Who Will Pay for the Economic Lockdown?

When governments incur debt to cushion the impact of an economic downturn, they are shifting some or all the economic cost of the downturn into the future. Since the current generation reaps the benefits from cushioning incomes, fairness requires that the debt be retired before the next generation starts working and paying taxes.

John Lester

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About The Author

John Lester
is an Executive Fellow at the School of Public Policy, University of Calgary.

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Daniel Schwanen
Vice President, Research

The Study In Brief

When the final accounting is done, federal debt is likely to be about $550 billion higher because of pandemic-related lockdowns in Canada and other countries. Most of the current discussion around the additional debt focusses on its sustainability – whether the debt can be rolled over indefinitely without requiring tax increases or spending cuts to finance the interest expense. As long as the government's borrowing costs grow no faster than current dollar output, the additional debt will not put pressure on federal finances. The historical record suggests such fiscal sustainability is possible, albeit far from guaranteed.

The economic cost of the debt gets much less attention in the policy discussions. There is an implicit assumption that if the debt is fiscally sustainable, it can be rolled over indefinitely without imposing any economic costs. If that were true, the economic lockdown would reduce output, but nobody would need to suffer an income loss, now or in the future. However, the analysis in this paper indicates that the income loss arising from the recession can only be deferred, not eliminated, by issuing debt.

How far into the future should this loss be shifted? It is hard to make a convincing case that the benefits of stabilizing the economy extend beyond Canadians alive today. Fairness requires that the lockdown-induced increase in debt be retired before the next generation starts working and paying taxes, which will occur 18 to 25 years from now.

A second fairness issue is how the recession-induced output loss should be shared among the current generation. The government should implement a set of debt reduction policies that, given the distribution of income losses during the recession, achieves what is considered a fair sharing of the burden of the recession.

Every effort should be made to minimize the efficiency cost of achieving the two fairness goals. Since they harm rather than help long-run economic performance, elimination of business subsidies that do not address a clearly defined market failure should be the centerpiece of debt repayment policies. Spending reductions that promote a fairer distribution of the economic cost of the recession without harming economic efficiency should also be considered.

If revenue-raising measures are necessary, tax increases on business investment should be avoided. Faced with a tax increase in Canada, investors can, to a close approximation, maintain their existing rate of return by shifting investment out of Canada to other countries. The smaller capital stock in Canada results in lower productivity and hence lower wages. In a small economy like Canada, the corporate income tax is effectively a tax on wages but is much more damaging than increases in personal income taxes or the GST, because it causes a fall in wages.

Paying down the debt fairly and efficiently raises complex technical issues and value judgements that should be debated publicly. To help guide the way, the government should set up a Parliamentary Committee to consult with Canadians on who should pay for the economic lockdown and, with the assistance of an expert panel, to develop a proposal for achieving the target outcome in the most efficient way.

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The global economic lockdown implemented to contain the COVID-19 virus has caused the most severe economic downturn in Canada since the Great Depression in the 1930s. The cumulative output loss could easily amount to 15 percent of GDP.

However, income support policies by the federal government have, in the aggregate, almost fully compensated Canadians for their income losses during the recession. These income support policies were debt financed, so almost all the economic cost of the recession has been shifted into the future.

How far into the future should this loss be shifted? It is hard to make a convincing case that the benefits of stabilizing the economy extend beyond Canadians alive today. Fairness requires that the lockdown-induced increase in debt be retired before the next generation starts working and paying taxes, which will occur 18 to 25 years from now.

This recommendation is at odds with the frequent observation that the additional debt will not impose a cost on future generations because interest rates are so low. As long as the government's borrowing costs grow no faster than current dollar output, debt can indeed be financed without raising tax rates or cutting government spending. The historical record suggests such fiscal sustainability is possible, albeit far from guaranteed. But even if the fiscal cost of debt can be avoided, the income loss arising from the recession cannot. If the lockdown-related debt is rolled over indefinitely, future generations will bear the burden of the recession through a combination of reduced business investment and higher debt servicing charges on imported capital.

A second fairness issue is how the income loss should be shared among the current generation. In principle, the government should implement a set of debt reduction policies that, given the distribution of income losses during the recession, achieves what is considered a fair sharing of the burden of the recession. In practice, however, the policy decision to overcompensate some, but not all, low-income Canadians for their income losses makes it difficult to achieve a fair sharing of the burden of the recession. Working within this constraint, the government should develop a set of policies to promote a fair distribution of the recession-induced income loss while minimizing the adverse effects on economic performance. A special Parliamentary Committee, assisted by an expert panel, would be a good vehicle for consulting with Canadians and exploring policy options.

Among other issues, the Committee should consider:

- Options for achieving a fair sharing of the burden among Canadians earning relatively low incomes.
- Whether the burden of retiring the lockdown-related debt should rise with income and if so, by how much. A starting point for the discussion could be the progressivity of the combined personal income tax system and the GST.
- Whether income should be defined on an individual or family basis.

Key Concept Explainer

Can We Escape the Cost of the Recession by Issuing Debt?

A key theme of this paper is that issuing debt to support incomes during the recession shifted the income loss into the future. However, extremely low interest rates have led some analysts to conclude that the additional government debt may not weigh on future economic performance, which would mean we have escaped the cost of the recession by issuing debt.

The interest rate on government bonds (r) is now well below the growth rate of the economy (g). If r were a reliable indicator of the rate of return on business investment, and g were a good proxy for the growth rate of the capital stock, the relationship between r and g would suggest that the additional debt will not hurt future economic performance.

When the rate of return on business investment is less than the growth rate of the capital stock, the dollar value of the return to investment is less than the amount invested, which is a sure sign that investment is not helping to raise living standards. An increase in government debt means some combination of less investment and higher borrowing from abroad to sustain investment; if the return on business investment is less than the growth rate of the capital stock, more government debt will not hurt living standards.
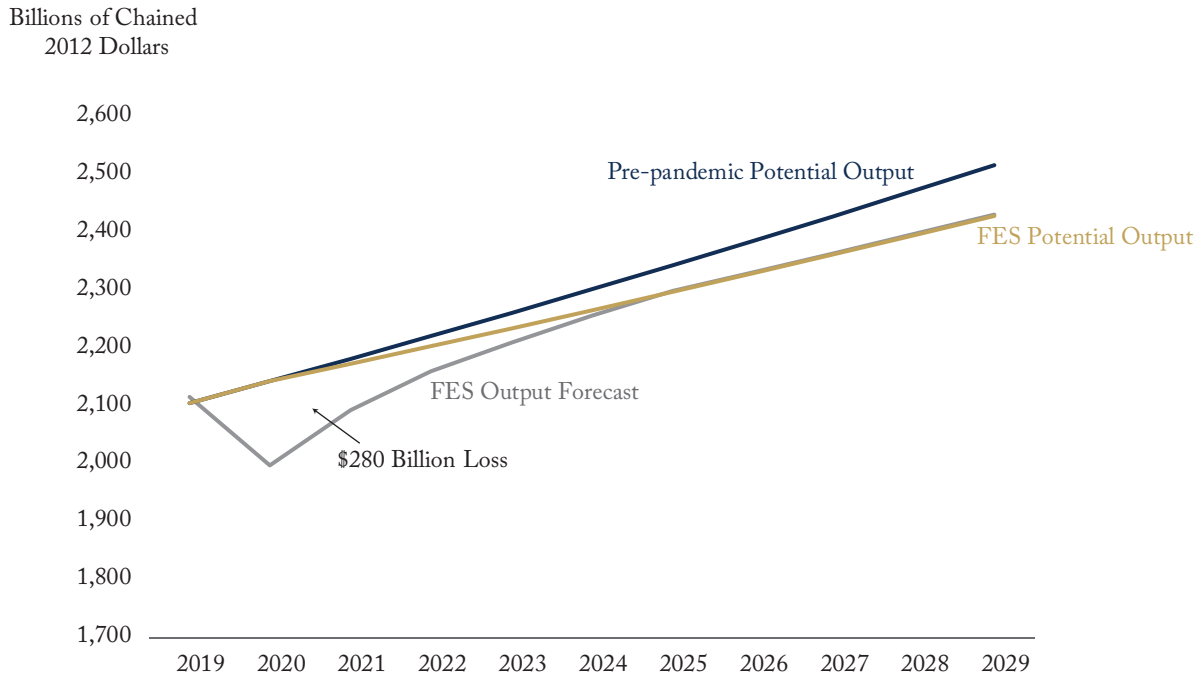
However, direct calculation of the gap between the return to investment and the amount invested indicates that business investment is contributing to higher living standards, so debt-financed income support policies, once ended, will not allow us to escape the economic cost of the recession. The additional debt will weigh on economic performance until it is retired.

