



# Cost Estimate of a Reduction in the Federal Corporate Income Tax Rate



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The Parliamentary Budget Officer (PBO) supports Parliament by providing economic and financial analysis for the purposes of raising the quality of parliamentary debate and promoting greater budget transparency and accountability.

In response to a request from a member of parliament, the PBO has prepared a cost estimate of gradually reducing the federal CIT rate to 9 per cent.

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# Executive Summary

A member of parliament requested that the Parliamentary Budget Officer (PBO) estimate the annual fiscal cost of gradually reducing the federal corporate income tax (CIT) rate by 1 percentage point each year over 6 years.

Summary Table 1 presents the combined federal-provincial statutory rate under this proposal.<sup>1</sup> The actual rates are reflected in 2018 with a combined rate of 26.8 per cent. Between 2019 to 2024, the reduction is applied and the federal rate is reduced by one per cent each year.

**Summary Table 1 Combined federal and subnational CIT rates under proposed reduction**

	2018	2019	2020	2021	2022	2023	2024
<b>Federal</b>	15.0	14.0	13.0	12.0	11.0	10.0	9.0
<b>Prov.-Terr. Average</b>	11.8	11.8	11.7	11.7	11.7	11.7	11.7
<b>Combined Rate</b>	26.8	25.8	24.7	23.7	22.7	21.7	20.7

Sources: Finance Canada and calculations by the Parliamentary Budget Officer.

Note: The Provincial-Territorial Average is weighted by federal taxable corporate income allocated by province.

Summary Table 2 presents the cost of this proposal based on simulations using our T2 Microsimulation model as well as Statistics Canada Social Policy Simulation Database and Model (SPSD/M). CIT revenue forgone represents the direct cost of the decrease in the CIT rate.

**Summary Table 2 Net cost of reducing the CIT rate by 1% a year over 6 years**

(\$ Billions)	2019	2020	2021	2022	2023	2024
CIT revenue forgone	1.9	3.9	6.0	8.2	10.7	13.2
Minus: Increase in PIT revenue	(0.3)	(0.6)	(1.0)	(1.3)	(1.7)	(2.1)
<b>Net cost of proposal</b>	<b>1.6</b>	<b>3.3</b>	<b>5.0</b>	<b>6.9</b>	<b>8.9</b>	<b>11.1</b>

Sources: Statistics Canada T2-LEAP database, Statistics Canada SPSP/M 26.0 and Parliamentary Budget Officer.

Integration between the corporate and personal income tax (PIT) is a feature of the Canadian tax system. The objective is to avoid double taxation of corporate income and maintain neutrality between incorporating or not. Therefore, the increase in PIT revenue detailed in Summary Table 2 is brought by a decrease in the dividend gross-up and tax credit rates to maintain the integration between the corporate and personal income tax systems.

Summary Table 2 shows that the net cost of a one per cent decrease in the CIT rate is around \$1.6 billion in 2019. By 2024, the net cost of a 6 per cent decrease in CIT rates is roughly \$11.1 billion per year.

While the increase in PIT revenue is fiscally material, it is nowhere near the CIT revenue forgone. This is due to two reasons.

1. Corporations do not distribute all their profits as dividends.
2. Many of the dividends received by the shareholders are not taxable (for example non-resident shareholders or shares held through tax-sheltered accounts).

As will be discussed in section 2, our estimates rely on several key assumptions.

- We assume no other change to the taxation of corporate income. Thus, the small business tax rate remains at 9 per cent until 2024.
- We assume the dividend gross-up and tax credit rates are adjusted each year to maintain integration between PIT and CIT.
- The estimates do not consider behavioural changes.
  - This could lead to increased economic growth if corporations invest more because of the lower rate, although the full impact would likely be felt after our six-year horizon.
  - Tax avoidance may be reduced by the lower rate, leading to a lower net cost. However, the change in corporate behaviour is strongly dependent on the path of the CIT rates in other jurisdictions.
  - Dividend distribution could also be increased or reduced because of the lower rate, which could have a positive or negative effect on PIT revenue.
- Finally, we base our estimate on PBO's Economic and Fiscal Outlook of October 2018.<sup>2</sup> Upside and downside outcomes in our outlook are, broadly speaking, equally likely.

