

December 11, 2018

Mr. D. Christle  
Secretary and Executive Director  
Public Utilities Board  
400-330 Portage Avenue  
Winnipeg, Manitoba  
R3C 0C4

Dear Mr. Christle:

**RE: MANITOBA HYDRO – 2019/20 ELECTRIC RATE APPLICATION – ADDITIONAL  
INFORMATION**

---

On November 30, 2018, Manitoba Hydro filed its 2019/20 Electric Rate Application with the Public Utilities Board (“PUB”). Manitoba Hydro has been advised by PUB legal counsel that certain areas require confirmation and/or further information to clarify aspects of Manitoba Hydro’s filing. Please see below for the requested information.

Corporate Strategic Dashboard

The PUB has requested an updated Corporate Strategic Dashboard (“Dashboard”). Manitoba Hydro reports on key performance measures and targets directly in its Annual Report and has, for the purposes of the 2019/20 Electric Rate Application, updated the Performance Dashboard previously filed with the PUB during the 2017/18 & 2018/19 General Rate Application and has provided information related to 2017/18, 2018/19 and 2019/20. The updated Performance Dashboard is included as Attachment 1.

Net Movement in Regulatory Deferral Accounts

Manitoba Hydro was requested to provide the net movement in regulatory deferral accounts schedule in the same format as filed in the 2017/18 & 2018/19 General Rate Application as MIPUG/MH I-6. The requested information is included as Attachment 2.

## Exports

Manitoba Hydro has been requested to provide a schedule of export volumes, revenues/costs and average unit revenues for the test year and actual results for the 2016/17 and 2017/18 years (split between firm and opportunity volumes and revenues for each year). Manitoba Hydro has provided aggregated actual price information for export sales to Canada in 2016/17, 2017/18 and actual average price information for Export Sales to the USA split between firm and opportunity. Manitoba Hydro has also provided aggregated firm and opportunity sales information for Canadian and USA exports for 2018/19 and 2019/20 fiscal years, including volumes (in GW.h), revenue/cost data (in millions of dollars) and average unit revenue cost (\$/MW.h).

The information contained in the Actual Average Price Calculation table for 2016/17 and 2017/18 and the Average Unit Revenue/Cost Calculation table for 2018/19 and 2019/20 for Canadian sales, if split between firm and opportunity volumes and revenues, would provide the blended capacity and energy price of the Canadian firm exports. This information is subject to confidentiality provisions and disclosure of the information would cause economic and reputational harm to Manitoba Hydro in ongoing discussions over future opportunities and harm to future negotiations with various counterparties if disclosed publically.

While aggregate sale volume and revenue information for forecast years has been provided on the public record, Manitoba Hydro has consistently advised that knowledge of the average unit forecast price or average unit forecast revenues, broken down by firm and opportunity, provides Manitoba Hydro counterparties with insight into how Manitoba Hydro will price its products. This will negatively impact the Corporation during negotiations with counterparties. With knowledge of how products are priced, counterparties will want the same or a better price than average unit prices. Counterparties who have contracted at higher prices may feel slighted, impacting relationships and willingness to enter contracts in the future. Disclosure of revenues leads counterparties and/or their regulators to second guess negotiations with Manitoba Hydro and may lead them to believe they have paid too much. In the past, where this has occurred, counterparties have demanded to renegotiate Term Sheets or withdrawn from negotiations. Disclosure of volume information facilitates reverse engineering of revenues and pricing using other information in the public domain.

Manitoba Hydro has included the tables providing the requested information as Attachment 3. The confidential portions of the response have been redacted.

Manitoba Hydro requests that this information be received in confidence by the PUB pursuant to Rule 13(2) (a) and (b) and not be placed on the public record. Manitoba Hydro submits that holding this information in confidence outweighs the public interest in the

disclosure of the information and notes that this information has consistently been received by the PUB in confidence in previous proceedings.

### Resource Planning Assumptions

Manitoba Hydro has been asked to clarify whether there is a new Resource Planning Assumption and Analysis document applicable to the test years in the current 2019/20 Electric Rate Application. There is no Resource Planning Assumption and Analysis document applicable to the test year; however, the Corporation has updated the supply and demand tables for 2018/19 and 2019/20. These tables are included as Attachment 4.

### Economic Outlook

Manitoba Hydro has been requested to confirm if there is an updated Economic Outlook and to provide same if available. Manitoba Hydro no longer prepares an Economic Outlook report but continues to produce a forecast of key economic and financial indicators. The key economic and financial indicators that underpin the Outlook projection in 2018/19 and the 2019/20 Interim Budget are discussed below and are included in Attachment 5 in both calendar (Table 1) and fiscal year (Table 2) format. Manitoba Hydro will update its key economic and financial indicators for the 2019 Integrated Financial Forecast (IFF19).

Manitoba Hydro's forecast of key economic and financial indicators are based on a consensus view of several independent sources including Canada's primary financial institutions and several other independent sources, all of which are well known and respected. Consensus forecasts are compiled for employment, population, housing, Manitoba disposable income, real gross domestic product (GDP), the consumer price index (CPI), GDP price deflators, interest rates, and exchange rates. The consensus forecasts of interest rates and exchanges rates are updated quarterly whereas the consensus forecast of economic indicators are typically prepared once a year in the spring.

The economic indicators are derived from the following forecasting sources which were available in the spring of 2017: IHS, The Conference Board of Canada, Spatial Economics, BMO Nesbitt Burns, CIBC, Desjardins, Laurentian, Royal Bank of Canada, Scotiabank, National Bank, and TD Bank.

Manitoba Hydro has included as Attachment 5 the forecast of key economic indicators, interest and exchange rates, and a summary of Manitoba Hydro's key borrowing costs included in the 2019/20 Interim Budget.

### Electric Load Forecast

Manitoba Hydro been requested to confirm the date of the most recent Electric Load Forecast. Manitoba Hydro's latest approved Load Forecast document is the 2017 Electric Load Forecast dated June 2017 which was filed as PUB MFR 65U-Attachment 1 in the 2017/18 & 2018/19 General Rate Application. To better align with the timelines regarding the approval and publication of the Integrated Financial Forecast at Fiscal Year End, Manitoba Hydro has shifted the process timeline regarding the development and publication of the underlying reports including the Electric Load Forecast. As noted in Manitoba Hydro's 2019/20 Electric Rate Application, Manitoba Hydro is currently developing the 2018 Electric Load Forecast for use in development of a 2019 Integrated Financial Forecast (IFF19).

In November 2017, Manitoba Hydro updated its load forecast information to reflect three changes to the 2017 Electric Load Forecast:

- A reduction in the top Consumer sector as a result of the cancellation of a large project in the petrol/oil/natural gas section;
- Electric Price Forecast adjustment which included the PUB awarded interim rate increase of 3.36% for August 1, 2017. The November 2017 update which underpins the 2019/20 Electric Rate Application does not reflect the 3.6% rate increase granted for the 2018/19 fiscal year but rather utilizes the forecasted rate increase of 7.9% in 2018/19; and
- A minor adjustment to the Codes and Standard forecast to reflect updated market information.

Manitoba Hydro can further confirm that there was no separate internal version of the 2017 Electric Load Forecast prepared which contains Top Consumers confidential and commercially sensitive information. The 2017 Electric Load Forecast filed as PUB MFR 65U-Attachment 1 in the 2017/18 & 2018/19 General Rate Application is the only 2017 Load Forecast prepared.

### Depreciation Rates

Manitoba Hydro has been requested to confirm whether the depreciation rates used in the 2019/20 Electric Rate Application have changed from the rates used in the previous 2017/18 & 2018/19 General Rate Application. Manitoba Hydro has also been requested to provide a schedule detailing depreciation and amortization expense for the years 2018/19 and 2019/20 in a similar format to the response provided to PUB/MH I-18 in the 2017/18 &

2018/19 General Rate Application as well as a table based on the PUB 2014 ASL rates with no net salvage.

Manitoba Hydro confirms that the depreciation rates used in this filing have not changed from the depreciation rates used in the last GRA. The Equal Life Group (ELG) and Average Service Life (ASL) depreciation rates are based on the 2014 depreciation study as approved by the PUB in Order 73/15. Manitoba Hydro is not amortizing the regulatory deferral account that records the cumulative difference in the annual depreciation expense between the ELG and ASL method consistent with Directive 17 of Order 59/18.

Manitoba Hydro has provided the requested schedules in Attachment 6.

#### Great Northern Transmission Line Information

Manitoba Hydro was asked to confirm whether it was able to provide a public version of the information included in its confidential quarterly report related to the Great Northern Transmission Line ("GNTL"). Manitoba Hydro has previously advised that information related to the GNTL project is confidential Minnesota Power information. 6690271 Manitoba Ltd. inquired with Minnesota Power as to whether any information could be released publically in the current 2019/20 Electric Rate Application. Manitoba Hydro has received consent to provide information which was filed publically with the Minnesota Public Utilities Commission in October 2018. Manitoba Hydro has included the information as Attachment 7. Manitoba Hydro did not receive consent to disclose any further information on the public record.

#### Debt Management Strategy

Manitoba Hydro has been requested to confirm the date of the Debt Management Strategy used in the preparation of the 2019/20 Electric Rate Application. Manitoba Hydro can confirm that the most recent approved Debt Management Strategy was the April 2017 report filed as Appendix 3.5 in the 2017/18 & 2018/19 General Rate Application. The April 2017 strategy has been incorporated into the planning assumptions for the 2019/20 Interim Budget, with an adjustment to the weighted average term to maturity from 12 to 20 years, as discussed in the Application. As has been communicated by Manitoba Hydro, the Manitoba Hydro-Electric Board is currently undertaking a comprehensive review of the Manitoba Hydro operations, forecasts and financial plans which will allow them to establish a financial plan for the Corporation. Any financial plan that is implemented will incorporate changes to the Debt Management Strategy and any such changes will be communicated with Manitoba Hydro's next rate application.

Should you have any questions with respect to the foregoing, please do not hesitate to contact the writer at 204-360-3633 or Marla Boyd at 204-360-3468.

