

Ontario Energy Board Cost of Capital – Update and macroeconomic outlook

prepared for the Ontario Energy Board by London Economics International LLC

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London Economics International LLC (“LEI”) was retained by the Ontario Energy Board (“OEB”) to monitor macroeconomic conditions to ensure the cost of capital parameters for 2021 rates (issued by the OEB on November 9th, 2020) reflect current outlooks. As part of this quarterly review, LEI updated calculations of the return on equity (“ROE”), the deemed long-term debt rate (“DLTDR”), and the deemed short-term debt rate (“DSTDR”) using data as of December 31st, 2020. This analysis resulted in an ROE of 8.39%, with deemed long-term and short-term debt rates of 2.95% and 1.74%, respectively. These values do not differ materially from the cost of capital parameters published for 2021 rates of 8.34% (ROE), 2.85% (DLTDR), and 1.75% (DSTDR), which were calculated using data as of September 30th, 2020, and reflect the prevailing macroeconomic conditions and market sentiment at the end of 2020. In line with LEI’s previous quarterly updates, we continue to provide special analysis focused on the extraordinary circumstances arising due to the COVID-19 pandemic and its impact on the global economy.

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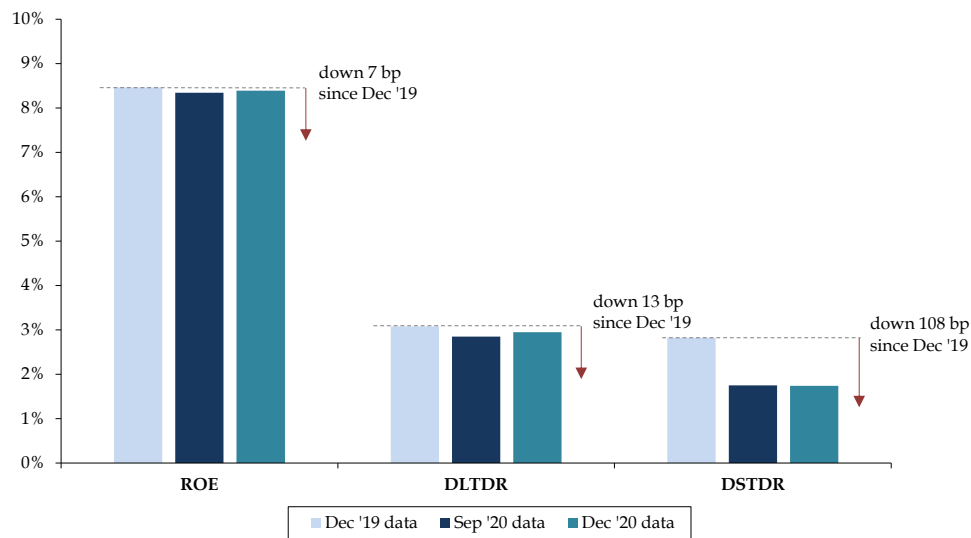
1 Executive summary

This quarterly report updates the Ontario Energy Board (“OEB”) on recent macroeconomic trends on a global, North American, and provincial scale since the Board’s publication of the 2021 cost of capital parameters. Specifically, this report outlines:

- a recap of the key macroeconomic events that have taken place since LEI’s previous briefing note;
- a review of the economic impact of the global pandemic caused by COVID-19, in particular the emergence of a vaccine, as well as a second wave of infections that has resulted in renewed lockdown restrictions; and
- findings of the variance analysis conducted on the cost of capital parameters – namely the return on equity (“ROE”), the deemed long-term debt rate (“DLTDR”), and the deemed short-term debt rate (“DSTDTR”).

In addition to the review of current macroeconomic developments, LEI has cross-checked the 2021 cost of capital parameters with data as of December 31st, 2020, where possible. The results of this analysis are outlined in Figure 1 below.

Figure 1. Summary of cost of capital parameters using data as of December 31st, 2020



Source: LEI analysis.

On November 9th, 2020, the OEB approved the following cost of capital parameters for rates effective in 2021 (using data as of September 30th, 2020): ROE of 8.34%, DLTDR of 2.85%, and DSTDTR of 1.75%.¹ Compared with these values, LEI’s current update using data as of December 31st, 2020 sees the parameters increasing by 5 basis points for the ROE, increasing by 10 basis points for the DLTDR, and decreasing by 1 basis point for the DSTDTR. The slight increase in the

¹ OEB, [2021 Cost of Capital Parameters](#), November 9, 2020.

ROE and DLTDR values potentially reflect optimism for future growth associated with the distribution of COVID-19 vaccines, while the minor decrease in the DSTDR can be attributed to renewed restrictions that were implemented to close out 2020 and begin 2021. A summary of these changes is shown in Figure 2 below.