While the PBO believes most of these risks are balanced, the cost estimates presented in Summary Table 2 is probably on the upper end.

# 1. Introduction

The Parliamentary Budget Officer (PBO) has been requested by a member of parliament to estimate the annual fiscal cost of gradually reducing the federal corporate income tax (CIT) rate over 6 years. More specifically, this is done by lowering the federal CIT rate for large businesses by 1 percentage point each year until the combined federal-provincial statutory rate roughly equals 20 per cent.

Table 1-1 below presents the combined federal-provincial statutory rate<sup>3</sup> starting with the actual rates for 2018 and applying the reduction from 2019 to 2024.

**Table 1-1 Combined federal and subnational CIT rates under proposed reduction**

	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
<b>Federal</b>	15.0	14.0	13.0	12.0	11.0	10.0	9.0
<b>Prov.-Terr. Average</b>	11.8	11.8	11.7	11.7	11.7	11.7	11.7
<b>Combined Rate</b>	26.8	25.8	24.7	23.7	22.7	21.7	20.7

Sources: Finance Canada and calculations by the Parliamentary Budget Officer.

Note: The Provincial-Territorial Average is weighted by federal taxable corporate income allocated by province.

Assuming there is no change in the CIT rate for small business income, a federal rate of 9 per cent in 2024 would be equal to that of small businesses. This would effectively eliminate the tax preference for small businesses at the federal level.

However, all provinces and territories in Canada give preferential treatment to small business income. As of 2019, the combined small business CIT rate will equal 12.2 per cent. If provincial/territorial rates remain constant, this combined rate of 12.2 per cent will remain lower than the general CIT rate of 20.7 per cent.

In section 3 we present the impact on federal CIT and PIT revenues of simulating both the decrease in CIT rate and the change to dividend taxation and the net cost associated with these changes.

## 2. Methodology

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### 2.1. Modelling the CIT rate reduction

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The cost estimate developed by the PBO is based on a microsimulation model of T2 returns using administrative data provided to Statistics Canada by the Canada Revenue Agency (CRA).<sup>4</sup> This database is called the T2-LEAP.

The base federal CIT rate is currently 38 per cent, to which a federal abatement of 10 per cent is applied, bringing down the rate to 28 per cent. Then, an additional general rate reduction of 13 per cent is applied to arrive at the general CIT rate of 15 per cent.

Between the years 2008 to 2012, the federal general CIT rate was reduced from 22.1 per cent to 15 per cent by increasing the general rate reduction. Thus, to simulate a decrease in the statutory rate, we have taken a similar approach by increasing the general rate reduction by one percentage point each year over the six-year horizon.

The simulations were run on the two latest years of tax data available: 2014 and 2015. There is not a fiscally material difference in the simulation results between the two years. Nevertheless, CIT revenues generally increase in line with economic activity and nominal gross domestic product (GDP).<sup>5</sup>

To account for the increase in nominal GDP since 2015 and the forecasted increase over the 2019-2024 horizon, we scaled-up the cost estimate obtained in our simulations. This was done by multiplying the simulation results by the actual growth rate of nominal GDP until 2017, and by PBO's growth forecast for the remainder.

### 2.2. Key assumptions

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#### 2.2.1 No other changes to the CIT system

Assuming there is no change in the CIT rate for small business income, a federal rate of 9 per cent in 2024 would be equal to that of small businesses. This would effectively eliminate the tax preference for small business income at the federal level.

It would also render some of the new rules introduced in Budget 2018 with respect to passive income earned in Canadian Controlled Private Corporations (CCPCs) obsolete. Indeed, under these new rules a CCPC has limited access to the small business rate if it earns passive income above an

annual threshold of \$50,000. If both rates are equal at the federal level, this constraint would no longer be binding.

Note that this report does not include the financial impact of the new passive income rules. Since these rules will tax some small business income at the general rate, a reduction of this rate will lower the revenue gains from these rules. It is a small downside risk to our cost estimate, which should not be fiscally material.<sup>6</sup>

Until 2003, corporations in the manufacturing and processing (M&P) sector were facing a lower federal CIT rate through the M&P deduction. This deduction was higher than the general rate reduction.

