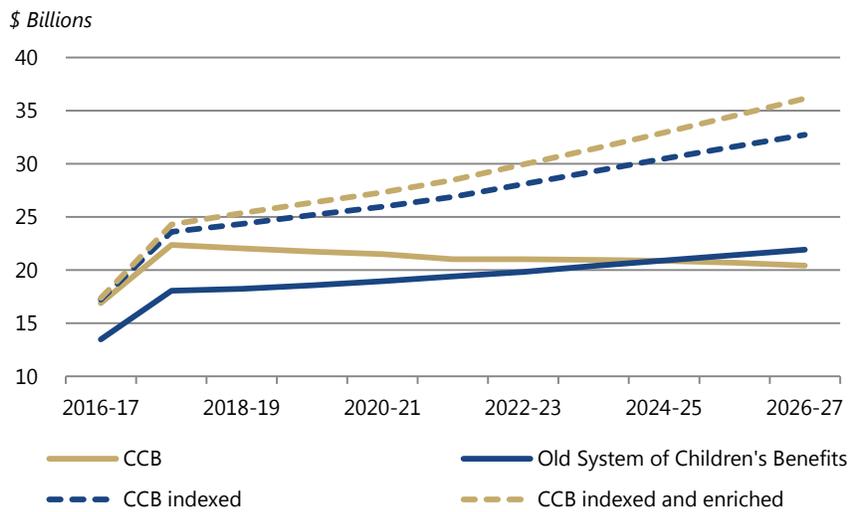
Appendix B: Sensitivity Analysis

PBO sensitivity analysis presents alternate scenarios that, among other things, estimate the cost of indexing the new CCB and enriching to reflect historical trends. With respect to the latter, the Government occasionally made nominal increases to the base benefits above and beyond inflation adjustments. PBO refers to this as an “enrichment factor.”¹⁷

Figure B-1

Indexing the CCB would ensure that benefits do not fall below their historical level, the real value of payments would not decline, and the distribution of recipients would remain relatively stable over time.

Projections of alternate scenarios



If CCB base benefits and income thresholds were indexed to inflation, total CCB would grow throughout the projection period at an average annual rate of 3.7 per cent. If indexed to inflation and increased nominally so as to keep pace with the growth of wages, as the CCTB was, the CCB would grow at an average annual rate of 4.5 per cent, according to PBO estimates.¹⁸

This is compared to the projected average annual growth rate of -1.0 per cent for the current CCB. The net fiscal cost over the next five years would be \$42.4 billion cumulatively, if the CCB were both indexed and enriched.

Appendix C: CCB Reference Charts

PBO calculated examples of CCB amounts for families with only children under the age of six, only children aged six to 17, and a combination of young and older children for up to five children.

Once income reaches \$30,000, benefits decline at a rate equivalent to the phase-out rate. After the family adjusted net income reaches \$65,000, the benefits decrease more slowly.

The level of income at which benefits are zero depends on the number of children and the age of the child.