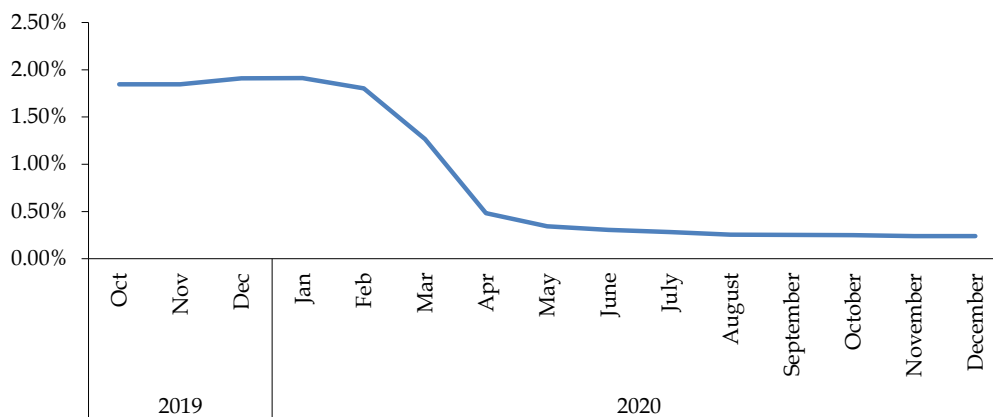
Figure 2. Comparison of cost of capital parameters to previous updates

Cost of capital parameter	Value based on December 2019 data	Value based on September 2020 data	Value based on December 2020 data	Difference (since September 2020)	Difference (since December 2019)
Return on equity	8.46%	8.34%	8.39%	0.05%	-0.07%
Deemed long-term debt rate	3.08%	2.85%	2.95%	0.10%	-0.13%
Deemed short-term debt rate	2.82%	1.75%	1.74%	-0.01%	-1.08%

Source: LEI analysis.

The only decline relative to the OEB's 2021 cost of capital parameters occurred in the DSDTR, which has decreased by -0.01% since September 2020 and by -1.08% since December 2019. This reflects the continued subdued trend in the banker's acceptance ("BA") rate, which has been low since the early months of 2020, as depicted in Figure 3 below. The BA rate has decreased to an average of 0.24% in the month of December, down from 0.31% just 6 months ago in June 2020, and 1.91% in December 2019. This decline reflects global uncertainty surrounding COVID-19, which is more acutely felt in near term metrics.

Figure 3. Average of 3-month BA rate, 2019 Q4 – 2020 Q4



Source: Investment Industry Regulatory Organization of Canada. *Canadian Bankers' Acceptance (BA) Rates – 3 Month Rates.*

Applying the updated parameters (using December 2020 data) to the deemed capital structure (i.e., 40% equity, 56% long-term debt, and 4% short-term debt) yields a WACC of ~5.1%, up slightly from the 5% WACC obtained using the OEB's approved 2021 parameters.

2 Macroeconomic outlook in 2021

In this section, we identify the most important factors impacting the global and regional economies in the fourth quarter of 2020 and consider the consensus research and expectations for 2021. We briefly recap our previous briefing note and discuss the economic impact of the global pandemic due to COVID-19. Following this recap, the remaining sections are divided into the global and North American outlook, followed by Canadian and Ontario outlooks. A summary of this research is presented in Figure 4 below.

Figure 4. Summary of macroeconomic outlooks for 2021

Region	Growth trend relative to previous briefing note	Interest rate trend relative to previous briefing note	Key factors
Global	Sharp economic decline in 2020; uneven recovery underway	Remains low	• Pace of recovery uneven across the world, driven by each country's ability to contain outbreaks of COVID-19 and successfully distribute vaccines • Pent-up demand and excess savings could lead to increased economic activity in the US in 2021, although a renewed surge in COVID-19 cases presents a substantial downside risk
Canada	Technical recession in 2020; slow recovery underway	Remains low	• Expanded fiscal support initiatives expected to soften the impact of renewed restrictions in the first quarter of 2021 • Slow recovery underway, although forecasters are optimistic for robust growth in 2021 on account of vaccine availability
Ontario	Technical recession in 2020; uncertainty in recovery	n/a	• Ontario continues to represent a significant portion (33%) of the total case count in Canada • Stronger-than-expected third quarter followed by stalled economic momentum to close out 2020 due to renewed restrictions

Sources: International Monetary Fund; Bank of Canada; Ontario Ministry of Finance.

2.1 Recap of previous briefing note and COVID-19 update

The past year saw a sharp economic decline due to the global pandemic resulting from COVID-19. The virus causing COVID-19 is a novel coronavirus, with many governments employing shutdown measures of varying severity to limit its spread. The nature of the shutdowns and economic damage has seen the International Monetary Fund ("IMF") term this recession The Great Lockdown.² Following a spring marked by strict restrictions on economic activity, the global outlook improved as economies slowly reopened. Since then, many major economies in Europe, North America, and around the world have seen a resurgence of the virus, and in many cases higher peaks than what was experienced in the spring. Along with the rise in cases has come a return to strict containment measures, which further limits economic activity.