- How contributions to debt repayment should be distributed among age groups. The length of the debt repayment period is a key factor here: as the repayment period gets shorter the contribution of the oldest age category rises relative to that of the youngest.

- How to minimize the economic cost of debt repayment without compromising equity objectives. Both expenditure restraint and tax increases should be considered. The focus on the expenditure side should be reductions in business subsidies while tax measures should avoid increasing the tax burden on investment, which would be a particularly damaging way to raise revenue.

The amount of fiscal consolidation required to retire the lockdown-related increase in debt accrued so far is substantial. For example, even if debt financing costs remain 60 basis points below the assumed trend growth in nominal GDP, paying off the debt in 25 years would require a sustained budget balance net of interest expense – a primary balance – of .8 percent of GDP. Assuming that the federal government achieves a primary balance of zero in 2025/26, federal taxes[1] would have to increase about 7 percent to raise the required revenue, or program spending would have to be cut almost 6 percent. Given the size of the required fiscal contraction, it

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1   Federal income taxes and the GST.

Figure 1: Real Output Loss from the Economic Lockdown ($ billions, discounted present value)

Sources: Fall Economic Statement (FES) and author's calculations.

should be implemented in stages, beginning when the economy is performing strongly.

What is the Cost of the Lockdown?

The main economic cost of the lockdown[2] arises from the reduction in output during the lockdown and the subsequent recovery phase. The federal government has almost completely offset the ensuing income loss through debt-financed income support and other stabilization policies. Surprisingly, it is a matter of debate whether the income loss has been deferred or eliminated by issuing debt.

My analysis indicates that the economic cost of the lockdowns will be paid over time as the increased debt impinges on economic performance. In contrast, it is possible, but far from guaranteed, that the interest on the additional debt can be financed without raising taxes or cutting spending. That is, while the additional debt may not impose

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2   I am using the term "lockdown" as shorthand for the series of responses by governments and individuals that restricted economic activity in Canada and in other countries to the COVID-19 pandemic. Developments in other countries contribute to the output loss in Canada through their impact on exports and imports.

a fiscal cost, the economic cost of the recession cannot be avoided.

Output Loss from the Lockdown

My main interest in calculating the lockdown-induced reduction in output is to quantify the income loss that must be shared by Canadians.[3] As discussed in more detail below, the case for shifting this income loss to future generations is weak. Incurring debt to cushion the impact of the lockdown is sound public policy, but the debt should be repaid before the next generation starts working and paying taxes. Canadians alive today should, on average, suffer an income loss roughly equal to the decline in output caused by the pandemic.

One approach to estimating the output loss is to compare forecasts prepared before and after the pandemic. A complicating factor is that the pandemic is widely expected to reduce potential output[4] over an extended period. The decline in potential output imposes an economic cost on current and, to the extent the decline is long-lasting, on future generations. The best measure of the income loss that should not be shifted to future generations is therefore measured by the gap between actual output and the revised estimate of

potential output. In its Fall Economic Statement (FES) (Finance Canada 2020), the federal government now assumes potential output grows at 1.4 percent a year, down from 1.8 percent in the 2019 budget forecast.[5] In the FES forecast real output returns to its new, lower potential level in 2025. The present value[6] of the cumulative output loss from 2020 to 2024 is $280 billion (Figure 1), which is 13 percent of the average value of potential GDP from 2020 to 2024.

Fiscal Cost of the Lockdown

The federal government provided comprehensive estimates of pandemic-related spending measures in the FES. The cumulative fiscal cost of the policy response over the five years ending in 2023/24 is $338 billion (Table 1). The federal government will also make available loans and other financial support to businesses amounting to at least $83 billion. However, most of the loans are repayable, which means they are not a burden on the taxpayer, at least in principle. Further, the portion that is not repayable and any other ongoing costs are included in the fiscal cost of spending measures.

According to the FES, induced effects of lower activity levels on revenues and expenditures will add about $73 billion to debt levels in the current and

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3   The income earned by Canadians differs from output, measured as Gross Domestic Product (GDP), for several reasons. First, Canada has in recent years incurred a deficit on its international investment income account and on its net income from international employment (income of Canadians working abroad less the income of foreign nationals working in Canada). This gap lowers real income relative to real GDP. Second, GDP includes depreciation expense, which also lowers income relative to GDP. Third, changes to Canada's terms of trade can affect income without affecting production. For example, the global response to the pandemic caused commodity prices, particularly oil, to tumble, which reduced the real income of Canadians but not production. There is not enough information available to determine whether the dollar value of the loss in output overstates or understates the income loss.

4   When the economy is operating at potential there is no upward or downward pressure on the rate of inflation.

5   The federal government's estimate is slightly higher than the Bank of Canada's 1.2 percent (Brouillette, Champagne, and McDonald-Guimond 2020) but lower than the 1.7 percent estimate developed by the Parliamentary Budget Officer (Office of the Parliamentary Budget Officer 2020). GDP inflation is assumed to be 2 percent.

6   I use a real discount rate of 1.2 percent, which is the real rate of return on a ten-year government bond consistent with a neutral nominal bank rate of 2.25 percent. See the "Fiscal sustainability" section for additional detail.

Table 1: Increase in Net Debt Arising from the Lockdown						
	2019/20	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**Total**
	($ billions)					
Policy Response as Reported in Fall Economic Statement	7.2	275.2	50.6	3.8	1.2	338.0
Economic Conditions[*]	5.9	66.8	32.1	15.8	12.9	133.5
Subtotal	13.1	342	82.7	19.6	14.1	471.5
Planned Stimulus Spending			–	70 to 100	–	
Total						542 to 572

Note:
* Estimates for the first two fiscal years are from the Fall Economic Statement (FES). Estimates for other years were obtained by comparing the deficit forecast in Budget 2019 with its counterpart in the FES with adjustments for policy changes and forecast errors.

Source: Author's calculations using above documents.

previous fiscal year. These induced effects will persist in subsequent years, but no estimates were provided in the FES. I prepared illustrative estimates of the impact of economic conditions on the deficit by comparing the FES deficit forecast with its counterpart in Budget 2019 adjusted for policy initiatives and forecast errors.[7] The cumulative impact of economic conditions is $134 billion, which brings the total fiscal cost of the pandemic to about $470 billion. The federal government plans to spend an additional $70 to $100 billion over three years starting in 2021/22 to promote a strong recovery. The total fiscal cost of the pandemic could be as much as $570 billion.

The policy response to the pandemic consists of direct income support measures, tax deferrals, business loans, and health protection measures. The cumulative fiscal cost of direct income support measures is $269 billion over the forecast period. Employment insurance benefits paid to individuals making claims when the first lockdown was announced are not included in the pandemic policy response measures but are part of the overall income stabilization measures. In an earlier paper (Lester 2020), I estimated the additional cost of these ongoing claims at $26 billion,[8] which would raise the total fiscal cost of income support measures during the lockdown to $296 billion. That is within 5 percent of the current dollar value of the output loss, $310 billion, resulting from the lockdown.