Yours truly,

**MANITOBA HYDRO LEGAL SERVICES DIVISION**

Per:



**ODETTE FERNANDES**

Barrister and Solicitor

cc : Marla Boyd, Manitoba Hydro  
Bob Peters, Board Counsel  
Dayna Steinfeld, Board Counsel

MANITOBA HYDRO CORPORATE PERFORMANCE DASHBOARD			as at March 31, 2018
	Measure	Target	Actual
Safety in the Workplace	Accident severity rate	<12 days per 200,000 hours worked	13.83
	Accident frequency rate	<.60 accidents per 200,000 hours worked	1.35
	Serious incidents	0	6
Indigenous Relations	Indigenous employment	18% overall	19.4%
Demand Side Management	Electric energy saved	310 GWh annual incremental savings	417 GWh
	Electric capacity saved	238 MW annual incremental savings	257 MW
	Natural gas energy saved	9.4 million cubic meters	6.6 million cubic meters
Customer Value	System Average Interruption Duration Index (SAIDI)	< 116 minutes	131.9 minutes
	System Average Interruption Frequency Index (SAIFI)	<1.4 per year	1.45
	Customer satisfaction (CSTS) - Manitoba Hydro Customer Survey	>8.2/10	8.0 annual avg

	Measure <i>(in millions of dollars)</i>	2017/18 Actual	2018/19 Outlook	2019/20 Interim Budget
Financial Strength	Net income – Electric Segment	\$18	\$51	\$31
	O&A costs – Electric Segment	\$517	\$501	\$511
	Capital Expenditures - Major New Generation & Transmission (electric)	\$2,463	\$2,093	\$1,214
	Capital Expenditures - Business Operations (electric)	\$461	\$515	\$511

**MANITOBA HYDRO**  
**NET MOVEMENT OF REGULATORY DEFERRAL ACCOUNTS**  
(In Thousands of Dollars)

	<b>ACTUAL</b>	<b>OUTLOOK</b>	<b>INTERIM</b>
<i>For the year ended March 31</i>	<b>2018</b>	<b>2019</b>	<b>BUDGET</b>
	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Additions of regulatory deferral accounts</b>			
Demand Side Management	(63 667)	(62 539)	(94 251)
Conawapa Generation	(379 204)	-	-
Change in depreciation method	(32 270)	(38 853)	(41 912)
Deferred ineligible overhead	(20 200)	(20 200)	(20 200)
Loss on disposal of assets	(8 534)	-	-
Site restoration costs	(1 221)	(6 421)	(11 201)
Regulatory costs	(10 136)	(2 476)	(2 832)
Acquisition costs	-	-	-
Affordable Energy Fund	(76)	-	-
<b>Total additions of regulatory deferral accounts</b>	<b>(515 308)</b>	<b>(130 490)</b>	<b>(170 395)</b>
<b>Amortization of regulatory deferral accounts</b>			
Demand Side Management	35 773	37 395	40 249
Conawapa Generation	-	12 646	12 646
Affordable Energy Fund	197	658	462
Site restoration	3 480	4 082	4 270
Regulatory costs	1 520	2 703	5 366
Acquisition costs	692	692	692
Change in depreciation method	-	-	-
Loss on disposal of assets	-	523	523
Deferred ineligible overhead	2 079	2 674	3 268
<b>Total amortization of regulatory deferral accounts</b>	<b>43 741</b>	<b>61 372</b>	<b>67 476</b>
<b>Total net movement in regulatory deferral accounts</b>	<b>(471 567)</b>	<b>(69 118)</b>	<b>(102 919)</b>
Year over year \$ change		402 449	(33 801)
Year over year % change		-85%	49%



## ACTUAL AVERAGE PRICE CALCULATION

<b>VOLUMES (in GW.h)</b>	<b>2016/17</b>	<b>2017/18</b>
Firm Export Sales to Canada		
Opportunity Export Sales to Canada		
<b>Total Export Sales to Canada</b>	<b>825</b>	<b>888</b>
Firm Export Sales to USA	3164	3216
Opportunity Export Sales to USA	7282	5344
<b>Total Export Sales to USA</b>	<b>10446</b>	<b>8560</b>
 <b>Purchased Energy</b>	 <b>1072</b>	 <b>1394</b>
 <b>REVENUE/COST (in millions of dollars)</b>		
Firm Export Revenues to Canada		
Opportunity Export Revenues to Canada		
<b>Total Export Revenues to Canada</b>	<b>36.476</b>	<b>40.128</b>
Firm Export Revenues to USA	235.778	246.707
Opportunity Export Revenues to USA	178.472	140.875
<b>Total Export Revenues to USA</b>	<b>414.250</b>	<b>387.582</b>
<b>Total Export Sales to USA (includes net Trans &amp; Enviro charges)</b>	<b>377.354</b>	<b>362.017</b>
 <b>Total Import Energy</b>	 <b>78.248</b>	 <b>88.154</b>
 <b>AVERAGE PRICE (\$/MW.h))</b>		
Firm Export Sales to Canada		
Opportunity Export Sales to Canada		
<b>Total Export Sales to Canada</b>	<b>38.63</b>	<b>29.20</b>
Firm Export Sales to USA	74.52	76.71
Opportunity Export Sales to USA	24.23	25.31
<b>Total Export Sales to USA</b>	<b>39.37</b>	<b>44.61</b>
<b>Total Export Sales</b>	<b>39.32</b>	<b>42.93</b>
 <b>Import Energy Including Wind</b>	 <b>71.27</b>	 <b>60.66</b>

Average Unit Revenues for 2018/19 Outlook and 2019/20 Interim Budget:

**AVERAGE UNIT REVENUE/COST CALCULATION**

	OUTLOOK	INTERIM BUDGET
<b>VOLUMES (in GW.h)</b>	<b>2018/19</b>	<b>2019/20</b>
<b>Demand:</b>		
<b>A</b> Manitoba Domestic Energy Sales	22366	22207
<b>B</b> Domestic energy Losses	3302	3025
<b>C</b> Firm Export Sales to Canada (excl. Lake St. Joseph)		
<b>D</b> Opportunity Export Sales to Canada		
Firm & Opportunity Export Sales to Canada (excl. Lake St. Joseph) <b>(C+D)</b>	460	534
<b>E</b> Lake St. Joseph	95	91
<b>F</b> Firm Export Sales to US		
<b>G</b> Opportunity Export Sales to US		
Firm & Opportunity Export Sales to US <b>(F+G)</b>	5589	6089
<b>H</b> Net Transmission Losses	542	610
<b>Total Demand Volumes:</b>	<b>32353</b>	<b>32555</b>
<b>Supply:</b>		
<b>I</b> MH Hydraulic Generation	30735	30152
<b>J</b> MH Thermal Generation	17	281
<b>K</b> Purchased Energy	1601	2123
<b>Total Supply Volumes:</b>	<b>32353</b>	<b>32555</b>

<b>REVENUE/COST (in millions of dollars)</b>		<b>2018/19</b>	<b>2019/20</b>
<b>Total Manitoba Domestic Energy Sales:</b>			
L	Manitoba Domestic Energy Sales @ Approved Rates	1 701.288	1 678.231
M	Additional Domestic Revenue	-	58.708
	<b>Manitoba Domestic Sales</b>	<b>1 701.288</b>	<b>1 736.939</b>
<b>Extraprovincial Revenue:</b>			
N	Total Firm Export Sales to Canada		
O	Total Opportunity Export Sales to Canada		
	Total Export Sales to Canada (N+O)	29.890	27.023
P	Total Firm Export Sales to USA		
Q	Total Opportunity Export Sales to USA		
	Total Export Sales to USA (P+Q)	355.823	375.566
R	Other Non-Energy Related Revenues	3.004	5.579
S	Transmission Credits	3.096	2.827
	<b>Extraprovincial Revenue</b>	<b>391.813</b>	<b>410.996</b>
<b>Water Rentals &amp; Assessments:</b>			
T	MH Water Rentals	102.740	100.786
U	Assessments	7.701	7.493
V	Other Costs	2.462	2.818
	<b>Water Rentals &amp; Assessments:</b>	<b>112.903</b>	<b>111.097</b>
<b>Fuel &amp; Power Purchased:</b>			
W	MH Thermal Generation	1.341	17.692
X	Purchased Energy	90.097	103.107
Y	Other Non-Energy related Costs	14.153	7.396
Z	Transmission Charges	32.025	31.737
	<b>Fuel &amp; Power Purchased</b>	<b>137.616</b>	<b>159.932</b>

<b>AVERAGE UNIT REVENUE/COST (\$/MW.h)</b>	<b>2018/19</b>	<b>2019/20</b>
Manitoba Domestic Energy Sales @ Approved Rates (L/A)	\$ 76.07	\$ 75.57
Additional Domestic Revenue (M/A)	-	2.64
Total Manitoba Domestic Energy Sales @ meter (L+M)/A	76.07	78.22
Total Firm Export Sales to Canada (N/C)		
Total Opportunity Export Sales to Canada (O/D)		
Total Export Sales to Canada (N+O)/(C+D)	65.04	50.60
Total Firm Export Sales to USA (P/F)		
Total Opportunity Export Sales to USA (Q/G)		
Total Export Sales to USA (includes Net Trans Credits) (P+Q+S-Z)/(F+G)	58.49	56.93
Total Export Sales (includes Net Trans Credits) (N+O+P+Q+S-Z)/(C+D+F+G)	\$ 58.99	\$ 56.42
MH Hydraulic Generation (Water Rentals) (T/I)	\$ 3.34	\$ 3.34
MH Thermal Generation (W/J)	\$ 81.30	\$ 63.02
Purchased Energy (Including Assessments) (X+U)/K	\$ 61.09	\$ 52.11

## System Firm Winter Peak Demand and Capacity Resources (MW) @ generation

Fiscal Year		2018/19	2019/20
<b>Power Resources</b>			
<b>New Power Resources</b>			
1	<b>Total New Hydro</b>		
2	<b>Total New Thermal</b>		
3	<b>Total New Power Resources</b>	1+2	
<b>Base Supply Power Resources</b>			
	Existing and Committed Hydro	5 085	5 106
	Existing Thermal		
	Selkirk Gas	125	125
	Brandon Units 6-7 SCGT	278	278
	Contracted Imports	688	688
	Proposed Imports		
	Market Purchases		
	Existing Wind	52	52
	Generation Outages Over System Peak	- 44	
	Bipole III Reduced Losses	90	90
4	<b>Total Base Supply Power Resources</b>	<b>6 273</b>	<b>6 339</b>
5	<b>Total Power Resources</b>	<b>6 273</b>	<b>6 339</b>
		3+4	
<b>Peak Demand</b>			
	2017 Load Forecast - Fall Update (50th Percentile)	4 767	4 823
	2018 DSM Forecast	- 227	- 152
6	<b>Manitoba Net Load</b>	<b>4 540</b>	<b>4 671</b>
	Contracted Exports	733	807
	Proposed Exports		
7	<b>Total Exports</b>	<b>733</b>	<b>807</b>
8	<b>Total Peak Demand</b>	<b>5 273</b>	<b>5 477</b>
		6+7	
9	Reserves	535	551
10	<b>System Surplus/Deficit</b>	<b>465</b>	<b>310</b>
		5-8-9	

## System Firm Summer Peak Demand and Capacity Resources (MW) @ generation

Fiscal Year		2018/19	2019/20
<b>Power Resources</b>			
<b>New Power Resources</b>			
1	<b>Total New Hydro</b>		
2	<b>Total New Thermal</b>		
3	<b>Total New Power Resources</b>	1+2	
<b>Base Supply Power Resources</b>			
	Existing and Committed Hydro	5 104	5 130
	Existing Thermal		
	Selkirk Gas	33	33
	Brandon Units 6-7 SCGT	228	228
	Contracted Imports		
	Proposed Imports		
	Market Purchases		
	Existing Wind	39	39
	Generation Outages Over System Peak	- 42	- 100
	Bipole III Reduced Losses	90	90
4	<b>Total Base Supply Power Resources</b>	<b>5 453</b>	<b>5 420</b>
5	<b>Total Power Resources</b>	<b>5 453</b>	<b>5 420</b>
<b>Peak Demand</b>			
	2017 Load Forecast - Fall Update (50th Percentile)	3 406	3 446
	2018 DSM Forecast	- 213	- 266
6	<b>Manitoba Net Load</b>	<b>3 193</b>	<b>3 180</b>
	Contracted Exports	1 476	1 549
	Proposed Exports		
7	<b>Total Exports</b>	<b>1 476</b>	<b>1 549</b>
8	<b>Total Peak Demand</b>	<b>4 669</b>	<b>4 729</b>
9	Reserves	388	388
10	<b>System Surplus/Deficit</b>	<b>396</b>	<b>303</b>