In the last briefing note, LEI noted that economic recovery *"will be beholden to public health outcomes and the success of the measures taken in response to the next waves of infections."* Since that time, and

² International Monetary Fund. *World Economic Outlook, April 2020: Chapter 1: The Great Lockdown*. April 2020.

despite renewed restrictions put in place in the latter months of 2020, COVID-19 case counts have continued their rise in Canada. Some jurisdictions have moved to even stricter measures: the entirety of Quebec moved into a full lockdown for nearly a month starting on January 9th, 2021, along with Canada's first curfew put in place to contain the virus.³ In Ontario, to combat the virus's "alarming" spread, the provincial government announced a province-wide shutdown starting December 26th, 2020 following earlier regionalized lockdowns.⁴ COVID-19 cases doubled in the last week of 2020 and first week of 2021. As a result, on January 12th, 2021 Premier Ford declared a second provincial emergency due to the virus. A stay-at-home order along with further restrictions are in effect as of January 14th, 2021.⁵

However, the earlier-than-expected availability of vaccines in Canada and around the world has given rise to optimistic projections for 2021, although the pace of vaccine rollout has lagged initial expectations. As of January 13th, 2021 Canada, had distributed over 545,000 doses of vaccines from Moderna and Pfizer-BioNTech. As of January 14th, 2021, nearly 420,000 doses had been administered, representing around 1% of Canada's population. For comparison, Israel leads the world in the proportion of vaccines administered, with nearly 25% of its population having received at least one dose of the vaccine.⁶

Economic commentators point out that 2021 predictions depend heavily on the assumption that vaccine rollout will happen quickly and effectively. For example, in a BMO report issued in early January, analysts concluded that the vaccine rollout in Canada had not "kept pace with public health ambitions" and that the "downside risks of a slower rollout are increasing." To meet the federal government's goal to immunize all who want a vaccine by the end of September 2021 (roughly 60% of the population), the rate of doses per week would have to increase by a factor of 13.5. Canada has less than 25% of the per capita rate of vaccination in the United Kingdom ("UK") or the United States ("US"), with Ontario, Manitoba, and Nova Scotia sitting at the low end on a per-capita basis.⁷ More recently, one of the approved vaccines from Pfizer has experienced delays in shipments to Canada as it re-tools its production facilities.⁸ In addition, complicating the immunization program has been the emergence of a faster-spreading variant of the virus from the UK.⁹

³ Treble, Patricia. "COVID-19 in Canada: How our battle against the second wave is going." *Maclean's*. January 7, 2021.

⁴ Office of the Premier. *Ontario Announces Provincewide Shutdown to Stop Spread of COVID-19 and Save Lives*. December 21, 2020.

⁵ Office of the Premier. *Ontario Declares Second Provincial Emergency to Address COVID-19 Crisis and Save Lives*. January 12, 2021.

⁶ Our World in Data. *Coronavirus (COVID-19) Vaccinations*. Accessed on January 14, 2021. Accessed at <<https://ourworldindata.org/covid-vaccinations>>.

⁷ BMO Economics. *Vaccinations: State of Play*. January 5, 2021.

⁸ CBC News. *Pfizer to temporarily reduce vaccine deliveries to Canada, minister says*. January 15, 2021. Accessed at: <<https://www.cbc.ca/news/politics/pfizer-temporarily-reducing-vaccine-deliveries-1.5874645>>

⁹ Kemp, Steven, et al. "Recurrent emergence and transmission of a SARS-CoV-2 Spike deletion Δ H69/V70." *bioRxiv* (2020).

As noted in previous briefing notes, central banks and governments have taken several monetary and fiscal actions in response to the economic crisis resulting from the pandemic. In general, central bankers have lowered interest rates to record lows as governments adopt varying levels of fiscal stimulus. In subsequent sections, we discuss a number of these measures, and consider the impact on the outlook for 2021.

2.2 Global and North American outlook

The world economy experienced a gradual recovery in the latter half of 2020 following the initial wave of COVID-19 infections. However, a global resurgence in cases at the end of the year has blunted this recovery and left the 2021 outlook uncertain, as nations reimposed containment measures (particularly in Europe). The most significant variables determining the pace of future recovery include the containment of outbreaks, and success of vaccination campaigns. While the Organisation for Economic Co-operation and Development (“OECD”) predicts global GDP will climb back to pre-pandemic levels by the end of 2021, it notes that this recovery will be uneven across the globe.¹⁰ Whereas China, Ireland, and Taiwan saw growth in 2020, and Japan and Australia experienced lesser impacts among major developed economies, Europe and the UK sustained deep economic impacts due to their reliance on tourism and widespread outbreaks.¹¹

The US performed better than anticipated in 2020 and is predicted to see one of the smallest GDP drops among advanced economies. Robust policy measures and the strength of the tech sector both supported the economy despite pandemic impacts. In 2021, pent-up demand and excess savings may lead to significant increases in economic activity.¹² The main downside risk remains the renewed surge in COVID-19 cases across the country. The economic impact of COVID-19 and associated containment measures continues, as total nonfarm payroll employment in the US declined by 140,000 in December 2020. This represents the first decline in employment since economic recovery began. Losses were most significant in leisure, hospitality, and private education, but gains were seen in professional and business services, retail trade and construction. While overall unemployment levels are nearly twice as high as pre-pandemic levels, they remain much lower than their pandemic peak in April 2020.¹³ The US Congress also passed a second round of stimulus measures worth \$900 billion at the end of 2020. Fiscal supports include a second round of direct payments to individuals (\$600 per eligible individual) and renewed funding for forgivable loans to eligible small businesses under the Paycheck Protection Program.¹⁴

¹⁰ OECD. *Economic Outlook: Volume 2020, Issue 2*. Paris, OECD Publishing, December 1, 2020.