Fiscal Sustainability

The economic and fiscal projections in the FES show federal debt (net debt less non-financial assets) peaking as a share of GDP in 2021/22

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7   I estimated forecast errors in two steps. First, I subtracted the Budget 2019 budget balance in 2019/20 and 2020/21 adjusted for policy changes from the FES budget balance. I then deducted the reported estimate of the impact of economic conditions on the FES budget balance. The implied forecast error in 2020/21 is $20 billion. I applied this adjustment to the following three fiscal years.
8   Note that this cost is implicitly included in the estimated impact of economic conditions on debt issuance shown in Table 1.

Table 2: Fall Economic Statement – Economic and Fiscal Projections (excluding planned stimulus)							
	2019	2020	2021	2022	2023	2024	2025
Growth Rates							
Real GDP	1.8	-5.8	4.8	3.2	2.3	2.1	1.9
Nominal GDP	3.6	-5.5	6.9	5.3	4.4	4.3	4.0
Potential real GDP	1.8	1.8	1.4	1.4	1.4	1.4	1.4
Percentage							
Output Gap[1]	0.5	-6.8	-3.7	-2.0	-1.1	-0.4	0.1
Interest Rates							
3-month TB	1.7	0.4	0.2	0.3	0.5	1.1	1.5
10-year Bonds	1.6	0.7	0.9	1.2	1.6	2.0	2.4
Percentage of Nominal GDP							
Revenues[2]	14.4	12.4	14.1	14.2	14.4	14.6	14.7
Program Spending[2]	15.0	28.9	18.4	15.4	15.1	14.6	14.4
Primary Balance	-0.6	-16.6	-4.3	-1.1	-0.7	0.0	0.3
Public Debt Charges	1.1	0.9	0.9	0.9	1.0	1.1	1.2
Budget Balance	-1.7	-17.5	-5.2	-2.1	-1.7	-1.2	-0.9
Federal Debt	31.2	50.7	52.7	52.0	51.6	50.6	49.6
Percentage of Budgetary Revenues[2]							
Public Debt Charges	7.4	7.5	6.2	6.4	7.0	7.8	8.4

Notes:
1. Real GDP less potential GDP as a percentage of potential GDP.
2. Net of the proceeds from the pollution pricing framework, which raise revenues and spending by the same amount.

Source: Fall Economic Statement.

(Table 2). Nevertheless, rising interest rates cause public debt charges to increase slightly as a share of GDP over the forecast horizon. Public debt charges also increase relative to budgetary revenues net of the proceeds from the pollution pricing framework,[9] rising from 7.4 percent in 2019/20 to 8.4 percent in 2025/26. However, since the Bank of Canada is holding a substantial fraction of the lockdown-induced increase in debt, the government's interest expense is overstated, at least in the short-run

9   Proceeds from the pollution pricing framework are returned to their province/territory of origin through Climate Action
     Incentive payments and other programs. They raise revenues and program spending by the same amount.

Box 1: Quantitative Easing and the Fiscal Cost of the Pandemic

The public debt charges reported in the Fall Economic Statement overstate the cost of financing debt because the Bank of Canada has purchased federal bonds under its quantitative easing (QE) program. Interest income earned on government bonds adds to the Bank's net income that is automatically remitted to the federal government. However, the Bank has not "printed money" to purchase the bonds. The Bank effectively borrows from the financial institutions selling the bonds and pays interest on these loans. The interest rate – the deposit rate – has been set at the Bank's policy rate, now .25 percent, but will return to being set at 25 basis points below the policy rate when QE ends.

Even with bond yields at historic lows, QE results in a net reduction in interest expense for the government, at least for the next several years. The savings are not likely to be large this year but could rise if the Bank's intention to keep the policy rate at 25 basis points into 2023 is realized. The Bank of Canada increased its holdings of federal bonds by $220 billion since the start of QE to mid-December 2020.[a] If the Bank's holdings replicate the federal government's intended issuance, about half of the holdings would mature in five years or more and the other half in three years or less. Based on observed interest rates to mid-December, the average interest rate on such holdings would likely be under 75 basis points. By 2023, however, the shorter-maturity bonds could be rolled over at higher interest rates, which would increase the gap between the deposit rate and the interest rate on federal bonds.

It is, however, possible that some or all these savings will be lost when the Bank reduces its holdings of federal and other bonds purchased as part of QE. The purpose of the asset purchases is to raise demand and spending, so the Bank will shrink its balance sheet to more normal levels when the economy has recovered. It may be possible to reach this objective by allowing bonds to roll off the Bank's balance sheet as they mature. However, durably achieving the 2 percent inflation target may require downsizing the balance sheet more rapidly through bond sales. Interest rates are likely to be higher when the bonds are sold than when they were purchased so the Bank, and hence the government, will incur a capital loss on the sale of bonds.

a. Bank of Canada assets and liabilities: Weekly https://www.bankofcanada.ca/rates/banking-and-financial-statistics/bank-of-canada-assets-and-liabilities-weekly-formerly-b2/.

(Box 1). This benign outlook depends in part on shift to a primary surplus (revenues less program spending) of 0.3 percent of GDP in 2025/26, compared to a primary deficit of 0.7 percent of GDP in 2023/24, when pandemic-related spending is expected to be about $1 billion. Program spending net of the return of the proceeds from the pollution pricing framework is projected to decline by 0.6 percentage point of GDP from 2019/20 to 2025/26 while net budgetary revenues are projected to rise by 0.3 percentage point of GDP.

Despite this favourable outlook, the federal government is planning additional stimulus spending of $70 to $100 billion over three years starting in 2021/22. The motivation for deploying the additional stimulus is to prevent the second wave of the pandemic from slowing the recovery or to accelerate the economic recovery if the downside risks from the second wave identified in the FES do not materialise.

The FES does not contain a detailed economic and fiscal forecast including deployment of the additional stimulus. To assess the fiscal sustainability of the government's fiscal plan, I developed an illustrative alternative projection assuming that the additional stimulus accelerates the recovery set out in the base-case forecast. I assume that the federal government increases spending by $70 billion relative to the base-case forecast over three years starting in 2021/22 but achieves a primary balance of zero by 2025/26.

The additional stimulus represents approximately 3 percent of nominal GDP. I use a fiscal multiplier of .6,[10] which results in additional growth of 1.8 percentage points over the three years. The additional growth causes real output to rise slightly above its trend value in 2023, which is about two years earlier than in the base-case forecast.

In the illustrative projection, I also assume that the Bank of Canada ends its program of quantitative easing in 2023 and moves to a neutral policy setting by 2025. As a result, interest rates rise more rapidly and reach a higher level than in the FES base-case forecast. In its latest Monetary Policy Report (Bank of Canada 2020), the Bank estimated the neutral bank rate to be in the 1.75 to 2.75 percent range.[11] (The neutral rate is the policy rate setting consistent with the economy growing at its trend rate and inflation at the 2 percent target.) Based on relationships over the 2000-to-2019 period, the mid point of the range implies a three-month Treasury bill rate of 1.9 percent and a 10-year bond rate of 3.2 percent.[12] I assume that these interest rate levels are reached in 2025, which in turn implies an average financing cost of 2.8 percent for new issues of federal debt.[13] The average rate on government debt continues to rise until at least 2032/33 as debt is rolled over at higher rates.

With these economic and fiscal assumptions, the debt-to-GDP ratio rises from 31.2 percent in 2019/20 to 53.1 percent in 2025/26. The ratio of public debt charges to federal revenues rises from

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10 This is the upper end of the range of fiscal multipliers reported in a recent Bank of Canada study (Priftis and Zimic 2018).