## System Firm Energy Demand and Dependable Resources (GWh) @ generation

Fiscal Year		2018/19	2019/20
<b>Power Resources</b>			
<b>New Power Resources</b>			
1	<b>Total New Hydro</b>		
2	<b>Total New Thermal</b>		
3	<b>Total New Power Resources</b>	1+2	
<b>Base Supply Power Resources</b>			
	Existing and Committed Hydro	21 862	21 826
	Existing Thermal		
	Selkirk Gas	946	946
	Brandon Units 6-7 SCGT	2 340	2 340
	Contracted Imports	2 810	2 810
	Proposed Imports		
	Hydro Adjustment	903	903
	Market Purchases	258	258
	Existing Wind	780	780
	Bipole III Reduced Losses	101	101
4	<b>Total Base Supply Power Resources</b>	<b>30 193</b>	<b>29 964</b>
5	<b>Total Power Resources</b>	3+4	<b>30 193</b> <b>29 964</b>
<b>Manitoba Domestic Load</b>			
	2017 Load Forecast - Fall Update (50th Percentile)	26 080	26 369
	Construction Power Adjustment		
	2018 DSM Forecast	- 285	- 766
6	<b>Manitoba Net Load</b>	<b>25 795</b>	<b>25 603</b>
	Contracted Exports	3 442	3 501
	Proposed Exports		
	Less: Adverse Water	- 370	- 370
7	<b>Total Net Exports</b>	<b>3 072</b>	<b>3 131</b>
8	<b>Total Energy Demand</b>	6+7	<b>28 867</b> <b>28 734</b>
9	<b>System Surplus/Deficit</b>	5-8	<b>1 326</b> <b>1 230</b>

Manitoba Hydro's forecast of key economic and financial indicators are based on a consensus view of several independent sources including Canada's primary financial institutions and several other independent sources, all of which are well known and respected. Consensus forecasts are compiled for employment, population, housing, Manitoba disposable income, real gross domestic product (GDP), the consumer price index (CPI), GDP price deflators, interest rates, and exchange rates. The consensus forecasts of interest rates and exchanges rates are updated quarterly whereas the consensus forecast of economic indicators are typically prepared once a year in the spring.

The economic indicators are derived from the following forecasting sources which were available in the spring of 2017: IHS, The Conference Board of Canada, Spatial Economics, BMO Nesbitt Burns, CIBC, Desjardins, Laurentian, Royal Bank of Canada, Scotiabank, National Bank, and TD Bank. The forecast of key economic indicators are presented in both calendar (Table 1) and fiscal year (Table 2) format. Where applicable, these forecast values were used to develop the 2017 Electric Load Forecast included in the 2019/20 Interim Budget.

The forecast of interest rates and exchange rates are also presented in both calendar (Table 3) and fiscal year (Table 4) format and reflect the consensus view from the same forecasting sources, where available, as at the end of December 2017. These values were used to derive Manitoba Hydro's borrowing costs for the 2019/20 Interim Budget. Manitoba Hydro notes that there has been little movement in forecast interest rates for 2018/19 and 2019/20 since the Spring and Winter 2017 interest rate forecasts were prepared.

The Manitoba credit spread and the Provincial Guarantee Fee (PGF) are added to the consensus Canadian benchmark rate to arrive at Manitoba Hydro's forecasted borrowing costs. Table 5 summarizes Manitoba Hydro's borrowing costs included in 2019/20 Interim Budget.



TABLE 1 – MANITOBA/CANADA ECONOMIC INDICATORS (SPRING 2017) – CALENDAR YEAR

Year	Manitoba					Canada			US
	Man. Real GDP % chge	Man. CPI % chge	Man. Real Disposable Income % chge	Man. Population '000s	Man. Residential Customers '000s	Cdn. Real GDP % chge	Cdn. CPI % chge	Cdn. GDP Price Deflator % chge	US GDP Price Deflator % chge
1992	0.8	1.4	0.2	1,113	391	0.9	1.4	1.5	2.3
1993	0.1	2.7	-0.7	1,118	394	2.7	1.9	1.2	2.4
1994	4.0	1.4	0.1	1,123	396	4.5	0.1	1.5	2.1
1995	0.0	2.7	-1.2	1,129	398	2.7	2.2	2.1	2.1
1996	2.5	2.2	-0.4	1,134	400	1.6	1.5	1.8	1.8
1997	4.3	2.0	-1.0	1,136	403	4.3	1.7	1.2	1.7
1998	4.5	1.3	2.4	1,137	405	3.9	1.0	-0.1	1.1
1999	1.3	2.0	3.6	1,142	408	5.2	1.8	1.8	1.4
2000	4.3	2.5	0.2	1,147	410	5.2	2.7	4.4	2.3
2001	1.1	2.7	3.0	1,151	412	1.8	2.5	1.7	2.3
2002	1.7	1.5	2.8	1,157	415	3.0	2.2	1.2	1.5
2003	1.3	1.8	0.1	1,164	418	1.8	2.8	3.3	2.0
2004	2.5	2.0	2.8	1,173	421	3.1	1.8	3.3	2.7
2005	2.8	2.7	-0.4	1,178	425	3.2	2.2	3.2	3.2
2006	3.7	2.0	4.1	1,184	429	2.6	2.0	2.7	3.1
2007	2.5	2.0	4.7	1,189	433	2.1	2.2	3.3	2.7
2008	3.7	2.3	3.9	1,198	439	1.0	2.3	4.0	1.9
2009	-0.2	0.6	3.2	1,209	443	-2.9	0.3	-2.3	0.8
2010	2.5	0.8	3.8	1,221	447	3.1	1.8	3.0	1.2
2011	2.5	3.0	1.2	1,234	452	3.1	2.9	3.2	2.1
2012	3.0	1.6	3.8	1,250	458	1.7	1.5	1.2	1.8
2013	2.8	2.2	2.3	1,266	464	2.5	0.9	1.6	1.6
2014	1.5	1.9	0.3	1,281	470	2.6	2.0	1.9	1.8
2015	2.2	1.2	4.0	1,296	475	0.9	1.1	-0.8	1.1
2016	1.4	1.3	2.7	1,318	482	1.4	1.4	0.6	1.3
<b>Forecast</b>									
2017	2.0	2.0	1.5	1,336	488	2.1	2.1	2.3	2.2
2018	1.9	2.1	1.1	1,353	495	2.0	2.0	2.0	2.3
2019	2.1	2.1	1.1	1,371	501	1.8	2.0	2.1	2.3
2020	1.8	2.1	1.3	1,389	508	1.6	1.9	2.1	2.3
2021	2.0	2.0	1.4	1,406	514	1.8	2.0	2.0	2.3
2022	1.8	2.1	1.8	1,423	520	1.9	2.0	2.0	2.1
2023	1.5	2.0	1.9	1,439	526	1.8	2.0	2.0	2.1
2024	1.5	2.0	1.9	1,455	532	1.8	2.0	2.0	2.1
2025	1.5	2.0	1.9	1,471	538	1.8	2.0	2.0	2.1
2026	1.5	2.0	1.9	1,487	544	1.8	2.0	2.0	2.1
2027	1.5	2.0	1.9	1,502	549	1.8	2.0	2.0	2.1
2028	1.5	2.0	1.9	1,518	555	1.8	2.0	2.0	2.1
2029	1.5	2.0	1.9	1,533	560	1.8	2.0	2.0	2.1
2030	1.5	2.0	1.9	1,548	566	1.8	2.0	2.0	2.1
2031	1.5	2.0	1.9	1,563	571	1.8	2.0	2.0	2.1
2032	1.5	2.0	1.9	1,578	577	1.8	2.0	2.0	2.1
2033	1.5	2.0	1.9	1,592	582	1.8	2.0	2.0	2.1
2034	1.5	2.0	1.9	1,606	587	1.8	2.0	2.0	2.1
2035	1.5	2.0	1.9	1,621	592	1.8	2.0	2.0	2.1
2036	1.5	2.0	1.9	1,634	598	1.8	2.0	2.0	2.1
2037	1.5	2.0	1.9	1,648	603	1.8	2.0	2.0	2.1
2038	1.5	2.0	1.9	1,662	607	1.8	2.0	2.0	2.1

TABLE 2 – MANITOBA/CANADA ECONOMIC INDICATORS (SPRING 2017) – FISCAL YEAR

Year	Manitoba					Canada			US
	Man. Real GDP % chge	Man. CPI % chge	Man. Real Disposable Income % chge	Man. Population '000s	Man. Residential Customers '000s	Cdn. Real GDP % chge	Cdn. CPI % chge	Cdn. GDP Price Deflator % chge	US GDP Price Deflator % chge
1992/93	0.7	1.9	-0.2	1,114	391	1.1	1.6	1.5	2.4
1993/94	1.1	2.4	-0.5	1,119	394	3.1	1.5	1.3	2.3
1994/95	2.9	1.6	0.0	1,125	396	4.7	0.4	1.6	2.1
1995/96	0.6	2.5	-0.9	1,130	398	1.7	2.1	2.2	2.0
1996/97	3.0	2.5	-0.9	1,135	400	2.4	1.7	1.8	1.8
1997/98	4.3	1.5	0.2	1,136	404	4.5	1.4	0.7	1.6
1998/99	3.7	1.5	2.7	1,139	405	3.7	0.9	-0.2	1.1
1999/00	2.1	2.2	2.5	1,144	408	5.5	2.2	2.9	1.6
2000/01	3.4	2.5	0.9	1,148	411	4.5	2.7	4.4	2.4
2001/02	1.2	2.1	3.2	1,153	413	1.6	2.2	0.2	2.1
2002/03	1.6	2.3	1.4	1,158	415	3.1	3.0	2.8	1.6
2003/04	1.6	0.9	1.6	1,166	419	1.6	1.9	2.5	2.0
2004/05	2.5	2.7	1.5	1,174	422	3.5	2.2	3.5	3.0
2005/06	3.0	2.4	0.8	1,180	426	3.3	2.3	3.1	3.2
2006/07	3.4	2.0	4.2	1,185	430	2.0	1.9	2.7	3.0
2007/08	2.8	1.9	4.6	1,191	434	2.1	2.1	3.5	2.4
2008/09	2.7	2.2	3.3	1,200	440	0.0	2.2	2.2	1.8
2009/10	0.5	0.6	3.4	1,212	444	-2.0	0.4	-0.7	0.5
2010/11	2.5	1.0	3.4	1,224	448	3.4	2.0	2.6	1.6
2011/12	2.6	2.8	1.6	1,238	453	3.0	2.8	3.1	2.1
2012/13	3.0	1.6	3.5	1,254	459	1.6	1.2	1.2	1.8
2013/14	2.5	2.4	1.5	1,269	465	2.4	1.1	1.5	1.6
2014/15	1.7	1.5	1.4	1,285	471	2.4	1.8	1.2	1.7
2015/16	2.0	1.3	3.5	1,302	477	0.8	1.2	-0.3	1.1
2016/17	1.6	1.4	2.4	1,323	483	2.1	1.5	1.2	1.5
<b>Forecast</b>									
2017/18	2.0	2.0	1.3	1,340	489	2.1	2.1	2.2	2.2
2018/19	2.0	2.1	1.1	1,358	496	1.9	2.0	2.0	2.3
2019/20	2.0	2.1	1.2	1,376	503	1.8	2.0	2.1	2.3
2020/21	1.8	2.1	1.3	1,394	509	1.6	1.9	2.1	2.3
2021/22	1.9	2.0	1.5	1,410	515	1.8	2.0	2.0	2.3
2022/23	1.7	2.0	1.8	1,427	521	1.8	2.0	2.0	2.1
2023/24	1.5	2.0	1.8	1,443	527	1.8	2.0	2.0	2.1
2024/25	1.5	2.0	1.8	1,459	533	1.8	2.0	2.0	2.1
2025/26	1.5	2.0	1.8	1,475	539	1.8	2.0	2.0	2.1
2026/27	1.5	2.0	1.8	1,491	545	1.8	2.0	2.0	2.1
2027/28	1.5	2.0	1.8	1,506	550	1.8	2.0	2.0	2.1
2028/29	1.5	2.0	1.8	1,522	556	1.8	2.0	2.0	2.1
2029/30	1.5	2.0	1.8	1,537	561	1.8	2.0	2.0	2.1
2030/31	1.5	2.0	1.8	1,552	567	1.8	2.0	2.0	2.1
2031/32	1.5	2.0	1.8	1,567	572	1.8	2.0	2.0	2.1
2032/33	1.5	2.0	1.8	1,581	578	1.8	2.0	2.0	2.1
2033/34	1.5	2.0	1.8	1,596	583	1.8	2.0	2.0	2.1
2034/35	1.5	2.0	1.8	1,610	588	1.8	2.0	2.0	2.1
2035/36	1.5	2.0	1.8	1,624	593	1.8	2.0	2.0	2.1
2036/37	1.5	2.0	1.8	1,638	598	1.8	2.0	2.0	2.1
2037/38	1.5	2.0	1.8	1,651	603	1.8	2.0	2.0	2.1