¹¹ BMO Economics. *The 2021 Outlook*. December 23, 2020.

¹² *Ibid.*

¹³ US Bureau of Labor Statistics. *Employment Situation Summary*. January 8, 2021.

¹⁴ US Congress. *H.R. 133 – Consolidated Appropriations Act, 2021*. December 21, 2020.

2.3 Canadian outlook

The first confirmed case of COVID-19 in Canada was recorded on February 20th, 2020, and as of January 13th, 2021, just over 681,000 cases had been recorded with 17,383 deaths.¹⁵

Forecasters retain their optimism for robust growth in 2021, primarily on account of earlier-than-expected availability of vaccines and a robust economic summer and autumn. A December 2020 report by Consensus Forecasts, which surveys over 250 financial and economic forecasters, suggests that Canadian GDP will contract by 5.7% in 2020, followed by a 4.7% rebound in 2021.¹⁶

Economic activity was particularly strong in the third quarter of 2020, and enough to reverse roughly 75% of the decline in activity attributed to pandemic-containment measures.¹⁷ Particular gains were seen in agriculture, finance, retail, real estate, wholesale, public administration, information, utilities, professional services, and education, which all exceeded or nearly returned to pre-pandemic levels. However, analysts predict lasting damage due to the pandemic in arts and recreation, accommodation and food services, and transportation/warehousing.¹⁸ Similar to the US, Canada's economy experienced in December the first decline in employment and hours worked since April 2020 (though the scope of the decline was minor compared to the drop in the spring). These indicators suggest that renewed public health restrictions have slowed the momentum of recovery at the end of the year. As a result, growth estimates for 2020 may be revised slightly downward in the near future.¹⁹

Economic activity is likely to slow in the first quarter of 2021 due to containment measures, but as the year continues, fiscal support policies (discussed in further detail below), household wealth and spending buoyed by house prices and equity markets, and positive signs in the resource sector should lead to strong yearly growth.²⁰ Household savings accumulated during 2020 are estimated at \$160 billion, which should provide a strong basis for increased spending throughout the new year.²¹

¹⁵ Government of Canada website. *Coronavirus disease (COVID-19): Outbreak update*. Accessed on January 14, 2021. Accessed at: <<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>>

¹⁶ Consensus Forecasts. *Surveys of international Economic Forecasts – G-7 & Western Europe*. December 7, 2020. Note: This survey was released in early December 2020, before COVID-19's second wave in Canada worsened and wide-ranging restrictions were reimposed; as a result, this forecast may not be an accurate reflection of current conditions.

¹⁷ RBC Economics. *Macroeconomic Outlook*. December 15, 2020.

¹⁸ Scotiabank Economics. *Scotia Flash*. December 23, 2020.

¹⁹ Scotiabank Economics. *Canadian GDP Nowcast*. January 7, 2021; Scotiabank Economics. *Canadian GDP Nowcast*. January 8, 2021.

²⁰ BMO Capital Market Economic Research. *North American Outlook*. January 4, 2021.

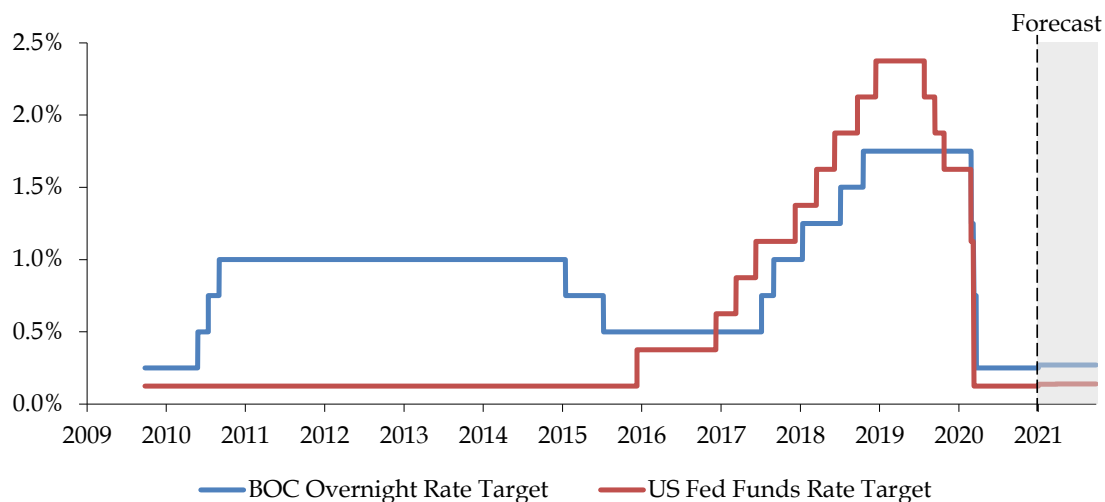
²¹ RBC Economics. *Macroeconomic Outlook*. December 15, 2020.