11 This estimate is based on a subjective overall assessment of the results from four models used to determine the neutral rate. In two of the four models the neutral rate is affected by the growth rate in potential output, which is expected to "stabilize around 1.2 percent" (Brouillette, Champagne, and McDonald-Guimond 2020). This is down from about 1.7 percent in the 2019 estimate of potential output growth. There is not enough information available in the Bank's analytical reports to determine the impact of lower potential output growth on the neutral rate. To maintain rough consistency between the neutral rate and output growth, I assume that potential output grows at 1.4 percent over the projection period.

12 On average from 2000 to 2019, the 3-month Treasury bill rate was 33 basis points below the bank rate while the 10-year bond was 99 basis points higher than the bank rate.

13 Using these two rates as proxies for short- and long-term borrowing costs and assuming the 30 percent share for short-term financing continues indefinitely, the average financing cost is 2.84 percent with a 2.25 percent bank rate.

Table 3: Fiscal Sustainability with Alternative Interest Rate Assumptions[1]

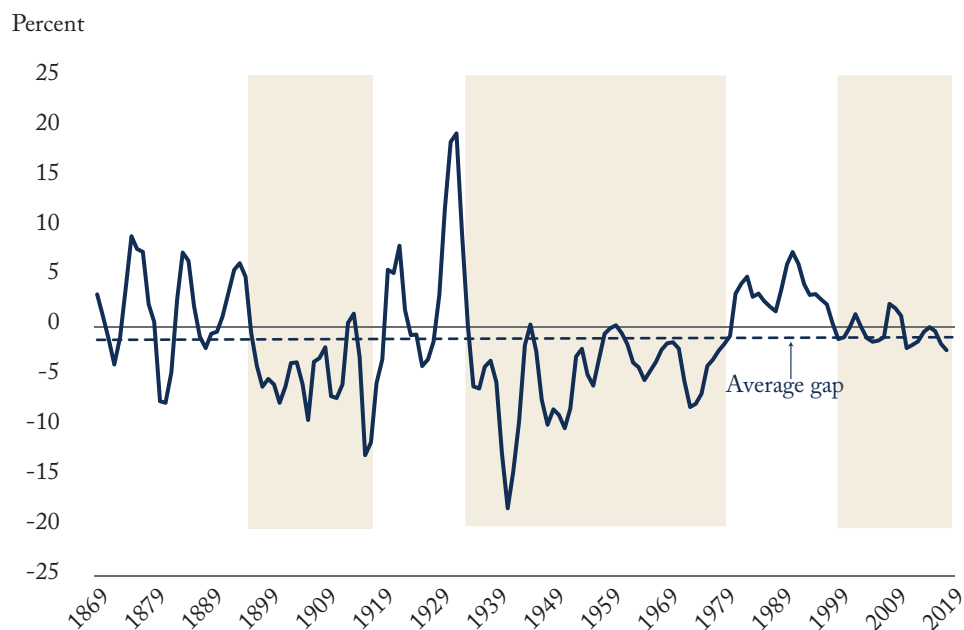|	Average Financing Cost[2]	Primary Balance/ GDP	Debt/GDP	Interest/Federal Revenues[3]
	(percentage)			
Neutral Policy Rate = 2.25%				
2019/20	3.4	-0.65	31.2	7.3
2025/26	2.4	0.00	53.1	8.4
2030/31	2.7	0.00	50.6	9.0
2050/51	2.8	0.00	45.2	8.5
Neutral Policy Rate = 3.25%				
2019/20	3.4	-0.65	31.2	7.3
2025/26	3.0	0.00	53.6	10.5
2030/31	3.5	0.00	52.9	12.2
2050/51	3.8	0.00	56.9	14.3
Neutral Policy Rate = 4.25%				
2019/20	3.4	-0.65	31.3	7.0
2025/26	3.6	0.00	54.5	12.8
2030/31	4.4	0.00	55.7	15.9
2050/51	4.8	0.00	72.5	22.8

Notes:
1. The economic and fiscal assumptions underlying these scenarios are described in the text.
2. Calculated assuming interest rates reach their maximum value in 2025 and that 10 percent of the stock of bonds matures each year. No adjustments are made for taxes on interest payments or for debt owned by the Bank of Canada; see text for an explanation.
3. The FES projects net federal revenues at 14.7% of GDP in 2025-26. This percentage is maintained until 2046-47.

Sources: Fall Economic Statement (FES) for data up to 2025/26 and author's calculations.

7.3 percent to 8.4 percent over the same period (Table 3). How would these ratios evolve after 2025/26 if the additional debt is not paid down? Interest rates may well rise further than projected after 2025, but if the average cost of financing government debt remains below the trend growth rate of nominal GDP, assumed to be 3.4 percent, interest expenses would not experience a trend rise as a share of GDP. Further, interest expenses will not rise relative to federal revenues if revenues

**Figure 2: Long-term Interest Rate Less Nominal Output Growth Rate
(Three year centred moving average)**

Sources: Smart (2020) and author's calculations.

remain a roughly constant share of GDP.[14] The historical record suggests this is a plausible outcome.

Smart (2020) compares interest rates (r) and nominal output growth rates (g) in Canada from 1867 to 2019. During this period, nominal growth exceeded the long-term interest rate just under 60 percent of the time, resulting in an average gap of -1.1 percentage points. The r-g gap is highly variable, but there have been three periods when interest rates were less than output growth on a sustained basis (Figure 2). The first was from 1896

to 1919 when the gap averaged -5 percentage points. The second lasted for 35 years ending in 1980 when the gap averaged -4.9 percentage points. Since 1999 the gap has been negative for 70 percent of the time, averaging -0.4 percentage points.

If the government achieves a primary balance of zero in 2025/26 and maintains it indefinitely and the average cost of financing stabilizes at 2.8 percent, the debt-GDP ratio would decline slowly to 45 percent by 2050 (Table 3). The ratio of interest expense to federal revenue would reach 9 percent in 2030/31 and peak at 9.3 percent four

14   If the average financing cost equals the growth rate of nominal GDP, this outcome also requires that the budget balance excluding interest payments (the primary balance) be zero. If the average financing cost is less than GDP growth, a negative primary balance would be consistent with a declining ratio of interest payments to revenues.

years later. The neutral rate could be as high as 2.9 percent without causing the average cost of financing to exceed the growth rate of the economy.

However, this benign result is far from guaranteed, particularly in the context of world-wide increases in government debt. The existing literature has given rise to the rough rule of thumb that the interest-rate-risk premium rises 2-4 basis points for every percentage point increase in the debt-GDP ratio above 60 percent.[15] The lockdown-induced rise in debt is not expected to increase Canada's federal debt-GDP ratio beyond this threshold, even with the planned additional stimulus, so national developments may not affect the risk premium on Canada's debt. On the other hand, the combination of increases in federal and provincial debt could increase the perceived riskiness of Canadian debt. Further, international developments, particularly in the US, can affect the interest rate on Canadian government debt. The US debt-GDP ratio is expected to rise from 79.2 percent in 2019 to 108.9 percent in 2030 (Congressional Budget Office 2020). The 30 percentage point rise in the ratio could therefore increase interest rates in the US by .6 to 1.2 percentage points. Given that rising debt-GDP ratios are a global phenomenon, the upward pressure on rates could be greater than assumed in the rule of thumb.