TABLE 3 – CANADA/US FINANCIAL INDICATORS (WINTER 2017) – CALENDAR YEAR

Year	Canada					United States			Cdn\$/ US\$
	Cdn 90 Day T-Bill Rate %	Cdn LT Bond 5 Yr Rate %	Cdn LT Bond 10 Yr Rate %	Cdn LT Bond 30 Yr Rate %	Cdn LT Bond 10 Yr+ Rate %	US 90 Day T-Bill Rate %	US LT Bond 5 Yr Rate %	US LT Bond 10 Yr Rate %	
1992	6.58	7.65	8.05	8.68	8.37	3.43	6.19	7.01	1.21
1993	4.84	6.79	7.22	7.86	7.54	3.00	5.15	5.87	1.29
1994	5.78	7.95	8.42	8.69	8.56	4.25	6.68	7.08	1.37
1995	6.89	7.80	8.08	8.41	8.24	5.49	6.39	6.58	1.37
1996	4.21	6.56	7.20	7.75	7.48	5.01	6.18	6.44	1.36
1997	3.26	5.60	6.11	6.66	6.39	5.06	6.22	6.35	1.38
1998	4.73	5.16	5.30	5.59	5.44	4.78	5.15	5.26	1.48
1999	4.72	5.50	5.55	5.72	5.64	4.64	5.54	5.64	1.49
2000	5.49	5.98	5.89	5.71	5.80	5.82	6.15	6.03	1.49
2001	3.77	5.10	5.47	5.76	5.63	3.39	4.55	5.02	1.55
2002	2.59	4.71	5.29	5.68	5.25	1.60	3.82	4.61	1.57
2003	2.87	4.16	4.79	5.34	5.09	1.01	2.97	4.02	1.40
2004	2.22	3.96	4.59	5.14	4.87	1.37	3.43	4.27	1.30
2005	2.73	3.68	4.05	4.40	4.16	3.14	4.05	4.29	1.21
2006	4.03	4.12	4.22	4.28	4.13	4.73	4.75	4.79	1.13
2007	4.15	4.22	4.28	4.32	4.29	4.35	4.43	4.63	1.07
2008	2.39	3.14	3.58	4.05	3.84	1.37	2.80	3.67	1.07
2009	0.35	2.40	3.29	3.90	3.77	0.15	2.19	3.26	1.14
2010	0.56	2.50	3.36	3.74	3.55	0.13	1.93	3.22	1.03
2011	0.93	2.07	2.88	3.30	3.09	0.05	1.52	2.86	0.99
2012	0.96	4.88	1.99	2.50	2.25	0.09	0.76	1.89	1.00
2013	0.96	1.68	2.33	2.84	2.58	0.05	1.17	2.41	1.03
2014	0.91	1.59	2.26	2.78	2.52	0.05	1.64	2.57	1.10
2015	0.53	0.87	1.58	2.20	1.89	0.17	1.53	2.18	1.28
2016	0.49	0.75	1.35	1.94	1.64	0.46	1.34	1.89	1.33
<b>Forecast</b>									
2017	0.70	1.40	1.85	2.25	2.05	1.00	1.90	2.35	1.30
2018	1.35	2.05	2.30	2.65	2.50	1.75	2.45	2.75	1.27
2019	2.05	2.60	2.80	3.15	3.00	2.25	2.90	3.10	1.26
2020	2.45	2.85	3.00	3.30	3.15	2.55	3.05	3.20	1.25
2021	2.35	2.70	2.95	3.20	3.05	2.50	3.05	3.10	1.25
2022	2.35	2.75	2.95	3.25	3.10	2.45	3.05	3.10	1.24
2023	2.70	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.21
2024	2.70	3.00	3.30	3.75	3.55	2.65	3.35	3.70	1.20
2025	2.70	3.00	3.30	3.75	3.55	2.65	3.35	3.70	1.20
2026	2.70	3.00	3.30	3.75	3.55	2.65	3.35	3.70	1.19
2027	2.70	3.00	3.30	3.75	3.55	2.65	3.35	3.70	1.25
2028	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2029	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2030	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2031	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2032	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2033	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2034	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2035	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2036	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2037	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25
2038	2.70	3.00	3.30	3.75	3.55	2.70	3.35	3.70	1.25

TABLE 4 – CANADA/US FINANCIAL INDICATORS (WINTER 2017) – FISCAL YEAR

Year	Canada					United States			Cdn\$/US\$
	Cdn 90 Day T-Bill Rate %	Cdn LT Bond 5 Yr Rate %	Cdn LT Bond 10 Yr Rate %	Cdn LT Bond 30 Yr Rate %	Cdn LT Bond 10 Yr+ Rate %	US 90 Day T-Bill Rate %	US LT Bond 5 Yr Rate %	US LT Bond 10 Yr Rate %	
1992/93	6.25	7.24	7.86	8.50	8.18	3.20	6.00	7.12	1.23
1993/94	4.46	6.48	7.08	7.71	7.39	3.07	5.17	6.14	1.31
1994/95	6.46	8.58	8.87	9.02	8.95	4.87	7.18	7.54	1.38
1995/96	6.17	7.27	7.71	8.14	7.93	5.29	5.94	6.37	1.36
1996/97	3.67	6.33	6.99	7.57	7.28	5.29	6.37	6.72	1.36
1997/98	3.63	5.46	5.83	6.29	6.06	5.06	6.01	6.24	1.40
1998/99	4.81	5.12	5.21	5.49	5.35	4.62	5.03	5.28	1.50
1999/00	4.82	5.80	5.84	5.88	5.69	4.92	5.96	6.06	1.47
2000/01	5.42	5.69	5.68	5.65	5.66	5.64	5.72	5.70	1.50
2001/02	3.09	5.05	5.50	5.78	5.91	2.62	4.52	5.26	1.57
2002/03	2.79	4.57	5.17	5.61	5.41	1.46	3.44	4.69	1.55
2003/04	2.67	3.99	4.65	5.24	4.97	0.95	2.98	4.55	1.35
2004/05	2.31	3.98	4.55	5.04	4.81	1.78	3.66	4.66	1.28
2005/06	3.02	3.75	4.02	4.26	4.17	3.61	4.23	4.47	1.19
2006/07	4.16	4.11	4.21	4.28	4.23	4.87	4.76	4.87	1.14
2007/08	3.83	4.05	4.19	4.31	4.24	3.62	3.94	4.56	1.03
2008/09	1.84	2.80	3.39	3.95	3.66	0.91	2.57	3.74	1.13
2009/10	0.22	2.58	3.42	3.97	3.89	0.12	2.39	3.93	1.09
2010/11	0.78	2.49	3.30	3.66	3.48	0.14	1.86	3.18	1.02
2011/12	0.91	1.79	2.60	3.06	2.83	0.04	1.23	2.55	0.99
2012/13	0.97	1.42	1.92	2.45	2.18	0.10	0.76	1.83	1.00
2013/14	0.94	1.75	2.45	2.95	2.70	0.04	1.38	2.61	1.05
2014/15	0.85	1.37	2.00	2.54	2.27	0.06	1.62	2.38	1.14
2015/16	0.48	0.83	1.56	2.19	1.87	0.27	1.54	2.17	1.31
2016/17	0.49	0.87	1.46	2.01	1.74	0.52	1.48	2.02	1.31
<b>Forecast</b>									
2017/18	1.05	1.85	2.10	2.40	2.25	1.70	2.25	2.50	1.27
2018/19	1.50	2.20	2.45	2.80	2.65	1.80	2.55	2.85	1.27
2019/20	2.20	2.70	2.90	3.20	3.05	2.30	2.95	3.15	1.26
2020/21	2.45	2.80	3.00	3.25	3.15	2.55	3.05	3.20	1.25
2021/22	2.35	2.70	2.95	3.20	3.05	2.45	3.05	3.10	1.25
2022/23	2.35	2.75	3.00	3.25	3.10	2.50	3.10	3.15	1.24
2023/24	2.70	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2024/25	2.70	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2025/26	2.70	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2026/27	2.70	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2027/28	2.70	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2028/29	2.70	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2029/30	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2030/31	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2031/32	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2032/33	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2033/34	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2034/35	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2035/36	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2036/37	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20
2037/38	2.35	2.90	3.05	3.45	3.25	2.70	3.25	3.45	1.20

**TABLE 5 – MANITOBA HYDRO’S FORECASTED INTEREST RATES INCORPORATED IN 2019/20 Interim Budget – FISCAL YEAR**

	CAN Short-Term Interest Rate				CAN Floating Debt Interest Rate						CAN Fixed Debt Interest Rate			
	Consensus Benchmark 90 Day T-Bill Rate	Manitoba Spread	PGF	MH Interest Rate	Consensus Benchmark 90 Day T-Bill Rate	Spread from CAN T-Bill to CAN BA Rate	CAN 90 Day BA Rate	Average Margin Level	PGF	MH Interest Rate	Consensus Benchmark Long Term Bond 10+ Rate	Manitoba Spread	PGF	MH Interest Rate
2019/20	2.21		1.00	3.20	2.21	0.41	2.60	0.64	1.00	4.24	3.05	0.94	1.00	5.00
2020/21	2.45		1.00	3.45	2.45	0.41	2.85	0.64	1.00	4.49	3.13	0.94	1.00	5.05
2021/22	2.35		1.00	3.35	2.35	0.41	2.75	0.64	1.00	4.39	3.07	0.94	1.00	5.00
2022/23	2.37		1.00	3.35	2.37	0.41	2.80	0.64	1.00	4.44	3.11	0.94	1.00	5.05
2023/24 & on	2.69		1.00	3.70	2.69	0.41	3.10	0.64	1.00	4.74	3.26	0.94	1.00	5.20

Table 6 depicts the sources used to derive the interest rate forecast of Canadian 90 Day T-Bill Rate %, Canadian Long-Term Bond 10 Yr Rate %, Canadian Long-Term 30 Yr Rate %, and Canadian Long-Term Bond 10 Yr+ Rate % for each quarter of the 2018/19 and 2019/20 period as shown in Table 4 and Table 5. For forecasters that provided end of period rates, rates are adjusted to a comparable average period basis. For example, end of period rates for Q1 and Q2 are averaged for a Q2 average period forecast. The interest rates shown represent a 4-quarter average.