Starting in 2004, this tax preference was abandoned, and the M&P deduction rate has followed the general rate reduction since. Thus, we have also increased the M&P deduction by one percentage point each year to keep it in line with the general rate reduction. This has a relatively small impact on the cost estimate.

### **2.2.2 Integration will be maintained**

An important aspect of the Canadian tax system is integration of CIT and PIT. Integration serves two main purposes. The first is to avoid double taxation of income earned through a corporation. The second is for individuals to be indifferent between earning income personally or through a corporation. The idea is that an individual should not incorporate his or her business purely for tax reasons.

Because of this integration, when an individual receives dividend income from a corporation, this amount is grossed-up by a certain factor. This aims to increase the dividend amount back to the approximate value of corporate profits before CIT was paid. The grossed-up dividend amount is then taxed at the marginal PIT rate that the individual is facing. Finally, a dividend tax credit is applied to recognize the corporate taxes already paid on this income.

Note that the gross-up and tax credit mechanisms are applied regardless of whether the source income was taxed in the corporation's hands.

Furthermore, they are only applied to dividends received by taxable Canadian individuals. Indeed, if the shares are held through a tax-sheltered account (such as an RRSP or a TFSA) or are held by a non-resident, there will be no gross-up nor credit applied to the amount of dividend received.

When the government reduces the CIT rate, it usually adjusts the dividend gross-up and tax credit rates accordingly to maintain the integration of both tax systems. This will increase personal income tax (PIT) revenues and offset to a certain extent the cost of the CIT rate decrease.

To estimate the increase in PIT revenues, we ran simulations in Statistics Canada's Social Policy Simulation Database and Model (SPSD/M). For each



year, we compared federal revenues under the baseline PIT system, with those obtained by changing the gross-up and dividend tax credit rates in a way that would maintain integration given the lower CIT rate.

We used version 26.0 of SPSPD/M, which only permits simulations up to the year 2023. Therefore, for 2024 we ran another simulation on 2023, with the dividend gross-up and tax credit rates of 2024. We then increased that amount by our forecast of nominal GDP growth between 2023 and 2024, implicitly assuming dividend payments would follow the growth of output.

### 2.2.3 Static estimate which doesn't account for behavioural changes

Our estimates of changes in the federal receipts from CIT and PIT do not account for possible changes in behaviour. These changes are hard to predict and depend to some extent on external factors, such as the path over the next years of CIT rates in other countries.

With a lower CIT rate, corporations will have a higher amount of after-tax income from which they can distribute dividends. It is therefore possible that dividend payments will increase. This would then increase PIT revenues and is an upside risk to our estimate.

On the other hand, a lower CIT rate also provides an incentive to retain earnings in the corporation. This deferral opportunity is the reason why the new rules on passive income were introduced. These rules would no longer be binding at the federal level in 2024 under the proposed CIT decrease. This could have the effect of reducing the distribution of dividends and is a downside risk to our estimate.

A reduction in CIT rates will result in a decrease in the marginal effective tax rate (METR) that corporations face. This is expected to result in an increase in investments made by firms. The lower CIT rate could also attract additional investments from foreign firms.

An increase in investments by corporations could lead to an increase in output and to some extent in profits. This in turn should generate higher CIT revenues which could offset a portion of the revenue loss caused by the CIT rate reduction. This is an upside risk to our estimate.

However, PBO's microsimulation model is not designed for dynamic scoring. Furthermore, it is difficult to estimate the magnitude of the impact on investment of a lower CIT rate, and even more difficult to quantify how much future CIT revenues would stem from this increase in investment.

We can not predict how other jurisdictions will react to Canada's reductions in its CIT rate. Depending on how the rates evolve in other countries, the impact on investment in Canada might be negligible. In any case, the possible increase in tax revenues brought about by higher investment will

take some time to materialize and most of the effect would take place outside our costing horizon of six years.

A lower CIT rate may reduce the incentive for firms to engage in tax avoidance through profit shifting and sophisticated tax planning activities. A decrease in tax base erosion could offset a portion of the cost arising from the rate reduction.

However, once again this also depends on the evolution of CIT rates in other jurisdictions. Note that OECD countries have been collaborating on the BEPS (Base Erosion and Profit Shifting) initiative and started implementing this year the country by country reporting for multinationals.