If these pressures push up the Canadian neutral rate by 1 percentage point, government financing costs would rise 40 basis points above the growth rate of GDP, to 3.8 percent. This small gap has surprisingly large effects on the ratio of interest expense to revenues, raising it to 12.2 percent by 2030/31, compared to 9 percent if the neutral policy rate remains at 2.25 percent (Table 3).[16] If the neutral rise rises by 2 percentage points by 2025, the ratio increases to 16 percent by 2030/31. With the primary balance constrained to be zero and revenues a constant share of GDP, increases in interest expense relative to revenues must be offset by reductions in program spending.[17]

The Economic Cost of Additional Debt

The foregoing analysis suggests that the fiscal cost of rolling over the additional debt may well be close to zero after the government eliminates its primary deficit (once again, the difference between government revenues and spending, excluding interest payments). There is, however, some risk that taxes will have to be raised, or spending cut, to prevent an unsustainable rise in debt. In addition, since the interest-rate risk premium rises with the debt-GDP ratio, rolling over the debt also limits the ability to use debt financing to stabilize the economy in the future. But the fiscal costs are just

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15 The International Monetary Fund (2017) appears to be the source of this rule of thumb. It has been used by Blanchard (2019) for the US and Alcidi and Gros (2019) for Italy. Empirical analysis based on the 11 largest European Union countries by the European Commission (2018) finds a stronger response: a one percentage point increase in the debt/GDP ratio increases the risk premium by almost 5 basis points, without any debt/GDP threshold effects. Recent work by IMF economists (Lian, Presbitero, and Wiriadinata 2020) shows, using a panel of 56 countries, that the duration of episodes in which interest rates are lower than nominal growth is shorter the higher the level of debt.

16 The ratio of interest expense to revenues peaked at 37.6 percent in 1990/91; the ratio trended down until 2017/18 when it reached 7 percent. The ratio projected for 2030/31 would be the highest since 2007/08.

17 Interest expense is not adjusted for taxes paid by recipients or for Bank of Canada holdings. About half of the 2018/19 stock of debt was held by taxable residents of Canada, but there is no information available on the amount of tax revenue generated. (Non-residents held 29.3 percent and pension funds, which are non-taxable, held 22.9 percent of the stock.) As discussed in the text, net income transferred from the Bank of Canada related to its holdings of federal debt is likely to be negligible in by 2030/31.

part of the story. Most people would expect that a reduction in output would cause a commensurate fall in income and consumption. Debt-financed stabilization policies could shift some or all the income loss to the future, but the general expectation is probably that the economic cost the lockdown cannot be avoided.

Surprisingly, there are circumstances in which debt-financed stabilization policies do not reduce future consumption possibilities, which would make it possible to avoid almost all the economic cost of the lockdown. The idea can be illustrated by considering an economy without access to foreign savings in which government debt is an alternative to business debt and equity in household portfolios. In this case, an increase in government debt displaces or crowds out business investment, which will hurt future consumption unless society is investing too much. For example, if a society systematically invests 10 percent of its income but only receives a 6 percent return on the investment, households could consume more in the current period without affecting consumption in future periods by reducing investment to 6 percent of income. In these circumstances, an increase in government debt reduces investment to finance consumption in the current period without affecting consumption in the future. An economy in which less investment permits higher consumption is described as suffering from "dynamic inefficiency."

In a dynamically efficient economy, the return to capital is equal to or greater than investment expenditure, which implies that the *rate* of return on investment be no less than the investment rate, or the growth rate in the capital stock. In an economy on its long-run growth path, the capital stock grows at the same rate as output. As a result, dynamic efficiency is often assessed in the same way as fiscal sustainability: if the return on government debt, r, is less than the nominal growth rate of the economy, g, investment will be too high to maximize consumption. In this case, r is a proxy for

the return to capital investment and g is a proxy for the investment rate.

Under what circumstances is the rate of return on the safe asset, government bonds, a good proxy for the rate of return on risky investment? If the risk associated with investment can be measured and investors make decisions based on expected returns, the realized return on investment will equal the rate of return on the safe asset. However, these conditions – certainty and risk-neutrality – are not realized in the real world. Investors face uncertain outcomes – the probability of realizing a target return on an investment is unknown – and therefore require a risk premium that causes the realized return on investment to exceed the safe rate. In these circumstances, assessments of dynamic efficiency based on a comparison of r and g will be misleading.

Abel et al. (1989) argue that a simpler and more accurate way to assess dynamic efficiency is to compare the cash flows going into and out of the economy's production sector. If the income generated by investment equals or exceeds the cost of investment, the economy is dynamically efficient, provided that rents are not an important part of capital income. Most of the data required to implement the cash flow approach are published in country national accounting systems. There are, nevertheless, two important data issues to address when applying this approach. The first is removing the contribution of land and natural resources from the income generated by business investment. The second relates to income from unincorporated businesses, which is reported as "mixed income" in national accounting systems because it consists of both labour and capital income that cannot be separated with any precision.

I used the cash flow approach to assess dynamic efficiency in Canada from 1990 to 2019. To avoid the complications raised by the mixed income of unincorporated businesses, I performed the calculation for the corporate sector only, using

Statistics Canada's current and capital accounts data for the sector.[18] In these accounts, the return to the capital used, including an allowance for capital depreciation, is the gross operating surplus. The gross operating surplus includes the income generated by land and natural resources. Estimates of the market value of land and natural resources are not included in the corporate accounts but are provided in the national balance sheet accounts starting in 1990.[19] I calculated the cash-flow-based return to land and natural resources assuming they earned the average rate of return on total corporate assets, defined as the net cash flow relative to the sum of "produced" capital plus land and natural resources. This estimate of net capital income excluding the return to land and natural resources exceeded current dollar investment in fixed capital and inventories in every year from 1990 to 2019 (Table 4), which suggests the Canadian economy was dynamically efficient over this period.

The estimate of the net cash flow from investment, or what Abel et al. (1989) call the investment dividend, is not particularly sensitive to assumptions about the rate of return on land and natural resources. The cash-flow-based rate of return on corporate sector assets averaged 8.1 percent from 1990 to 2019. An average rate of return of approximately 18.5 percent on land and natural resources would drive the net cash flow from produced capital down to approximately zero. Similarly, rents (i.e., above-normal returns) on producible capital would have to account for about 85 percent of capital income net of depreciation to reverse the finding that the Canadian economy is dynamically efficient.

Confining the analysis to the corporate sector sidesteps the difficult issue of calculating the net cash flow from investment by farm and non-

farm unincorporated businesses. It also excludes most investment in housing from the analysis. In the Income and Expenditure Accounts, owner-occupiers are treated as unincorporated businesses that invest in housing and rent it to themselves. Calculating the net cash flow from owner-occupied housing would be difficult due to data limitations, but even if these limitations could be overcome, including investment in housing in an assessment of dynamic efficiency of business investment is questionable.

If the Canadian economy is dynamically efficient, the debt issued to support incomes during the lockdown weighs on economic performance over time, effectively shifting the economic cost of the recession into the future. Canada has access to foreign savings to finance investment, so the mechanism by which increased government debt affects our small, open economy is different than sketched out earlier for a closed economy. In a small economy that can import foreign financial capital without affecting the interest rate, government debt will not necessarily cause a reduction in business investment. Nevertheless, increased interest payments on imported capital decrease real income in the small economy.

Persson (1985) analyses the impact of increased debt on intergenerational welfare in large economies and small open economies. If the economies are dynamically efficient, fiscal deficits raise the well-being of the current generation at the expense of future generations in both small and large economies.[20] However, the size of the intergenerational transfer declines as the economy gets smaller. Burgess (1996) extends the small open economy analysis to include situations where the supply of exports from the small economy affects their price, in which case Burgess describes the

18   Statistics Canada. Table 36-10-0116-01 Current and capital accounts – Corporations.
19   Statistics Canada. Table 36-10-0580-01 National Balance Sheet Accounts.
20   Large economies can experience a sustained increase in consumption if they are sufficiently large international creditors.