Copies of the publically available and private sector forecasts are provided at the end of this document.

**Table 6 – Canadian Benchmark Interest Rate Forecast**

Forecaster	Cdn 90 Day T-Bill Rate %								Cdn LT Bond 10 Yr Rate %								Cdn LT Bond 30 Yr Rate %								Cdn LT Bond 10 Yr+ Rate %							
	2018			2019				2020	2018			2019				2020	2018			2019				2020	2018			2019				2020
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
BMO Nesbitt Burns	1.20	1.45	1.70	1.90	2.15	2.35	2.35	*	2.15	2.30	2.40	2.60	2.80	2.90	3.00	*	2.45	2.55	2.70	2.85	3.05	3.15	3.25	*	2.30	2.43	2.55	2.73	2.93	3.03	3.13	*
CIBC	1.10	1.23	1.33	1.45	1.60	1.83	2.00	2.25	2.18	2.20	2.23	2.28	2.33	2.42	2.55	2.75	2.60	2.73	2.73	2.68	2.68	2.73	2.80	2.90	2.39	2.46	2.48	2.48	2.50	2.58	2.68	2.83
Desjardins	1.30	1.45	1.65	1.78	1.93	2.15	2.25	2.15	2.23	2.40	2.60	2.73	2.80	2.88	2.93	2.80	2.53	2.70	2.90	3.03	3.08	3.13	3.15	3.00	2.38	2.55	2.75	2.88	2.94	3.00	3.04	2.90
Laurentian	1.23	1.25	1.25						2.10	2.23	2.35						2.48	2.60	2.73						2.29	2.41	2.54					
National Bank	1.55	1.79	1.93	1.99	2.05	2.12	2.18		2.40	2.57	2.67	2.74	2.83	2.92	3.01		2.74	2.90	2.97	3.02	3.10	3.17	3.25		2.57	2.73	2.82	2.88	2.96	3.05	3.13	
Royal Bank	1.10	1.33	1.58	1.88	2.15				2.25	2.48	2.70	2.88	3.03				2.63	2.85	3.03	3.13	3.20				2.44	2.66	2.86	3.00	3.11			
Scotiabank	1.13	1.38	1.55	1.70	1.95	2.23	2.38		2.18	2.30	2.40	2.50	2.58	2.63	2.73		2.43	2.63	2.83	2.95	3.05	3.13	3.18		2.30	2.46	2.61	2.73	2.81	2.88	2.95	
TD Bank	1.32	1.44	1.57	1.69	1.82	1.94	2.07	2.19	2.20	2.38	2.50	2.60	2.68	2.73	2.78	2.83	2.55	2.73	2.90	3.03	3.08	3.13	3.15	3.15	2.38	2.55	2.70	2.81	2.88	2.93	2.96	2.99
IHS Global Insight	1.26	1.51	1.76	2.01	2.26	2.51	2.76	3.03	2.25	2.43	2.58	2.71	2.84	2.93	2.98	3.04	2.77	2.98	3.15	3.29	3.43	3.52	3.58	3.64	2.51	2.71	2.86	3.00	3.14	3.23	3.28	3.34
Conference Board	1.29	1.54	1.79	2.04	2.19	2.31	2.54	2.69	2.53	2.78	2.91	3.13	3.35	3.47	3.58	3.59	2.72	2.97	3.11	3.33	3.55	3.71	3.78	3.78	2.62	2.88	3.01	3.23	3.45	3.59	3.68	3.68
	2018/19			2019/20					2018/19			2019/20					2018/19			2019/20					2018/19			2019/20				
EO 2017 - December	1.50			2.20					2.45			2.90					2.80			3.20					2.65			3.05				

Note: BMO Nesbitt Burn's long-run assumptions are considered proprietary and cannot be disclosed

# Canadian Economic Outlook

Our key forecasts for the Canadian economy

December 22, 2017

	2017				2018				2019				2016	2017	2018	2019
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
<b>Production</b>	<b>q/q % chng : a.r.</b>															
Real GDP (chain-weighted)	3.7	4.3	1.7	2.2	2.2	1.9	2.0	2.0	1.9	1.7	1.7	1.6	1.4	3.0	2.2	1.8
Final Sales	0.7	4.0	0.4	2.8	2.3	2.0	2.1	2.1	2.0	1.8	1.8	1.6	1.7	2.2	2.2	1.9
Final Domestic Demand	4.0	4.2	3.7	2.2	2.1	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.1	2.9	2.4	1.8
Consumer Spending	3.7	5.0	4.0	2.1	2.3	1.9	1.9	1.8	1.8	1.7	1.7	1.4	2.4	3.7	2.5	1.8
Durables	11.0	9.8	4.2	2.4	2.2	1.8	1.7	1.5	1.8	1.7	1.5	1.7	4.5	7.3	2.8	1.7
Nondurables	2.2	6.5	1.6	2.2	2.3	1.8	1.9	1.9	1.6	1.6	1.6	1.3	1.7	2.9	2.3	1.7
Services	2.8	2.9	5.3	2.0	2.4	2.0	1.9	1.9	1.9	1.7	1.8	1.6	2.2	3.1	2.5	1.8
Government Spending	0.0	3.2	4.6	2.8	2.6	2.5	2.4	2.3	2.2	2.0	2.0	2.0	2.7	2.1	2.9	2.2
Business Investment	10.6	8.2	3.7	2.3	2.2	2.0	2.3	2.6	2.6	2.3	2.0	2.0	-9.4	1.4	2.8	2.4
Non-residential Construction	0.5	9.1	2.2	2.5	2.0	2.0	2.4	2.7	2.6	2.3	2.0	2.0	-11.5	-1.1	2.6	2.4
Machinery and Equipment	28.1	6.8	6.1	2.0	2.5	2.0	2.1	2.5	2.6	2.3	2.0	2.0	-6.0	5.4	3.0	2.3
Residential Construction	11.7	-3.6	-1.4	1.0	-1.0	-0.5	0.0	0.0	0.5	1.0	1.0	1.0	3.3	2.6	-0.6	0.5
Exports	2.4	6.1	-10.2	4.2	3.0	2.6	2.7	2.5	2.2	2.2	2.2	2.2	1.0	0.9	1.5	2.3
Imports	13.7	6.6	-0.2	2.4	2.3	2.2	2.0	1.9	2.0	2.0	2.0	2.0	-1.0	3.3	2.2	2.0
	<b>2007\$ blns (contribution in ppts : a.r.)</b>															
Inventory Change	10.8	11.9	17.1	14.8	14.2	13.9	13.4	13.0	12.5	12.0	11.5	11.5	1.0	13.6	13.6	11.9
Contribution to GDP Growth	3.1	0.2	1.1	-0.5	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.3	0.7	0.0	-0.1
Net Exports	1.6	1.0	-14.6	-12.2	-11.3	-10.9	-9.9	-9.1	-8.9	-8.7	-8.5	-8.3	7.4	-6.1	-10.3	-8.6
Contribution to GDP Growth	-3.7	-0.3	-3.2	0.5	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.6	-0.8	-0.3	0.1
	<b>\$ blns : a.r. (growth in q/q % chng : a.r.)</b>															
Nominal GDP	2,114	2,135	2,144	2,165	2,188	2,211	2,232	2,254	2,276	2,296	2,317	2,337	2,036	2,140	2,221	2,306
Growth	7.0	3.9	1.8	4.0	4.2	4.2	3.9	4.0	3.8	3.7	3.6	3.6	2.0	5.1	3.8	3.8
Real GDP	<b>y/y % chng</b>															
	2.3	3.6	3.0	3.0	2.6	2.0	2.1	2.0	1.9	1.9	1.8	1.7				
<b>Inflation</b>	<b>q/q % chng : a.r.</b>															
GDP Price Index	3.2	-0.3	0.0	1.9	2.0	2.2	1.9	2.0	1.9	1.9	1.9	1.9	0.6	2.1	1.6	2.0
CPI All Items	2.6	0.1	1.2	2.8	3.0	1.4	1.8	2.2	2.0	1.9	2.0	2.1	1.4	1.6	2.0	2.0
Ex. Food and Energy	2.4	0.5	1.4	1.9	2.9	1.2	1.8	2.2	2.1	1.9	2.0	2.1	1.9	1.6	1.9	2.0
Food Prices	-0.9	4.4	3.1	0.0	2.2	2.1	1.8	2.1	2.0	2.1	1.8	2.1	1.5	0.0	1.9	2.0
Energy Prices	17.2	-16.7	-5.5	24.1	5.8	1.3	1.6	2.4	1.4	2.3	2.4	2.0	-2.9	5.2	4.3	1.9
Services	2.9	3.7	2.2	0.6	1.6	2.2	2.3	1.5	1.9	2.4	2.3	1.5	1.9	2.3	1.8	2.0
CPI All Items	<b>y/y % chng</b>															
	1.9	1.3	1.4	1.7	1.8	2.1	2.2	2.1	1.8	2.0	2.0	2.0				
CPIX8	<b>y/y % chng</b>															
	1.5	1.0	0.8	1.2	1.4	1.8	2.1	2.1	2.0	2.0	1.9	2.0	1.9	1.1	1.9	2.0
New Core CPIs	<b>y/y % chng : avg.</b>															
	1.5	1.4	1.5	1.7	1.8	1.8	2.1	2.2	2.0	2.0	1.9	2.0	1.8	1.5	2.0	2.0
<b>Financial</b>	<b>% : quarterly avg.</b>															
Overnight Rate	0.50	0.50	0.83	1.00	1.08	1.25	1.50	1.75	2.00	2.25	2.50	2.50	0.50	0.71	1.40	2.31
3-Month T-Bill	0.47	0.54	0.81	0.95	1.05	1.20	1.45	1.70	1.90	2.15	2.35	2.35	0.49	0.70	1.35	2.20
90-Day BAs	0.94	0.91	1.31	1.45	1.55	1.65	1.95	2.15	2.35	2.60	2.75	2.75	0.88	1.15	1.85	2.60
10-Year Bond Yield	1.71	1.51	1.95	1.95	2.00	2.15	2.30	2.40	2.60	2.80	2.90	3.00	1.25	1.80	2.20	2.80
<b>Canada/US Spread</b>	<b>bps</b>															
90 Day	-13	-36	-25	-30	-37	-42	-29	-16	-14	-11	-2	-2	17	-26	-31	-8
10 Year	-73	-75	-30	-41	-47	-44	-41	-38	-35	-32	-29	-26	-59	-55	-42	-30
<b>Foreign Trade</b>	<b>\$ blns : a.r. (share in % of GDP)</b>															
Current Account Balance	-54.5	-62.4	-77.4	-71.6	-68.2	-64.6	-62.0	-59.3	-58.0	-56.7	-55.4	-54.0	-65.4	-66.5	-63.5	-56.0
Share of GDP	-2.6	-2.9	-3.6	-3.3	-3.1	-2.9	-2.8	-2.6	-2.5	-2.5	-2.4	-2.3	-3.2	-3.1	-2.9	-2.4
Merchandise Balance	-10.1	-21.1	-35.7	-32.6	-31.9	-29.8	-28.6	-27.2	-27.2	-27.2	-27.2	-27.2	-25.9	-24.9	-29.4	-27.2
Non-Merchandise Balance	-44.4	-41.2	-41.7	-39.0	-36.4	-34.8	-33.4	-32.1	-30.8	-29.5	-28.2	-26.8	-39.5	-41.6	-34.2	-28.8
	<b>quarterly avg.</b>															
US\$	<b>US\$/C\$</b>															
	75.6	74.4	79.9	78.6	77.5	76.9	77.5	78.4	78.9	79.3	79.6	79.9	75.5	77.1	77.6	79.4
	<b>C\$/US\$</b>															
	1.323	1.344	1.252	1.273	1.290	1.300	1.290	1.275	1.267	1.262	1.257	1.252	1.326	1.298	1.289	1.259
Yen	<b>¥/C\$</b>															
	85.9	82.6	88.6	88.7	88.0	87.9	89.1	90.8	91.4	91.6	91.8	91.9	82.0	86.5	89.0	91.7
Euro	<b>C\$/€</b>															
	1.41	1.48	1.47	1.50	1.51	1.50	1.53	1.55	1.55	1.56	1.56	1.56	1.47	1.46	1.52	1.56
<b>Incomes</b>	<b>y/y % chng</b>															
Corporate Profits Before Tax	61.2	69.0	16.0	-1.3	-6.5	0.4	9.4	10.1	9.9	9.7	9.5	9.3	-6.8	30.5	3.1	9.6
Corporate Profits After Tax	25.8	27.2	15.1	4.4	3.5	7.5	5.6	6.1	5.9	6.2	7.9	9.3	1.9	17.3	5.7	7.3
Personal Income	3.6	4.1	3.7	3.5	4.1	3.7	4.0	4.0	3.8	3.6	3.5	3.5	2.2	3.7	4.0	3.6
Real Disposable Income	4.2	3.6	2.7	2.3	3.1	2.3	1.9	1.9	1.8	1.5	1.4	1.3	1.3	3.2	2.3	1.5
Savings Rate	<b>% : quarterly avg.</b>															
	2.9	2.8	2.6	2.6	2.6	2.7	2.9	2.9	2.9	2.8	2.8	2.9	3.5	2.7	2.8	2.9
<b>Other Indicators</b>	<b>quarterly avg. (000s and mlns are a.r.)</b>															
Unemployment Rate	<b>percent</b>															
	6.7	6.5	6.2	6.0	6.0	5.9	5.8	5.7	5.6	5.5	5.5	5.5	7.0	6.4	5.8	5.5
Housing Starts	<b>000s</b>															
	223	207	223	228	215	209	200	198	198	196	194	191	198	220	205	195
Existing Home Sales	<b>y/y % chng</b>															
	-0.5	-5.8	-8.5	-1.6	-4.7	-2.9	4.3	-1.4	-1.1	0.3	0.1	0.1	6.5	-3.7	-2.0	0.0
MLS Home Price Index	<b>y/y % chng</b>															
	17.1	17.7	11.5	9.4	4.8	-1.6	0.9	2.0	2.5	2.5	2.5	2.5	12.7	13.8	1.5	2.5
Motor Vehicle Sales	<b>mlns</b>															
	2.10	2.07	2.07	2.03	1.97	1.95	1.95	1.95	1.92	1.90	1.89	1.89	1.99	2.07	1.95	1.90
	<b>q/q % chng : a.r.</b>															
Employment Growth	2.1	1.6	1.7	2.1	1.1	1.1	1.1	1.0	0.9	1.0	1.1	1.0	0.7	1.8	1.4	1.0
Industrial Production	6.7	8.8	1.1	0.0	2.4	2.2	2.6	2.2	1.9	1.8	1.6	1.6	0.1	5.3	2.1	2.0
Federal Budget Balance	<b>% of FY GDP</b>															
													-0.9	-0.9	-0.8	-0.8