Figure C-1 Benefit per family with children under 6

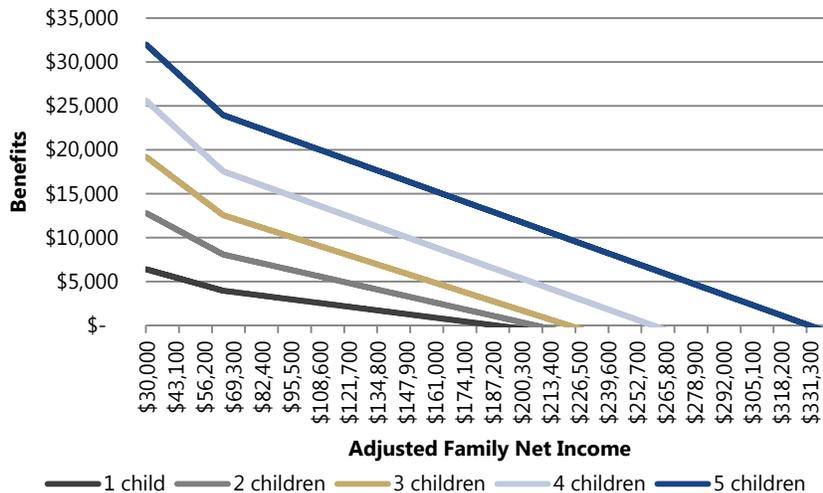


Figure C-2 Benefit per family with children ages 6 to 17

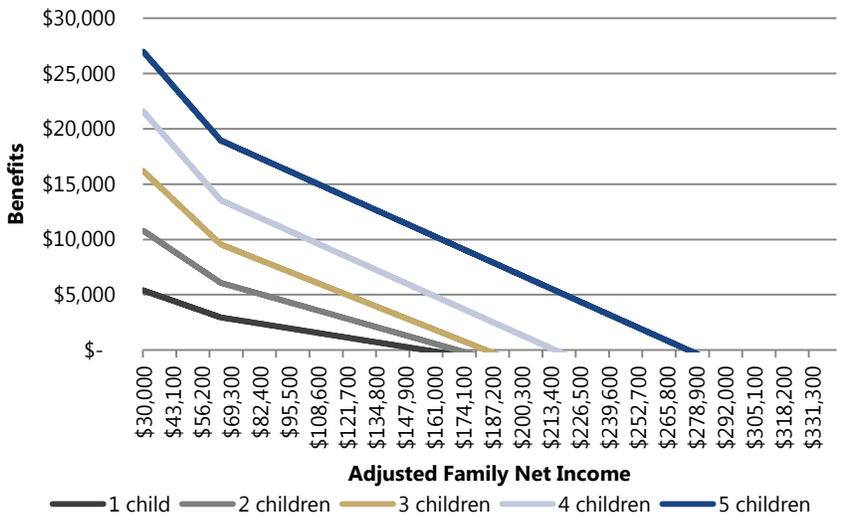
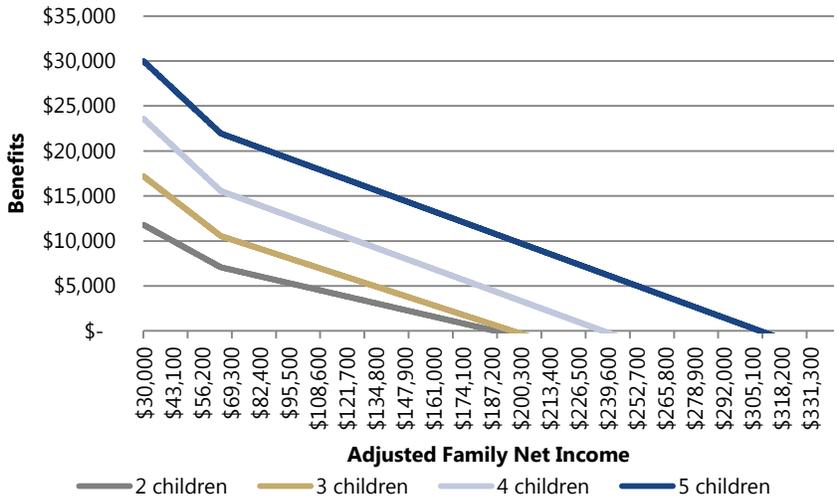


Figure C-3 Benefit per family children under 18 years of age



Note that for Figure C-3, when there are an odd number of children, PBO assumed there were more young children than old.

Notes

1. Budget Implementation Act, 2016, No. 1. Statute of Canada: 2016, c. 7. Royal Assent (2016-06-22).
2. Additionally, the government occasionally made nominal increases to the base benefits above and beyond inflation adjustments. PBO refers to this as an enrichment factor.
3. Public Works and Government Services Canada, Public Accounts of Canada, Vol. II, Table 2a., 2015.
4. Source: Finance Canada, Fiscal Reference Tables, 2016
5. In 1993, the Child Tax Benefit (CTB) replaced the Child Tax Credit (CTC) and the Family allowance. The CTB originally included a Working Income Supplement (WIS) and the basic Child Tax Benefit. The WIS was based on earnings. In 1998, the CTB was replaced by the CCTB. The basic benefit has the same level and structure of the Child Tax Benefit and the CCTB Supplement replaced the WIS, but was no longer related to earned income. The CTC that was introduced in 2007 is different than the 1993 CTC referenced here. Also note that Quebec does not take part in the CCTB. Source: Department of Finance. (2002). *Archived Tax Expenditures and Evaluations 2002*. Ottawa, Ontario: Retrieved from http://www.fin.gc.ca/taxexp-depfisc/2002/taxexp02_e.pdf.
6. The Alberta government varied the CCTB amounts based on the age of the child.
7. Public Works and Government Services Canada, Public Accounts of Canada, Vol. II, Table 2a., 2015.
8. Department of Finance. (2006). The Budget Plan 2006: Focusing on Priorities.
9. The UCCB was taxable in the hands of the lower-income spouse. Department of Finance. (2006). The Budget Plan 2006: Focusing on Priorities.
10. In 2015, the Government made an enhancement to the existing benefit for children under the age of 6.
11. Public Works and Government Services Canada, Public Accounts of Canada, Vol. II, Table 2a., 2015.
12. Source: Budget Implementation Act, 2016, No. 1. Statute of Canada: 2016, c. 7. Royal Assent (2016-06-22).
13. For the 2017-18 benefit, provinces and territories may enter into an agreement with the federal government to reconfigure the CCB, as long as they do not require additional federal funds.
14. For the purposes of this report, income is defined as adjusted family net income. That is, the family net income (line 236 of income tax and benefit

return) less any registered disability savings plan (RDSP) income received, plus any RDSP repayments. Family income does not include children's net income. Family income is calculated every July, based on the previous year's income. http://www.cra-arc.gc.ca/E/pub/tg/t4114/t4114-e.html#family_net_income

15. Adjusted net family income is calculated by deflating the current year's income by a CPI deflator. See Appendix A for more information.
16. According to analysis conducted by Godbout, Luc; St-Cerny, Suzie; "L'Allocation Canadienne pour Enfants: de la promesse à sa mise en place," *Chaire en fiscalité et en finances publiques*, 2016, results are similar when using the specifications provided in the Liberal Party's platform document instead of the specifications in Bill C-15.
17. PBO used CPI to index the old system of CB, and the enrichment factor used for the projection of both the old system of CB and CCB was calculated as the growth rate of real (that is, accounting for inflation) per-capita gross domestic product (GDP). The base year to determine real GDP was 2007. Both the enrichment factor and the CPI were the same as used in preparing PBO's Fiscal Sustainability Report (FSR) 2016. Additionally, the calculation of the old system of CB used the projection in PBO's FSR, with modifications. Link to the report: http://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2016/FSR_2016/FSR_2016_EN.pdf
18. The satellite model for the CCB was disaggregated enough to permit the enrichment and indexation factors to be applied to the relevant factors (that is, base benefits and income thresholds). The model for projection the old system of children's benefits, on the other hand, enriched and indexed the aggregate CCTB estimates.