Table 4: Gross and Net Cash Flow from Corporate Sector Investment			
	Gross Income from Capital[1]	Gross Investment[2]	Net Cash Flow
	(*percentage of GDP*)		
1990	16.4	9.9	6.4
1991	15.3	8.9	6.4
1992	14.7	8.0	6.8
1993	15.3	8.5	6.8
1994	16.2	9.3	6.9
1995	16.0	10.2	5.8
1996	16.7	9.8	6.9
1997	17.1	12.0	5.1
1998	17.1	12.2	4.9
1999	17.5	11.9	5.6
2000	17.2	11.9	5.3
2001	17.7	10.5	7.2
2002	18.0	9.7	8.3
2003	18.5	10.0	8.4
2004	17.9	10.5	7.4
2005	18.3	11.4	6.8
2006	18.5	12.1	6.5
2007	18.6	11.8	6.8
2008	17.8	12.0	5.8
2009	18.2	9.4	8.8
2010	18.2	10.4	7.7
2011	18.0	11.7	6.3
2012	18.3	12.7	5.7
2013	18.6	12.9	5.7
2014	18.8	13.5	5.3
2015	18.6	11.6	7.0
2016	18.9	10.5	8.4
2017	18.5	11.2	7.3
2018	18.2	10.7	7.5
2019	17.8	11.1	6.7

Notes:
1. Gross of depreciation operating surplus of corporations less an estimated return to land and natural resources. See text for details.
2. Nominal expenditure on fixed capital plus inventories.

Sources: Statistics Canada Table 36-10-0116-01 Current and capital accounts – Corporations and Table 36-10-0580-01 National Balance Sheet Accounts, and author's calculations.

economy as "almost small."[21] For both type of small economies, the increased interest payments on imported capital require an offsetting improvement in net exports to achieve external balance. In a truly small economy, export and import prices are determined in world markets, so the increase in net exports can only be realized through a decline in real wages. In an almost-small economy, a decline in real wages is still required to increase net exports. However, the increased supply of exports puts downward pressure on export prices, which adds to the income loss suffered by future generations. The intergenerational transfer arising from debt-financed spending is larger in an almost-small economy than in a truly small economy.

The overall conclusion of this section is that while an indefinite debt rollover may or may not have a substantial fiscal cost (i.e., result in higher taxes or lower spending in the future) its economic cost is unavoidable. Despite extremely low interest rates, the evidence indicates that increased government debt impinges on economic performance over time. Rolling over the debt simply shifts the economic cost of the recession into the future. Debt financing is appropriate to stabilize the economy during an economic downturn, but as discussed in the next section, the debt should be paid down by the generation that benefits from the fiscal stabilization measures.

Sharing the Cost of the Lockdown

Government spending on social and economic programs should be financed in a way that is considered fair by citizens. The benefit principle – that the beneficiaries of government spending should bear its cost – finds support when it is feasible to identify the beneficiaries of the spending, the measure is not intended to redistribute income, and when private provision of the good or service is less efficient.[22] The benefit principle is invoked to motivate the financing of public pensions, healthcare, education, and public transportation. However, in many cases the benefits of the spending spill over from the direct beneficiary to the broader society, and the program is partly financed out of general revenues. In addition, some spending generates benefits that are realized over a long period of time, so that future generations should contribute to their cost. However, debt-financed stabilization policies are an investment in the current generation, not future generations.

Intergenerational Fairness

A key argument in this paper is that the benefit principle should be applied to stabilization policies, with the emphasis on achieving fairness between generations. When governments incur debt to cushion the impact of an economic downturn, they are shifting some or all the economic cost of the downturn into the future. While some time-shifting of the burden is an integral part of stabilization policy, the generation that receives the benefit of the economic stabilization policies should pay for their cost.

Everybody alive today benefits from government support during a downturn. A less severe contraction means more employment and

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21   Characterizing Canada as "almost small" is reasonable. Empirical estimates of price elasticities for exports of manufactured goods are high, but well below values that would allow exporters to increase supply without having a noticeable effect on prices. See Erkel-Rousse and Mirza (2002) for evidence for OECD countries and Imbs and Mejean (2015) for empirical estimates of the price elasticities of US imports of manufactured goods.

22   Duff (2008) adds two qualifiers: that the tax or fee not impede access to a "merit" good or service and that concerns about the distribution of income are adequately addressed through other measures.

investment, and hence more income, now and in the future. Working age people obviously benefit. But young people not yet in the workforce also benefit from the higher income of those in the workforce and other taxpayers. Older people no longer in the workforce benefit from the higher income of supporting taxpayers, from fewer insolvencies of private pension plans, and less pressure to reduce publicly provided income support. Generations not yet born receive little or no benefit from cushioning the downturn but will pay a cost as long as the debt is rolled over. The increase in debt should therefore be paid down before the next generation starts working and paying taxes.

Fairness within the Current Generation

In principle, a fair distribution of the burden from an economic downturn within the current generation would be achieved by considering how the income loss was distributed across the population and then formulating debt repayment policies to help achieve a fairer distribution of the burden. Applying this approach would be difficult in any recession, but the policy response to the pandemic-induced recession makes it harder to achieve a fair distribution of the burden.

The federal government's policy response has been aggressive enough to compensate Canadians, on average, for almost all their recession-induced income losses,[23] which is unprecedented. However, as discussed in my earlier paper (Lester 2020) income compensation rates have been uneven. From April to September 2020, employees and the self-employed on average received almost $1.90 in income support payments for each dollar they lost in wages.[24] Further, while the excess compensation was received by low-income individuals,[25] not all persons in low income benefited. Individuals who kept working received no additional income while individuals who continued to receive EI benefits during the downturn suffered an income loss.

Other groups likely suffering an income loss during the recession include unemployed high-wage individuals and owners of small businesses.[26] It seems likely that a substantial fraction of privately owned businesses will close permanently because of the lockdown and in response to long-lasting impacts of the pandemic on consumer behaviour. Some of the owners of these businesses and their employees will suffer income losses as they transition to new firms and sectors where their skills may be less valuable. Finally, females have suffered greater employment losses during the recession.[27]

Interest income received fell slightly in the nine months ending in September, but interest payments fell substantially more (Table 5). Dividends fell slightly as well, but the sharp drop in corporate

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23 Recall that I am using the loss in GDP as an approximation to the aggregate income loss. See footnote 3.

24 In Lester (2020) I estimated excess compensation at $47 billion from April to September. However, since the estimate was prepared the Canada Revenue Agency has sent letters to about 7 percent of CERB recipients who may have applied twice for benefits or who did not meet eligibility requirements. In addition, CERB benefits are taxable; I estimate that the federal rate will be about 20 percent in 2020. Excess compensation adjusted for both recoveries and federal taxes is about $22 billion.

25 The Canadian Emergency Response Benefit (CERB) provided a flat-rate payment of $2000 per four-week period, which exceeded the income earned while working for many individuals. In addition, employment income losses were more severe for individuals earning relatively low incomes.

26 Working proprietors of small businesses received CERB payments as well as partly forgivable loans, but these benefits would not always have covered fixed operating costs.

27 The cumulative employment loss from March to December was 27 percent higher for females than for males. (Statistics Canada Table 14-10-0287-01.)

operating profits, $25 billion or about a third of their level in the last quarter of 2019, suggests further declines are to come.

Fairness is subjective, and Canadians may be of the view that individuals with low incomes should be completely sheltered from the economic impact of the recession. It is also possible that the pandemic has made Canadians more aware of, and sympathetic to, the economic situation of persons with low incomes, prompting a desire for more income distribution. However, it is difficult to develop a fairness argument to justify overcompensating some individuals in the low-income category for their losses while undercompensating other persons in the same situation. Nevertheless, the federal government has no intention of attempting to recover excess compensation received by Canadians eligible for the CERB. Further, debt repayment policies will not be implemented for several years even if the principle is accepted, so it will not be possible to fine-tune these policies to recapture some of the excess compensation. Efforts to establish a fair distribution of the burden of the recession through debt repayment policies will therefore have to treat excess compensation as a bygone.