Shaded values represent forecasts

Please refer to page 2 for Important Disclosures



## Foreign Exchange Forecasts

Local Currency per U.S. Dollar (averages)

	Actual*	Forecasts				2018			2019			
	2017 Dec	2018 Jan	Feb	Mar	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>Canadian Dollar</b>												
C\$ per US\$	1.281	1.285	1.290	1.295	1.300	1.290	1.275	1.267	1.262	1.257	1.252	
US\$ per C\$	0.780	0.778	0.775	0.772	0.769	0.775	0.784	0.789	0.793	0.796	0.799	
Trade-weighted	97.9	97.6	97.4	97.2	96.8	97.3	98.2	98.8	99.1	99.5	99.8	
<b>U.S. Dollar</b>												
Trade-weighted <sup>1</sup>	120.0	119.9	120.3	120.7	120.7	120.0	119.3	119.1	119.0	118.9	118.9	
<b>European Currencies</b>												
Euro <sup>2</sup>	1.18	1.19	1.17	1.15	1.16	1.19	1.21	1.23	1.23	1.24	1.25	
Danish Krone	6.30	6.30	6.30	6.25	6.25	6.20	6.10	6.10	6.05	6.00	5.95	
Norwegian Krone	8.33	8.30	8.30	8.25	8.20	8.15	8.05	8.00	7.95	7.90	7.85	
Swedish Krone	8.43	8.40	8.40	8.35	8.30	8.25	8.15	8.10	8.05	8.05	8.00	
Swiss Franc	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.05	
U.K. Pound <sup>2</sup>	1.34	1.34	1.34	1.34	1.34	1.34	1.36	1.37	1.38	1.38	1.39	
<b>Asian Currencies</b>												
Chinese Yuan	6.61	6.60	6.60	6.60	6.60	6.58	6.56	6.56	6.57	6.58	6.60	
Japanese Yen	113	113	114	114	114	115	116	116	116	115	115	
Korean Won	1,087	1,090	1,090	1,085	1,085	1,085	1,080	1,085	1,090	1,095	1,100	
Indian Rupee	64.3	64.4	64.3	64.2	64.0	63.6	63.3	63.2	63.3	63.3	63.3	
Singapore Dollar	1.35	1.35	1.35	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.35	
Malaysian Ringgit	4.08	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.00	4.00	4.00	
Thai Baht	32.6	32.6	32.6	32.6	32.7	32.7	32.7	32.8	32.9	32.9	33.0	
Philippine Peso	50.4	50.4	50.4	50.3	50.2	50.0	49.8	49.8	49.8	49.8	49.8	
Taiwan Dollar	30.0	30.0	30.0	30.0	30.0	29.9	29.9	29.9	29.9	30.0	30.0	
Indonesian Rupiah	13,554	13,525	13,495	13,470	13,415	13,335	13,260	13,235	13,245	13,255	13,265	
<b>Other Currencies</b>												
Australian Dollar <sup>2</sup>	0.761	0.763	0.767	0.770	0.777	0.787	0.797	0.804	0.810	0.817	0.823	
New Zealand Dollar <sup>2</sup>	0.693	0.693	0.697	0.700	0.707	0.717	0.727	0.733	0.738	0.743	0.748	
Mexican Peso	19.02	18.95	18.95	19.00	19.05	19.15	19.20	19.30	19.30	19.35	19.40	
Brazilian Real	3.29	3.30	3.30	3.30	3.30	3.35	3.35	3.35	3.40	3.40	3.45	
Russian Ruble	58.9	59.1	58.9	58.6	58.2	57.5	56.8	56.5	56.3	56.2	56.0	
South African Rand	13.3	13.6	13.5	13.5	13.4	13.2	13.1	13.0	12.9	12.9	12.8	
<b>Cross Rates</b>												
<b>Versus Canadian Dollar</b>												
Euro (C\$/€)	1.51	1.53	1.51	1.49	1.50	1.53	1.55	1.55	1.56	1.56	1.56	
U.K. Pound (C\$/£)	1.72	1.72	1.73	1.74	1.74	1.73	1.74	1.74	1.74	1.74	1.74	
Japanese Yen (¥/C\$)	88	88	88	88	88	89	91	91	92	92	92	
Australian Dollar (C\$/A\$)	0.97	0.98	0.99	1.00	1.01	1.01	1.02	1.02	1.02	1.03	1.03	
<b>Versus Euro</b>												
U.K. Pound (£/€)	0.88	0.89	0.87	0.86	0.86	0.89	0.89	0.89	0.89	0.90	0.90	
Japanese Yen (¥/€)	133	135	133	131	132	137	140	142	142	143	144	

\* actual Dec. 2017 figures are month-to-date as of Dec. 21, 2017 <sup>1</sup> Federal Reserve Broad Index <sup>2</sup> (US\$ per local currency)

## Interest Rate Forecasts

Percent (averages)

	Actual*	Forecasts			2018			2019			
	2017 Dec	2018 Jan	Feb	Mar	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Cdn. Yield Curve</b>											
Overnight	1.00	1.00	1.00	1.25	1.25	1.50	1.75	2.00	2.25	2.50	2.50
3 month	0.92	0.95	1.05	1.20	1.20	1.45	1.70	1.90	2.15	2.35	2.35
6 month	1.10	1.10	1.25	1.35	1.35	1.60	1.80	2.00	2.20	2.40	2.40
1 year	1.39	1.45	1.55	1.60	1.70	1.85	2.05	2.25	2.45	2.60	2.60
2 year	1.55	1.65	1.70	1.75	1.85	2.00	2.20	2.35	2.50	2.65	2.65
3 year	1.59	1.70	1.75	1.80	1.90	2.05	2.20	2.40	2.55	2.65	2.70
5 year	1.70	1.80	1.85	1.90	2.00	2.15	2.30	2.45	2.65	2.75	2.80
7 year	1.78	1.85	1.90	1.95	2.05	2.20	2.35	2.50	2.70	2.80	2.90
10 year	1.89	1.95	2.00	2.05	2.15	2.30	2.40	2.60	2.80	2.90	3.00
30 year	2.17	2.25	2.25	2.30	2.45	2.55	2.70	2.85	3.05	3.15	3.25
1m BA	1.35	1.35	1.45	1.55	1.55	1.85	2.05	2.25	2.50	2.65	2.65
3m BA	1.45	1.45	1.55	1.65	1.65	1.95	2.15	2.35	2.60	2.75	2.75
6m BA	1.65	1.65	1.75	1.85	1.85	2.10	2.30	2.45	2.65	2.80	2.80
12m BA	1.85	1.90	1.95	2.00	2.05	2.30	2.45	2.60	2.80	2.90	2.90
Prime Rate	3.20	3.20	3.20	3.45	3.45	3.70	3.95	4.20	4.45	4.70	4.70
<b>U.S. Yield Curve</b>											
Fed funds	1.38	1.38	1.38	1.63	1.88	1.88	2.13	2.38	2.63	2.63	2.63
3 month	1.32	1.35	1.45	1.55	1.65	1.75	1.85	2.05	2.25	2.40	2.40
6 month	1.48	1.50	1.60	1.70	1.80	1.90	2.00	2.20	2.40	2.55	2.55
1 year	1.68	1.70	1.80	1.90	2.00	2.10	2.25	2.45	2.60	2.70	2.70
2 year	1.82	1.90	1.95	2.00	2.10	2.25	2.45	2.60	2.75	2.80	2.85
3 year	1.94	2.00	2.05	2.10	2.20	2.35	2.50	2.65	2.85	2.90	2.90
5 year	2.17	2.25	2.25	2.30	2.40	2.55	2.65	2.80	2.95	3.05	3.10
7 year	2.30	2.35	2.40	2.40	2.55	2.65	2.75	2.90	3.05	3.15	3.20
10 year	2.39	2.45	2.45	2.50	2.60	2.70	2.80	2.95	3.10	3.20	3.25
30 year	2.76	2.80	2.85	2.85	2.95	3.05	3.10	3.25	3.40	3.50	3.50
1m LIBOR	1.46	1.50	1.60	1.75	1.85	2.00	2.10	2.35	2.60	2.70	2.70
3m LIBOR	1.58	1.60	1.75	1.85	1.95	2.10	2.20	2.45	2.70	2.85	2.85
6m LIBOR	1.75	1.75	1.90	2.00	2.15	2.25	2.40	2.65	2.90	3.00	3.00
12m LIBOR	2.03	2.05	2.15	2.25	2.40	2.55	2.70	2.95	3.15	3.25	3.25
Prime Rate	4.35	4.50	4.50	4.75	4.85	5.00	5.10	5.35	5.60	5.75	5.75
<b>Other G7 Yields</b>											
ECB Refi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25
10yr Bund	0.33	0.45	0.50	0.55	0.65	0.80	0.95	1.10	1.20	1.35	1.45
BoE Repo	0.50	0.50	0.50	0.50	0.50	0.50	0.75	0.75	0.75	1.00	1.00
10yr Gilt	1.23	1.60	1.60	1.65	1.70	1.75	1.85	1.95	2.10	2.30	2.45
Boj O/N	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	0.00
10yr JGB	0.05	0.05	0.06	0.06	0.07	0.08	0.10	0.10	0.11	0.12	0.12