Fiscal support measures from the federal government should also soften the impact of renewed restrictions. In its Fall Economic Statement,²² the federal government modified or expanded previously announced initiatives to support the economy during the pandemic, including:

- an increase in the maximum rate of the Canada Emergency Wage Subsidy (“CEWS”) to 75% for the period of December 20th, 2020 to March 13th, 2021;
- an extension of the current rates of the Canada Emergency Rent Subsidy and Lockdown Support until March 13th, 2021;
- extensions to the CEWS and Emergency Rent Subsidy and Lockdown Support until June 2021;
- the Highly Affected Sectors Credit Availability Program, for industries such as tourism, hotels, arts and culture, and air travel; and
- temporary support of up to \$1,200 in 2021 for each child under the age of six for families entitled to the Canada Child Benefit.

As shown in Figure 5 below, interest rates in both Canada and the US were cut sharply in response to the economic impact of the Great Lockdown in North America. Consistent with the intentions of the Bank of Canada and in line with recent comments by US Federal Reserve Chair, Jerome Powell,²³ we anticipate the record low interest rate environment to remain a hallmark of the economic recovery in 2021.

Figure 5. Comparison of Canadian and US interest rates, 2009 Q4 - 2020 Q4 (with 2021 forecast)



Notes: The US Fed Funds Rate Target is taken as the midpoint of the target range

Sources: Bank of Canada; US Federal Reserve Economic Data (“FRED”)

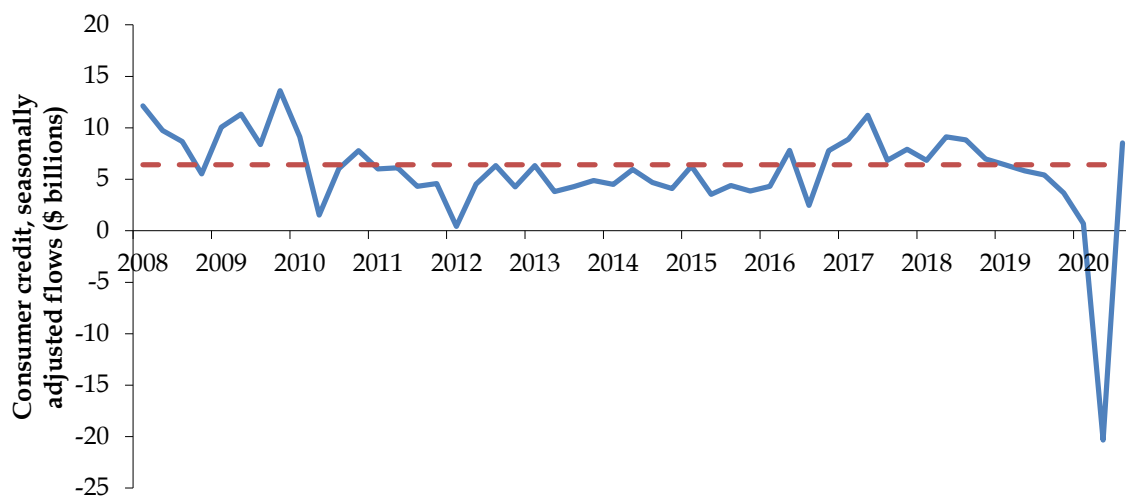
²² Department of Finance Canada. *Government of Canada Releases Supporting Canadians and Fighting COVID-19: Fall Economic Statement 2020*. November 30, 2020.

²³ Financial Times. *Fed signals rock-bottom rates until at least end of 2023*. Politi, James & Smith, Colby. September 16, 2020.

With central bankers in the US and Canada committing to low interest rates in the short to medium term, there remains a concern as to whether high borrowing levels will drive inflation owing to rising asset prices. Expectations of higher asset prices in the short to medium term has already been observed in a steepening yield curve i.e., an increasing spread between interest rates of short-term and long-term bonds.²⁴

To provide further context to the macroeconomic outlook in Canada, LEI has also tracked movements in consumer credit levels as reported by Statistics Canada. Following a precipitous drop in the second quarter of 2020, consumer credit rose during the third quarter to levels above the average consumer credit levels seen over the 2008-2019 period,²⁵ consistent with the qualitative observations made above regarding the economic rebound. These movements are shown in Figure 6 below.

Figure 6. Consumer credit, 2008 Q1 – 2020 Q3



Note: The latest consumer credit data was most recently published in December 2020 for 2020 Q3. Data for the fourth quarter is not yet available.

Source: Statistics Canada. CANSIM Table 38-10-0238-01. Accessed January 8, 2021.