Depending on the outcome of this initiative, there could be a decrease in tax avoidance over the next few years, regardless of the level of CIT rates. If that were the case, the cost of lowering the CIT rate would be higher as the increase in the tax base would mean greater forgone revenue.

Finally, we assume that the rate reduction will not have an impact on investment in Scientific Research and Experimental Development (SRED) activities, which are eligible to the SRED tax credit. The lower CIT rates however mean that some corporations will need to use less of their SRED and other investment tax credits (ITCs) to bring their tax payable to zero. This should increase their pool of unused ITCs.

Unused ITCs can be carried-back three years or carried forward 20 years. Our simulation results show an annual increase of about \$50 million in unused credits. Since most of this amount will only be claimed at a later point in time, the cost associated with this increase in unused credit is not fiscally material.

#### **2.2.4 Underlying economic outlook**

We base our estimate on PBO's Economic and Fiscal Outlook October 2018.<sup>7</sup> Upside and downside outcomes in our outlook are, broadly speaking, equally likely.

### 3. Results

Table 3-1 presents the results of our simulations. CIT revenue forgone represents the direct cost of the decrease in the CIT rate. The increase in PIT revenue corresponds to the increase brought about by a decrease in the dividend gross-up and tax credit rates to maintain integration.

These mechanisms are designed to account for the corporate tax already paid on the income distributed as dividends and thus avoid double taxation. This results in a total tax burden (CIT + PIT) on income earned through a corporation that is roughly the same as the one on income earned personally (through self-employment for example).

Note that in the past, the federal government has not always immediately adjusted the dividend gross-up and tax credit rates following a change in CIT rates.

**Table 3-1** Net cost of reducing the CIT rate by 1% each year over 6 years

(\$ Billions)	2019	2020	2021	2022	2023	2024
CIT revenue forgone	1.9	3.9	6.0	8.2	10.7	13.2
Minus: Increase in PIT revenue	(0.3)	(0.6)	(1.0)	(1.3)	(1.7)	(2.1)
<b>Net cost of proposal</b>	<b>1.6</b>	<b>3.3</b>	<b>5.0</b>	<b>6.9</b>	<b>8.9</b>	<b>11.1</b>

Sources: Statistics Canada T2-LEAP database, Statistics Canada SPSP/M 26.0 and Parliamentary Budget Officer.

As can be seen in Table 3-1, the net cost lowering the CIT rate is around \$1.6 billion in 2019 for a one per cent decrease. In other words, reducing the CIT rate by one percent results in a net reduction of government revenues of \$1.6 billion. By 2024, the net revenue forgone from reducing the CIT rate by 6 per cent, to get a combined rate of 20.7 per cent, is \$11.1 billion.

As discussed in section 2, these cost estimates do not consider behavioural changes. The introduction of behavioral changes could lead to some upside and downside risks. While the PBO believes most of these risks are balanced, the cost estimates presented in Table 3-1 is probably on the upper end.

# Notes

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1. The federal rate is net of the federal abatement and the general rate reduction.
2. Available at: [https://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2018/EFO%20Oct%202018/EF\\_OCT2018\\_EN.pdf](https://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2018/EFO%20Oct%202018/EF_OCT2018_EN.pdf)
3. See note 1.
4. This model was developed in house by staff of the Office of the PBO. More details on this model are presented in our 2017 report "Corporate Tax Model" available at: <https://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2017/Corporate%20Tax%20Model/Corporate%20Tax%20Model%20EN.pdf>
5. Table 10 of CRA's "Corporate Statistical Tables" shows a steady increase of federal tax payable over the 2011 to 2015 tax years. This table is available at: <https://www.canada.ca/content/dam/cra-arc/prog-policy/stats/t2-corp-stats/2011-2015/tbl10-en.pdf>
6. The Department of Finance estimated in Budget 2018 that the revenue gain associated with the reduced access to the small business rate would amount to \$380 millions in the fiscal year 2022-2023 (the latest year for which they present a forecast). See Table 1 of "Tax Measures: Supplementary Information" at: <https://www.budget.gc.ca/2018/docs/tm-mf/tax-measures-mesures-fiscales-2018-en.pdf>
7. See note 2.