\* actual Dec. 2017 figures are month-to-date as of Dec. 21, 2017

# United States Economic Outlook

Our key forecasts for the U.S. economy

December 22, 2017

	2017				2018				2019				2016	2017	2018	2019	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
<b>Production</b>	<b>q/q % chng : a.r.</b>																
Real GDP (chain-weighted)	1.2	3.1	3.2	2.9	2.5	2.5	2.2	2.0	1.9	2.0	1.8	1.8	1.5	2.3	2.6	2.0	
Final Sales	2.7	2.9	2.4	3.0	2.6	2.4	2.1	1.9	1.9	2.0	1.8	1.8	1.9	2.4	2.6	2.0	
Final Domestic Demand	2.4	2.7	1.9	3.4	3.0	2.7	2.3	2.0	2.0	2.1	1.9	1.8	2.1	2.4	2.7	2.1	
Consumer Spending	1.9	3.3	2.2	3.1	3.3	2.9	2.5	2.2	2.2	2.1	1.9	1.8	2.7	2.7	2.9	2.2	
Durables	-0.1	7.6	8.6	3.0	3.5	3.2	2.7	2.4	2.0	2.0	1.9	1.8	5.5	6.0	4.0	2.2	
Nondurables	1.1	4.2	2.3	4.0	4.0	3.3	2.5	2.5	2.4	2.3	2.1	2.0	2.8	2.4	3.4	2.4	
Services	2.5	2.3	1.1	2.8	3.0	2.7	2.4	2.1	2.1	2.0	1.8	1.7	2.3	2.3	2.5	2.1	
Government Spending	-0.6	-0.2	0.7	0.5	0.7	1.3	1.4	1.1	1.4	2.0	2.0	2.0	0.8	0.0	0.8	1.6	
Business Investment	7.1	6.7	4.7	6.1	4.4	3.5	2.8	2.4	2.2	2.2	2.1	2.0	-0.6	4.7	4.4	2.4	
Non-residential Construction	14.8	7.0	-7.0	5.0	5.0	4.0	3.0	2.5	2.3	2.1	1.9	1.8	-4.1	5.5	3.0	2.4	
Equipment	4.4	8.8	10.8	8.0	5.0	4.0	3.0	2.2	2.1	2.0	1.9	1.8	-3.4	4.6	5.8	2.3	
Intellectual Property	5.8	3.7	5.2	4.0	3.0	2.5	2.5	2.5	2.4	2.4	2.4	2.3	6.3	4.1	3.3	2.4	
Residential Construction	11.1	-7.3	-4.7	13.0	4.0	2.2	2.0	1.9	1.9	1.8	1.7	1.7	5.5	1.8	3.0	1.9	
Exports	7.3	3.5	2.1	2.7	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.1	-0.3	3.1	2.4	2.1	
Imports	4.3	1.5	-0.7	5.3	5.0	4.0	3.4	2.8	2.8	2.7	2.7	2.6	1.3	3.4	3.6	2.9	
	<b>2009\$ blns : a.r. (contribution in pts : a.r.)</b>																
Inventory Change	1.2	5.5	38.5	35.0	28.0	31.0	33.0	34.0	35.0	36.0	37.0	38.0	34.0	20.0	31.5	36.5	
Contribution to GDP Growth	-1.5	0.1	0.8	-0.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.1	0.1	0.0	
Net Exports	-622.2	-613.7	-597.6	-619.0	-640.6	-656.6	-668.7	-676.6	-685.1	-693.0	-701.0	-708.3	-586.3	-613.1	-660.6	-696.8	
Contribution to GDP Growth	0.2	0.2	0.4	-0.5	-0.5	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	
	<b>\$ blns : a.r. (growth in q/q % chng : a.r.)</b>																
Nominal GDP	19,058	19,250	19,501	19,748	19,975	20,196	20,409	20,614	20,826	21,022	21,219	21,418	18,624	19,389	20,298	21,121	
Growth	3.3	4.1	5.3	5.2	4.7	4.5	4.3	4.1	4.2	3.8	3.8	3.8	2.8	4.1	4.7	4.1	
Real GDP	<b>y/y % chng</b>																
	2.0	2.2	2.3	2.6	2.9	2.8	2.5	2.3	2.1	2.0	1.9	1.9					
<b>Inflation</b>	<b>q/q % chng : a.r.</b>																
GDP Price Index	2.0	1.0	2.1	2.1	2.2	1.9	2.1	2.1	2.2	1.8	1.9	2.0	1.3	1.8	2.0	2.0	
Core PCE Deflator	1.8	0.9	1.3	1.9	2.8	2.1	2.3	2.3	2.5	1.9	2.2	2.2	1.8	1.5	2.1	2.2	
CPI All Items	3.1	-0.3	2.0	3.6	2.6	2.1	2.2	2.3	2.4	1.8	2.0	2.1	1.3	2.1	2.4	2.1	
Ex. Food and Energy	2.5	0.6	1.7	2.2	2.9	2.1	2.3	2.3	2.5	1.9	2.2	2.2	2.2	1.8	2.2	2.2	
Food Prices	1.5	2.4	1.0	0.8	2.0	2.1	2.2	2.2	2.2	2.2	2.0	2.0	0.3	0.9	1.7	2.1	
Energy Prices	14.1	-13.8	7.5	25.5	1.1	2.2	2.2	2.2	1.7	0.1	0.1	1.1	-6.4	8.0	5.4	1.4	
Services	3.0	1.7	2.5	3.0	2.2	2.2	2.2	2.2	2.2	2.2	2.0	2.0	2.8	2.7	2.4	2.1	
CPI All Items	<b>y/y % chng</b>																
	2.6	1.9	2.0	2.1	2.0	2.6	2.6	2.3	2.3	2.2	2.1	2.1					
Ex. Food and Energy	<b>y/y % chng</b>																
	2.2	1.8	1.7	1.7	1.8	2.2	2.4	2.4	2.3	2.2	2.2	2.2					
Core PCE Deflator	<b>y/y % chng</b>																
	1.8	1.5	1.4	1.5	1.7	2.0	2.3	2.4	2.3	2.2	2.2	2.2					
<b>Financial</b>	<b>% : quarterly avg.</b>																
Fed Funds Rate	0.71	0.96	1.13	1.21	1.46	1.71	1.88	1.96	2.21	2.46	2.63	2.63	0.40	1.00	1.75	2.48	
90-Day T-Bill	0.60	0.90	1.06	1.20	1.45	1.65	1.75	1.85	2.05	2.25	2.40	2.40	0.32	0.95	1.65	2.25	
3-Month Libor	1.06	1.20	1.31	1.45	1.75	1.95	2.10	2.20	2.45	2.70	2.85	2.85	0.74	1.25	2.00	2.70	
10-Year Bond Yield	2.44	2.26	2.24	2.40	2.45	2.60	2.70	2.80	2.95	3.10	3.20	3.25	1.84	2.35	2.65	3.10	
<b>Foreign Trade</b>	<b>\$ blns : a.r. (share in % of GDP)</b>																
Current Account Balance	-454	-498	-402	-466	-492	-513	-533	-543	-549	-559	-569	-582	-452	-455	-520	-565	
Share of GDP	-2.4	-2.6	-2.1	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.7	-2.7	-2.7	-2.4	-2.3	-2.6	-2.7	
Merchandise Balance	-802	-806	-781	-835	-862	-885	-904	-918	-932	-945	-959	-972	-753	-806	-892	-952	
Non-Merchandise Balance	348	308	379	369	370	372	371	375	382	386	390	390	301	351	372	387	
	<b>quarterly avg.</b>																
Yen	¥/US\$	114	111	111	113	114	114	115	116	116	116	115	115	109	112	115	115
Euro	US\$/€	1.07	1.10	1.18	1.18	1.17	1.16	1.19	1.21	1.23	1.23	1.24	1.25	1.11	1.13	1.18	1.24
Pound	US\$/£	1.24	1.28	1.31	1.33	1.34	1.34	1.34	1.36	1.37	1.38	1.38	1.39	1.35	1.29	1.35	1.38
Trade-Wt. Dollar (broad)	Jan '97=100	126.0	123.3	119.1	120.1	120.3	120.7	120.0	119.3	119.1	119.0	118.9	118.9	122.5	122.1	120.1	119.0
<b>Commodity Prices</b>	<b>quarterly avg.</b>																
WTI Spot	US\$/bbl	51.8	48.3	48.2	55.4	58.0	55.0	56.0	59.0	59.5	58.3	60.0	62.2	43.2	50.9	57.0	60.0
Henry Hub Spot	US\$/mmbtu	3.0	3.1	3.0	2.9	3.1	3.2	3.2	3.4	3.4	3.3	3.3	3.4	2.5	3.0	3.2	3.3
<b>Incomes</b>	<b>y/y % chng</b>																
Pre-Tax Profits with IVA and CCA	3.3	6.4	5.4	4.0	7.5	8.0	4.7	4.4	4.3	4.1	4.0	3.9	-2.1	4.8	6.1	4.1	
Personal Income	3.1	2.7	2.6	3.7	3.4	3.8	4.1	4.0	4.0	3.9	3.9	3.8	2.4	3.1	3.8	3.9	
Real Disposable Income	0.9	1.1	1.1	1.9	2.7	2.7	3.1	3.2	2.1	1.9	1.8	1.8	1.4	1.2	2.9	1.9	
Savings Rate	<b>% : quarterly avg.</b>																
	3.9	3.7	3.3	3.0	3.6	3.6	3.6	3.5	3.4	3.4	3.3	3.3	4.9	3.5	3.6	3.3	
<b>Other Indicators</b>	<b>quarterly avg. (mlns are a.r.)</b>																
Unemployment Rate	percent	4.7	4.4	4.3	4.1	4.0	3.9	3.8	3.8	3.8	3.7	3.7	3.6	4.9	4.4	3.9	3.7
Housing Starts	mlns	1.24	1.17	1.17	1.27	1.29	1.30	1.27	1.26	1.26	1.26	1.27	1.27	1.18	1.21	1.28	1.27
Existing Home Sales	mlns	5.62	5.56	5.39	5.67	5.54	5.52	5.52	5.51	5.50	5.47	5.39	5.38	5.44	5.56	5.52	5.43
Home Prices (Case-Shiller)	y/y % chng	5.8	5.7	6.0	5.0	4.2	4.3	3.9	3.3	2.6	2.4	2.4	2.6	5.2	5.6	3.9	2.5
Motor Vehicle Sales	mlns	17.2	16.8	17.2	17.6	16.9	16.5	16.4	16.4	16.3	16.2	16.2	16.2	17.5	17.2	16.6	16.2
	<b>q/q % chng : a.r.</b>																
Civilian Employment	1.4	1.4	1.8	0.5	1.2	1.2	1.2	1.0	1.0	0.9	0.9	0.9	1.7	1.3	1.1	1.0	
Industrial Production	1.5	5.6	-0.9	6.1	3.7	2.6	2.4	2.2	2.1	2.0	1.9	1.9	-1.2	1.9	3.2	2.1	
CBO Budget Deficit	<b>% of GDP</b>																
													-3.2	-3.6	-2.8	-3.3	