We note that business sentiment in Canada also appears to have improved since its plunge in early 2020. In a previous briefing note, we discussed the results of the Bank of Canada’s Business Outlook Survey (“BOS”) for the Summer 2020 period, which showed that business confidence had fallen to levels not seen since the 2008 financial crisis. An updated BOS for Winter 2020 indicates that business sentiment has risen slightly, posting a positive figure for the first time in

²⁴ Scheid, B. & Rocha, P. *Treasury yield curve steepens to 4-year high as investors bet on growth rebound*. S&P Global. January 13, 2021. Accessed at: < <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/treasury-yield-curve-steepens-to-4-year-high-as-investors-bet-on-growth-rebound-62067561>>

²⁵ Statistics Canada. *National balance sheet and financial flow accounts, third quarter 2020*. December 11, 2020.

2020. The BOS notes that stronger demand has supported a continued recovery for most firms; however, the road to future recovery remains uncertain.²⁶

2.4 Ontario outlook

The economic concerns at the start of 2020 (sluggish growth driven by tighter fiscal policy, trade uncertainty, and disruptions due to rail blockades) were dwarfed by the impact of COVID-19 across all sectors. Following a stronger-than-expected third quarter, economic momentum stalled in the fourth quarter of 2020 as Ontario fell under new restrictions. Given the events of the last few months, the economic situation in Ontario remains highly uncertain. Ontario continues to represent a significant portion of the total Canada case count, with nearly 225,000 (or 33%) of all cases, and 5,127 deaths as of January 13th, 2021.²⁷ The most recent economic growth forecasts for Ontario project a contraction of 5.8% in 2020, followed by a rebound of 5.4% in 2021.^{28,29}

Bright spots in Ontario's economy include a historically high housing market, and a return to pre-pandemic levels of employment in the manufacturing sector.³⁰ Renewed investment commitments from automakers and the expected release of pent-up demand accumulated during contractions in 2020 also point to a more robust 2021. In fact, analysts expect that Ontario's recovery in 2021 will be among the strongest in Canada, precisely due to its high exposure to hard-hit services and tourism industries which impacted its economy in 2020.³¹

At the same time, the provincial government expanded COVID-19 support programs as part of its 2020 budget,³² including:

- \$380 million in further payments to parents with children under age 12 and youth with special needs;

²⁶ Source: Bank of Canada. The BOS is a quarterly survey summarizing the interviews conducted by the Bank of Canada's regional offices with the senior management of about 100 firms selected in accordance with the composition of the gross domestic product of Canada's business sector. The Winter 2020 survey was conducted from November 16th to December 4th, 2020. The BOS indicator is a summary measure that captures common movements from the main BOS questions, and is above zero when business confidence is above its historical average. As this survey was conducted before many provinces imposed stricter restrictions to combat the second wave of COVID-19, the survey may not be an accurate reflection of current conditions.

²⁷ Government of Canada website. *Coronavirus disease (COVID-19): Outbreak update*. Accessed on January 14, 2021. Accessed at: <<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>>

²⁸ Taken as the average of forecasts published by RBC, BMO, and TD. See TD Economics. *Provincial Economic Forecast: It's Always Darkest Before Dawn*. December 15, 2020; RBC Economics. *Provincial Outlook*. December 15, 2020; BMO Capital Markets Economic Research. *Provincial Economic Outlook*. January 4, 2021.

²⁹ We note that the strict lockdown measures in place at the time of writing had not yet been announced at the time that banks published their provincial outlooks.

³⁰ RBC Economics. *Provincial Outlook*. December 15, 2020.

³¹ TD Economics. *Provincial Economic Forecast: It's Always Darkest Before Dawn*. December 15, 2020

³² Ministry of Finance. *Ontario's Action Plan: Protect, Support, Recover*. November 5, 2020.

- \$300 million in relief for businesses subject to lockdown measures, to cover costs such as property taxes and energy bills;
- funding for various organizations including the Community Building Fund, Ontario's arts institutions, and the Black Youth Action Plan; and
- shifting a portion of electricity costs for medium-sized and large industrial and commercial enterprises to the province, for an average reduction in all-in electricity bills of around 14% and 16%, respectively.

3 Cost of capital parameters – Q4 2020 update

The OEB conducts its annual cost of capital parameter update using data as of September 30th of that year, with rates becoming effective on January 1st of the following year. As part of this quarterly review, LEI has conducted an internal update of the 2021 cost of capital parameters using data as of December 31st, 2020, where possible.

3.1 Return on equity

The ROE is the allowed return on shareholders' invested capital that is comparable to the return that investors would expect to earn from other investments with similar levels of business risk. Using data as of December 31st, 2020 from the Bank of Canada, Consensus Economics, and Bloomberg, LEI calculated the updated ROE as **8.39%**, which is 5 basis points higher than the ROE approved in the OEB's cost of capital parameter review (for rates effective in 2021). See Appendix A for a detailed illustration of this calculation.