A Parliamentary Committee would be a good vehicle for exploring the options for using debt repayment policies to share the burden of the recession by income category, age group, and gender as well as for examining the split between expenditure restraint and tax increases. It seems likely that a consensus will emerge that the burden should be shared progressively – the income loss including debt repayment policies should rise with income. One possible benchmark is the progressivity of the GST and the personal income tax systems taken together. Using this benchmark

Table 5: Cumulative Change in Selected Household Income Components 2019 Q4 to 2020 Q3[1]	
	(*$ billions*)
Labour income	
Employee compensation	-38.5
Net income from unincorporated businesses	-3.9
Total	-42.4
Interest	
Received	-0.6
Paid	-3.8
Net	3.2
Dividends	-1.0
Memorandum item	
Corporate sector operating profits	-24.9

Note:
1. The data are seasonally adjusted, but not annualized.

Sources: Statistics Canada Tables 36-10-0112-01, 36-10-0126-01, and author's calculations.

would imply a minimum income threshold before individuals bear any financial cost and that the cost would rise with income.

Some thought should also be given to whether a fair sharing of the burden should be determined based on individual or family income. Sharing the burden based on family income would be a departure from Canada's income tax system, which is largely based on individual income.[28]

The choice between using families or individuals as the unit of taxation involves a trade-off between creating marriage penalties (or subsidies) and creating situations in which families with the same income pay different amounts of tax. Marriage

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28   Exceptions to individual taxation include pension income splitting, spousal RRSPs, and sharing of certain tax credits such as medical expenses and charitable donations.

penalties/subsidies can be avoided by allowing complete income splitting, but this is likely to harm work incentives. With complete income splitting, marginal tax rates would be the same for both persons, which will affect work effort unless the responsiveness of labour supply to after-tax income is the same for both persons (Zee 2005). The trade-off may change in the context of a special debt repayment tax. The efficiency cost of complete income splitting for the purpose of the special tax may be small enough to tip the balance in favour of family-based taxation for debt repayment.

There is, however, an argument in favour of maintaining individual taxation. The distribution of income is more skewed towards the well-off when income is measured for individuals rather than for families: the top 10 percent of individuals account for 34.2 percent of total income compared to 30.3 per cent for the top 10 percent of families.[29] The share of families falls to 26.2 percent when income is adjusted for family size.[30] It may therefore be easier to achieve a given target for progressivity by using individual incomes as the basis for sharing the burden of the lockdown.

Another aspect of fairness that should not be overlooked is how the burden is shared between the older and younger age cohorts in the current generation. One consideration in this context is that younger Canadians gained fewer health benefits from the lockdown than older Canadians. The contribution of the youngest age group rises relative to the oldest age cohort as the repayment period lengthens. With a 25-year repayment period, individuals born when debt repayment starts would

contribute to repaying the debt for up to 7 years. Shortening the repayment period to 18 years would mean most individuals born when debt repayment starts would not participate in paying down the debt.[31] Assuming an average lifespan of 85 years, a person aged 67 when debt repayment starts would contribute to debt repayment for 18 years with either a 25- or 18-year repayment period. However, the annual contribution would be higher with an 18-year debt repayment period than with a 25-year period.

Paying Down the Debt

Timing and Extent of Fiscal Consolidation

Paying down the debt before the next generation starts working and paying taxes implies a repayment period of 18-25 years. Within this constraint, the optimal repayment period is strongly influenced by the state of the economy, the ability to undertake tax smoothing, and the target sharing of the burden among age groups in the current generation. To avoid harming the recovery, repayment should start when the economy is close to or on its trend growth path.

Everything else equal, compressing the time-frame for debt repayment by raising taxes increases the economic cost of paying down the debt. Taxes hurt efficiency through their impact on incentives to work, save and invest. The impact on efficiency rises non-linearly with the increase in tax rates, so a larger increase extending over a shorter period is more costly than a smaller increase extending over a longer period. The higher cost must be balanced against the benefit from faster debt reduction. As

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29 Sources: Statistics Canada Table 11-10-0055-01 High income tax filers in Canada, Table 11-10-0192-01 Upper income limit, income share and average income by economic family type and income decile, and Table 11-10-0193-01 Upper income limit, income share and average of adjusted market, total and after-tax income by income decile.

30 Income is divided by the square root of the number of persons in the household to capture economies of scale in larger households.

31 The youngest generation likely bears some of the burden of debt repayment before they start paying taxes because their parents have less disposable income.

discussed above, the length of the debt repayment period affects the relative burdens of the oldest and youngest age groups in the current generation. The scenarios discussed in this section are based on the illustrative alternative scenario including the government's planned extra stimulus I developed and the same three interest rate scenarios as in the sustainability section. Debt repayment starts in 2025 and is completed 25 years later.

In all scenarios, interest rates rise until 2025/26 and are constant thereafter, although the average rate on government debt continues to rise until at least 2032-33 as debt is rolled over at higher rates (Table 6). The primary balance improves from -$361 billion (-16.5 percent of GDP) in 2020/21 to approximate balance by 2025/26, compared to a primary surplus of .3 percent of GDP in the base case projection in the Fall Economic Statement (FES). The primary balance increases further over the following three years to the fixed percentage of GDP required to repay the lockdown-related debt by 2050.

In the most favourable interest rate scenario, reaching the debt-repayment target requires setting the primary balance at .82 percent of GDP. Federal revenues from income taxes and the GST represent about 11.5 percent of GDP, so revenue from these sources would have to increase about 7 percent[32] to retire the debt in 25 years. Program spending (net of the proceeds from the pollution pricing framework) represents just over 14 percent of GDP, so achieving the target primary surplus would require a 5.7 percent reduction in net program spending. In the least favourable scenario, the required increase in the primary balance is 1 percent of GDP. To achieve this amount of fiscal consolidation, tax revenue would have to rise about 8.5 percent or program spending would have to fall 6.7 percent.

The fiscal consolidation of .8 to 1 percent of GDP over three years starting in 2025/26 is substantial, but it would represent a deceleration from the pace of fiscal consolidation shown in the FES base case forecast. In the three years ending in 2025, the primary balance increases by 1.4 percent of GDP in the FES base case forecast.

Debt Repayment vs. Fiscal Anchors

How debt repayment compares with targeting the pre-lockdown debt-to-GDP ratio, or the federal government's former 30 percent target, depends on the level of interest rates: given the large stock of pre-lockdown debt, achieving a target overall debt-GDP ratio becomes more demanding as interest rates rise (Table 6). In the first scenario, the overall debt-GDP ratio peaks in 2024/25, reaches the 30 percent target in 2046 and falls to 26 percent of GDP in 2050. The ratio of interest payments to federal revenue would not exceed the 10 percent anchor proposed by David Dodge (2020): the ratio peaks in 2025/26 at 8.5 percent and trends down thereafter.

If the neutral rate is assumed to be one percentage point higher, average debt financing costs exceed the trend growth rate of GDP by about 40 basis points. In this case, repaying the lockdown-related debt would be slightly less stringent than targeting the pre-lockdown debt-GDP ratio. However, the ratio of interest payments to federal revenues would exceed the 10 percent anchor in 2025/26 and would peak at peak at almost 12 percent in 2033/34. If the neutral policy rate is two percentage points higher, the debt-GDP ratio is just over 44 percent in 2050. The ratio of interest to federal revenues peaks at almost 16 percent in 2033, falling to 14 percent by 2050.

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32   Calculated as .008/.115.