3.2 Deemed long-term debt rate

The DLTDR reflects the interest rate that would be charged to an A-rated commercial business customer for a long-term (30-year) commercial loan. Following LEI's update of the OEB's cost of capital parameter calculations, the deemed long-term debt rate was determined to be **2.95%**, up 10 basis points compared to the 2021 cost of capital parameters. See Appendix A for a detailed illustration of this calculation.

3.3 Deemed short-term debt rate

Finally, the DSTDR reflects the interest rate that would be charged to an A-rated commercial business customer for a short-term (e.g., 3-month) loan by a commercial bank.³³ We note that the DSTDR calculation incorporates the results of a confidential survey of prime Canadian banks, conducted by OEB Staff, whereby estimates for the spread of short-term debt issuances over BA rates are provided. As this confidential survey occurs once annually, LEI utilized the data from the most recent survey (August 2020) for its internal update.

The calculated deemed short-term debt rate is **1.74%**, down 1 basis point from the previous update. See Appendix A for a detailed illustration of this calculation.

³³ The EB-2009-0084, *Report of the Board, on the Cost of Capital for Ontario's Regulated Utilities*, December 11, 2009 refers to "short-term" loans. However, the OEB Staff Report issued on January 14, 2016 refers to "3-month loans". While the Board report is policy, LEI believes that it would be appropriate to define 'short-term' in this context.

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4 Appendix A: Cost of Capital Parameter Calculations

Figure 7. ROE and LTDR calculation

Cost of Capital Parameter Calculations (For rate changes effective in 2021)						
Step 1: Analysis of Business Day Information in the Month						
Month:	December 2020					
	Day	Bond Yields %			Bond Yield Spreads %	
		Govt. of Canada		A-rated Utility	30-yr. Govt.	30-yr. Util. over
		10-yr	30-yr	30-yr	over 10-yr Govt.	30-yr Govt.
1	1-Dec-20	0.74	1.23	2.61	0.49	1.38
2	2-Dec-20	0.76	1.28	2.64	0.52	1.36
3	3-Dec-20	0.74	1.26	2.60	0.52	1.34
4	4-Dec-20	0.80	1.34	2.67	0.54	1.33
5	5-Dec-20					
6	6-Dec-20					
7	7-Dec-20	0.76	1.31	2.64	0.55	1.33
8	8-Dec-20	0.74	1.29	2.63	0.55	1.34
9	9-Dec-20	0.75	1.30	2.64	0.55	1.34
10	10-Dec-20	0.74	1.28	2.63	0.54	1.35
11	11-Dec-20	0.71	1.27	2.64	0.56	1.37
12	12-Dec-20					
13	13-Dec-20					
14	14-Dec-20	0.72	1.28	2.66	0.56	1.38
15	15-Dec-20	0.73	1.29	2.68	0.56	1.39
16	16-Dec-20	0.73	1.30	2.68	0.57	1.38
17	17-Dec-20	0.74	1.30	2.66	0.56	1.36
18	18-Dec-20	0.74	1.29	2.65	0.55	1.36
19	19-Dec-20					
20	20-Dec-20					
21	21-Dec-20	0.72	1.28	2.64	0.56	1.36
22	22-Dec-20	0.70	1.25	2.62	0.55	1.37
23	23-Dec-20	0.73	1.28	2.64	0.55	1.36
24	24-Dec-20	0.72	1.26	2.62	0.54	1.36
25	25-Dec-20					
26	26-Dec-20					
27	27-Dec-20					
28	28-Dec-20					
29	29-Dec-20	0.71	1.25	2.60	0.54	1.35
30	30-Dec-20	0.70	1.24	2.59	0.54	1.35
31	31-Dec-20	0.67	1.21	2.55	0.54	1.34
		0.73	1.28	2.63	0.54	1.36
Sources:	Bank of Canada		Bloomberg			

Step 2: 10-Year Government of Canada Bond Yield Forecast			
Source:	Consensus Forecasts		Survey Date: December 7, 2020
	3-month	12-month	Average
	December 2020	0.900	1.200
			1.050 %

Step 3: Long Canada Bond Forecast	
10-yr Govt. of Canada Bond Forecast (from Step 2)	1.050 %
Actual Spread of 30-year over 10-year Government of Canada Bond Yield (from Step 1)	0.545 %
Long Canada Bond Forecast (LCBF)	1.595 %

Step 4: Return on Equity (ROE) Forecast	
Initial ROE	9.75 %
Change in Long Canada Bond Yield Forecast from September 2009	
LCBF (December 2020) (from Step 3)	1.595 %
Base LCBF	4.250 %
Difference	-2.655 %
0.5 x Difference	-1.328 %
Change in A-rated Utility Bond Yield Spread from September 2009	
A-rated Utility Bond Yield Spread (December 2020) (from Step 1)	1.357 %
Base A-rates Utility Bond Spread	1.415 %
Difference	-0.058 %
0.5 x Difference	-0.029 %
Return on Equity based on December 2020 data	8.39 %

Step 5: Deemed Long Term Debt Rate Forecast	
Long Canada Bond Forecast for December 2020 (from Step 3)	1.595 %
A-rated Utility Bond Yield Spread December 2020 (from Step 1)	1.357 %
Deemed Long-term Debt Rate based on December 2020 data	2.95 %

Source: OEB. Cost of Capital Parameter Updates. <<https://www.oeb.ca/industry/rules-codes-and-requirements/cost-capital-parameter-updates>>

Figure 8. STDR calculation

Cost of Capital Parameter Calculations (For rate changes effective in 2021)

Step 1: Average annual spread over Banker's Acceptance

A.