Table 6: Lockdown-related Debt Repayment with Alternative Interest Rate Assumptions				
	Average Financing Cost[1]	Primary Balance/ GDP[2]	Debt/GDP	Interest/Federal Revenues[3]
	(percentage)			
	Neutral Policy Rate = 2.25%			
2019/20	3.4	-0.65	31.2	7.3
2024/25	2.1	-0.60	54.0	7.6
2025/26	2.4	0.01	53.1	8.5
2030/31	2.7	0.82	46.7	8.3
2050/51	2.8	0.82	25.8	4.9
	Neutral Policy Rate = 3.25%			
2019/20	3.4	-0.65	31.2	7.3
2024/25	2.4	-0.60	54.2	8.7
2025/26	3.0	0.02	53.5	10.5
2030/31	3.6	0.87	49.5	11.5
2050/51	3.8	0.87	33.8	8.6
	Neutral Policy Rate = 4.25%			
2019/20	3.4	-0.65	31.2	7.3
2024/25	3.0	-0.60	54.7	10.8
2025/26	3.6	0.02	54.3	12.8
2030/31	4.1	1.00	50.8	15.1
2050/51	4.8	1.00	44.3	14.1

Notes:
1. Calculated assuming the interest rate on new issues rises from 2020-21 to 2025-26 and that 10 percent of the stock of bonds matures each year. No adjustments are made for taxes on interest payments or for debt owned by the Bank of Canada; see text for an explanation.
2. Primary balance required to retire lockdown related debt by 2050-51, phased in over three years starting in 2025-26.
3. The FES projects net federal revenues at 14.7% of GDP in 2025-26. This percentage is maintained until 2050-51.

Sources: Fall Economic Statement (FES) and author's calculations.

Tax Increases or Spending Cuts?

The government should pay down the debt using a combination of expenditure restraint and tax increases that minimizes the economic cost of fiscal consolidation without compromising equity objectives. A key issue is the short-run impact of fiscal consolidation on aggregate demand, which is usually thought to be more severe for spending cuts than for tax increases. However, Alesina, Favero, and Giavazzi (2019) present convincing evidence that past episodes of fiscal consolidation in high-income OECD economies have had smaller adverse effects on output for up to four years when their measures are focussed on expenditure restraint rather than tax increases. One explanation for this counterintuitive result offered by the authors is that expenditure restraint has a favourable effect on expectations about future taxes, which increases spending by households and investment by firms. Further, fiscal consolidation is often delayed until deficits and debt reach crisis levels, which heightens concerns about future increases in tax rates. Resolution of the crisis with expenditure restraint could therefore have a particularly large impact on spending.

While the conclusion that tax increases are more costly over the short- to medium-run may be situation-specific, their longer term impact on the economy provides ample reason to avoid making them the centre piece of fiscal consolidation. Tax increases affect potential output by reducing incentives to work, save and invest. Research studies comparing the economic damage caused by the major taxes in Canada conclude that the corporate income tax is substantially more harmful than either the GST or the personal income tax.[33] The stylized explanation for this finding is that in a small economy like Canada's, the corporate income tax affects the volume of investment rather than the return to investment. Faced with a tax increase in Canada, investors can, to a close approximation, maintain their existing rate of return by shifting investment out of Canada to other countries. The smaller capital stock in Canada results in lower productivity and hence lower wages.[34] The corporate income tax is therefore effectively a tax on wages but is much more damaging than taxing labour income directly because it causes a fall in wages.

Scaling back or eliminating government spending programs is more difficult than raising broad-based taxes because they are targeted at specific groups who can ask, often with some justification, why they should bear the burden of fiscal consolidation. While across the board spending cuts and efforts to control government operating costs could form part of the debt repayment strategy, targeted spending reductions are of interest because they offer the possibility of contributing to fiscal consolidation without adversely affecting long-run economic performance.

Business subsidy programs are prime candidates for review. While business subsidies clearly result in more of the subsidized activity, the increase in taxes, or the reduction in spending, required to finance the subsidy results in less economic activity. Business subsidies therefore have more of an impact on the composition than the level of output. This can improve economic performance when measures address a classic market failure, such as the under-provision of private R&D. In addition, evidence is accumulating that wages for equally skilled workers differ by firm and industry, which suggests that markets fail to allocate labour as efficiently as possible. In principle, this evidence supports the use of an industrial policy to favor high-wage industries. In practice, wage premiums – payments that exceed

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33   See Baylor and Beauséjour (2004) and Ferede and Dahlby (2016).
34   See McKenzie and Ferede (2017) for an analysis of the incidence of the corporate income tax in Canada.

a worker's opportunity cost – are difficult to identify and quantify. Depending on the circumstances, high wages may include a premium, or they may exactly compensate workers for additional skills obtained through investment in human capital.

In a recent paper (Lester 2018), I classified federal and provincial business subsidies by objective and summarized benefit-cost analyses of nine programs accounting for almost 60 percent of the total. The analysis included direct spending programs as well as subsidies delivered through the tax system, with a total cost at the federal level of $14.4 billion or .7 percent of GDP in 2014/15. About 70 percent of business subsidies either address a standard market failure or favour high-productivity, high-wage industries. These measures are intended to improve Canada's economic performance. Nevertheless, the benefit-cost analyses suggest that only about a quarter of total federal business subsidies succeed in raising real incomes.

It may therefore be possible to reduce business subsidies by about .5 percent of GDP without harming long-term economic performance. Such reductions would impose costs on shareholders and workers as firms adjust to lower subsidies, which could make it more difficult to achieve a fair sharing of the burden of fiscal consolidation. Phasing in the spending reductions would reduce adjustment costs, but it may be necessary to implement other measures to achieve fairness, which would reduce the net contribution of cuts to business subsidies to fiscal consolidation.

Other spending programs, including those delivered through the tax system, should also be reviewed with an eye to making it easier to achieve the targeted sharing of the burden of debt repayment. For example, retirement income has not been directly affected by the lockdown, so it may be reasonable to ask retirees with income above a

threshold to make an extra contribution to debt retirement. This could be achieved by reducing the income threshold for the clawback of Old Age Security benefits, increasing the age at which payments start and eliminating the possibility of getting higher payments through pension income splitting.[35]

Conclusion

The economic lockdown caused a large income loss, but the federal government's aggressive use of debt-financed stabilization policy has shifted the loss into the future. While it may be possible to finance the interest payments without increasing taxes or reducing government spending, an indefinite roll-over of the debt will weigh on economic performance, forcing future generations to bear the income loss caused by the pandemic-induced recession. To achieve intergenerational fairness, the government should repay the lockdown-related increase in debt before the next generation starts working and paying taxes.

To achieve a fair distribution of the burden within the current generation, the government must consider gains and losses during the recession and the incidence of debt repayment policies. The decision to overcompensate some low-income Canadians for their employment income losses makes it difficult to achieve a fair distribution of the burden of the recession. Within this constraint, debt repayment policies should be formulated to promote a fair distribution of the recession-induced income loss while minimizing the adverse effects on economic performance.

Since they harm rather than help long run economic performance, elimination of business subsidies that do not address a clearly-defined market failure should be the centerpiece of debt repayment policies. Spending reductions that

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35   Pension income splitting reduces the amount of income used in the clawback calculation.

promote a fairer distribution of the economic cost of the recession without harming economic efficiency should also be considered. If revenue-raising measures are necessary, tax increases on business investment should be avoided because of their harmful impact on productivity and wages. Debt-retirement policies chosen based on efficiency considerations may not help achieve equity goals. It may therefore be necessary to deploy other tax and spending policies to achieve a fair distribution of the burden of the recession while the debt is being paid down.

Repaying the $550 billion debt incurred to stabilize the economy in a fair and efficient way raises complex technical issues and involves value judgements that should be debated publicly. The government should therefore set up a Parliamentary Committee to consult with Canadians on who should pay for the economic lockdown and, with the assistance of an expert panel, to develop a proposal for achieving the target outcome in the most efficient way.

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