	Average Spread over 90-day Bankers Acceptance		Date of input
Bank 1	150	bps	Jul/Aug 2020
Bank 2	130	bps	Jul/Aug 2020
Bank 3	150	bps	Jul/Aug 2020
Bank 4	178.75	bps	Jul/Aug 2020
Bank 5		bps	
Bank 6		bps	

B.

Discard high and low estimates
If less than 4 estimates, take average without discarding high and low.

Number of estimates

4

High estimate

178.75 bps

Low estimate

130 bps

C.

Average annual spread

150 bps

Step 2: Average 3-month Banker's Acceptance Rate

Month:	December 2020
Day	Bankers' Acceptance Rate (%) 3-month
1	1-Dec-200.23%
2	2-Dec-200.23%
3	3-Dec-200.24%
4	4-Dec-200.23%
5	5-Dec-20
6	6-Dec-20
7	7-Dec-200.24%
8	8-Dec-200.24%
9	9-Dec-200.24%
10	10-Dec-200.24%
11	11-Dec-200.23%
12	12-Dec-20
13	13-Dec-20
14	14-Dec-200.23%
15	15-Dec-200.23%
16	16-Dec-200.25%
17	17-Dec-200.24%
18	18-Dec-200.23%
19	19-Dec-20
20	20-Dec-20
21	21-Dec-200.24%
22	22-Dec-200.24%
23	23-Dec-200.23%
24	24-Dec-200.23%
25	25-Dec-20
26	26-Dec-20
27	27-Dec-20
28	28-Dec-20
29	29-Dec-200.23%
30	30-Dec-200.23%
31	31-Dec-200.23%
0.24%	

Step 3: Deemed Short-Term Debt Rate Calculation

Average annual spread	1.50%
Average Banker's Acceptance Rate	0.24%
Deemed Short Term Debt Rate	1.74%

Source: OEB. *Cost of Capital Parameter Updates*. <<https://www.oeb.ca/industry/rules-codes-and-requirements/cost-capital-parameter-updates>>.

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5 Appendix B: Works cited

- BMO Capital Market Economic Research. *North American Outlook*. January 4, 2021.
- BMO Capital Markets Economic Research. *Provincial Economic Outlook*. January 4, 2021.
- BMO Economics. *The 2021 Outlook*. December 23, 2020.
- BMO Economics. *Vaccinations: State of Play*. January 5, 2021.
- CBC News. *Premier promises further restrictions as Ontario reports record 4,249 new COVID-19 cases*. January 8, 2021.
- Consensus Forecasts. *Surveys of international Economic Forecasts – G-7 & Western Europe*. December 7, 2020.
- Department of Finance Canada. *Government of Canada Releases Supporting Canadians and Fighting COVID-19: Fall Economic Statement 2020*. November 30, 2020.
- Financial Times. *Fed signals rock-bottom rates until at least end of 2023*. Politi, James & Smith, Colby. September 16, 2020.
- Government of Canada website. *Coronavirus disease (COVID-19): Outbreak update*. Accessed on January 11, 2021. Accessed at: <<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>>
- International Monetary Fund. *World Economic Outlook, April 2020: Chapter 1: The Great Lockdown*. April 2020.
- Ministry of Finance. *Ontario's Action Plan: Protect, Support, Recover*. November 5, 2020.
- OEB. [2021 Cost of Capital Parameters](#). November 9, 2020.
- OECD. *Economic Outlook: Volume 2020, Issue 2*. Paris, OECD Publishing, December 1, 2020.
- Office of the Premier. *Ontario Announces Provincewide Shutdown to Stop Spread of COVID-19 and Save Lives*. December 21, 2020.
- RBC Economics. *Macroeconomic Outlook*. December 15, 2020.
- RBC Economics. *Provincial Outlook*. December 15, 2020.
- Scotiabank Economics. *Canadian GDP Nowcast*. January 8, 2021.
- Scotiabank Economics. *Scotia Flash*. December 23, 2020.
- Statistics Canada. *National balance sheet and financial flow accounts, third quarter 2020*. December 11, 2020.
- TD Economics. *Provincial Economic Forecast: It's Always Darkest Before Dawn*. December 15, 2020
- Treble, Patricia. "COVID-19 in Canada: How our battle against the second wave is going." *Maclean's*. January 7, 2021.
- US Bureau of Labor Statistics. *Employment Situation Summary*. January 8, 2021.
- US Congress. *H.R. 133 – Consolidated Appropriations Act, 2021*. December 21, 2020.