Please refer to page 2 for Important Disclosures

## Quarterly Medium Term Outlook

CIBC World Markets \*

											annual averages			
		Forecast Date	2017	2018				2019				2020	2021	2022
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
Cdn 98 Day T-bill	quarterly end-of-period - %	17-Dec-17		0.95	1.25	1.20	1.45	1.45	1.75			2.25	2.25	2.20
Cdn 5 Yr Bond Yield	quarterly end-of-period - %	17-Dec-17		1.90	2.00	2.00	2.15	2.20	2.30			2.65	2.70	2.75
Cdn 10 Yr Bond Yield	quarterly end-of-period - %	17-Dec-17		2.15	2.20	2.20	2.25	2.30	2.35			2.75	2.95	3.00
Cdn 30 Yr Bond Yield	quarterly end-of-period - %	17-Dec-17		2.50	2.70	2.75	2.70	2.65	2.70			2.90	2.90	3.05
US 90 day T-bill	quarterly end-of-period - %	17-Dec-17		1.40	1.65	1.70	1.70	1.85	1.95			2.20	2.45	2.45
US 5 Yr Bond Yield	quarterly end-of-period - %	17-Dec-17		2.25	2.40	2.60	2.65	2.75	2.80			2.75	2.85	2.85
US 10 Yr Bond Yield	quarterly end-of-period - %	17-Dec-17		2.55	2.70	2.80	2.90	2.85	2.90			2.90	3.00	3.10
US 30 Yr Bond Yield	quarterly end-of-period - %	17-Dec-17		3.10	3.35	3.35	3.40	3.40	3.45			3.45	3.50	3.55
Exchange Rate	(C\$/US\$)	17-Dec-17		1.33	1.30	1.32	1.31	1.28	1.29			1.30	1.29	1.28
Cdn CPI	Y/Y - % change	21-Sep-17	1.7	1.5	1.8	2.2	2.3	2.4	2.2	2.0	1.9	2.0	2.0	2.0
Cdn GDP Price Deflator	Q/Q - % change; annualized rate	21-Sep-17	3.2	2.7	2.3	2.4	2.6	2.0	1.9	1.8	1.6	2.1	2.0	2.0
US CPI	Y/Y - % change	21-Sep-17	2.2	2.0	2.3	2.4	2.4	2.4	2.5	2.5	2.4	2.3	2.3	2.3
US GDP Price Deflator	Q/Q - % change; annualized rate	21-Sep-17	2.6	1.7	2.2	2.3	2.2	2.2	2.2	2.3	2.4	2.3	2.3	2.3

\* Financial data up to and including 2018 are quarterly end-of-period forecasts. Economic data up to and including 2018 are quarterly average forecasts. Thereafter, the forecasts are provided in annual granularity, as annual averages.

\*\*If data can only be provided in annual granularity, assume it is the same for each quarter.

**GDP price deflator is q/q at annual rates, CPI is y/y**

**Annual averages begin after Q4 2017**

Global Insight  
Canadian Quarterly Data  
December 8, 2017

Table 24  
Interest Rates  
(Percent)

Government of Canada	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	21Q4	22Q1	22Q2	22Q3	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	24Q4	25Q1	25Q2	25Q3	25Q4	26Q1	26Q2	26Q3	26Q4	27Q1	27Q2	27Q3	27Q4						
Treasury Bills 3 Months	0.92	1.01	1.26	1.51	1.76	2.01	2.26	2.51	2.76	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03					
Bonds																																															
5 Years	1.59	1.48	1.71	1.93	2.13	2.33	2.53	2.70	2.86	3.03	3.05	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.08	3.08	3.08	3.08	3.08	3.09	3.09	3.09	3.09	3.09	3.09	3.10	3.10	3.10	3.10	3.10	3.10	3.10			
10 Years	1.97	2.04	2.25	2.43	2.58	2.71	2.84	2.93	2.98	3.04	3.08	3.11	3.12	3.13	3.13	3.13	3.12	3.12	3.12	3.12	3.12	3.12	3.12	3.13	3.13	3.13	3.13	3.13	3.14	3.14	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.16	3.17	3.18	3.19	3.19	3.18	3.18	3.18		
10+ Years	2.27	2.41	2.67	2.88	3.04	3.18	3.32	3.41	3.47	3.53	3.57	3.60	3.61	3.62	3.62	3.62	3.61	3.61	3.61	3.61	3.61	3.61	3.62	3.62	3.62	3.62	3.62	3.63	3.63	3.63	3.64	3.64	3.64	3.64	3.64	3.65	3.66	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67		
30 Years	2.34	2.50	2.77	2.98	3.15	3.29	3.43	3.52	3.58	3.64	3.68	3.71	3.72	3.73	3.73	3.73	3.72	3.72	3.72	3.72	3.72	3.72	3.73	3.73	3.73	3.73	3.73	3.74	3.74	3.75	3.75	3.75	3.75	3.75	3.75	3.76	3.77	3.78	3.79	3.78	3.78	3.78	3.78	3.78			



Global Insight  
Exchange Rate  
Quarterly Forecast  
December 8 2017

Table 1  
Selected Economic Indicators

	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	21Q4	22Q1	22Q2	22Q3	22Q4	23Q1	23Q2	23Q3	23Q4	24Q1	24Q2	24Q3	24Q4	25Q1	25Q2	25Q3	25Q4	26Q1	26Q2	26Q3	26Q4	27Q1	27Q2	27Q3	27Q4
Exchange Rate (US-Can.)	78.8	78.5	79.1	79.3	79.3	79.2	79.2	79.6	80.4	81.0	81.2	81.5	81.9	82.4	82.9	83.3	83.7	84.2	84.6	85.1	85.5	85.7	85.9	86.2	86.4	86.5	86.6	86.8	87.0	87.2	87.3	87.5	87.7	87.8	87.9	88.1	88.3	88.6	88.7	88.8	89.0

Conference Board  
December 14th, 2017  
Quarterly Update

Description:	Mnemonic:	2017.04	2018.01	2018.02	2018.03	2018.04	2019.01	2019.02	2019.03	2019.04	2020.01	2020.02	2020.03	2020.04	2021.01	2021.02	2021.03	2021.04	2022.01	2022.02	2022.03	2022.04		
Canada, Federal Bonds: 5 Years ()	RGOC5	1.65	2.048538	2.352872	2.583877	2.803323	2.999157	3.233878	3.267211	3.2936	3.304711	3.3061	3.306099	3.306102	3.306103	3.306102	3.306101	3.306101	3.306101	3.306101	3.306102	3.3061	3.306101	
Canada - 3 Month Treasury Bill ()	RTB90	0.88	1.064107	1.293274	1.543271	1.793274	2.043274	2.189107	2.314107	2.543272	2.689106	2.70994	2.709938	2.709943	2.709944	2.709943	2.709941	2.709942	2.70994	2.709943	2.70994	2.70994	2.70994	2.709941
Exchange Rate (U.S./Canada)	PFX	1.268984	1.26001	1.259182	1.258182	1.254451	1.243428	1.236431	1.229649	1.225757	1.22429	1.223583	1.222049	1.219983	1.217115	1.214065	1.211212	1.208368	1.205909	1.203265	1.200438	1.197242		
United States - 3 Month Treasury Bill ()	USRTB90	1.3	1.53	1.75	1.88	1.96	2.08	2.19	2.3	2.41	2.53	2.65	2.77	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86
Canada, Federal Bonds: Long-Term ()	RGOCL	2.38	2.408816	2.720983	2.974649	3.105231	3.328148	3.545509	3.712175	3.775369	3.780925	3.781619	3.781618	3.78162	3.781621	3.781621	3.78162	3.78162	3.78162	3.78162	3.781621	3.78162	3.78162	3.78162
Canada, Federal Bonds: 10 Years ()	RGOC10	1.99	2.215483	2.52765	2.781315	2.911898	3.134815	3.352175	3.468841	3.582036	3.587591	3.588286	3.588285	3.588288	3.588288	3.588288	3.588287	3.588287	3.588287	3.588288	3.588288	3.588286	3.588287	3.588287



**TABLE 1**  
**Key interest rates**

END OF PERIOD IN %	2017				2018				2019			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>United States</b>												
Federal funds	1.00	1.25	1.25	1.50	1.75	1.75	2.00	2.25	2.25	2.50	2.75	2.75
<b>Canada</b>												
Overnight funds	0.50	0.50	1.00	1.00	1.25	1.25	1.50	1.75	1.75	2.00	2.25	2.25
<b>Zone euro</b>												
Refinancing rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.25	0.25	0.50
<b>United Kingdom</b>												
Base rate	0.25	0.25	0.25	0.50	0.50	0.75	0.75	0.75	0.75	0.75	0.75	0.75
<b>Japan</b>												
Main key rate	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10

f: forecasts

Sources: Datastream and Desjardins, Economic Studies

**TABLE 2**  
**Fixed income market**

END OF PERIOD IN %	2017				2018				2019			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>UNITED STATES</b>												
<b>Treasury bills</b>												
3-month	0.76	1.03	1.06	1.30	1.50	1.55	1.80	2.00	2.10	2.30	2.55	2.60
<b>Federal bonds</b>												
2-year	1.24	1.37	1.49	1.85	2.05	2.10	2.30	2.50	2.55	2.75	2.95	3.00
5-year	1.92	1.88	1.92	2.15	2.35	2.40	2.65	2.85	2.90	3.05	3.10	3.20
10-year	2.40	2.30	2.33	2.40	2.60	2.75	2.95	3.10	3.15	3.25	3.30	3.40
30-year	3.02	2.84	2.86	2.75	3.00	3.15	3.35	3.50	3.55	3.60	3.65	3.70
<b>Yield curve slopes</b>												
5-year - 3-month	1.16	0.85	0.86	0.85	0.85	0.85	0.85	0.85	0.80	0.75	0.55	0.60
10-year - 2-year	1.16	0.93	0.84	0.55	0.55	0.65	0.65	0.60	0.60	0.50	0.35	0.40
30-year - 3-month	2.26	1.81	1.80	1.45	1.50	1.60	1.55	1.50	1.45	1.30	1.10	1.10
<b>CANADA</b>												
<b>Treasury bills</b>												
3-month	0.52	0.71	1.00	0.90	1.25	1.35	1.55	1.75	1.80	2.05	2.25	2.25
<b>Federal bonds</b>												
2-year	0.75	1.10	1.52	1.60	1.80	1.85	2.05	2.25	2.30	2.50	2.65	2.65
5-year	1.12	1.40	1.75	1.75	2.00	2.05	2.30	2.50	2.55	2.70	2.75	2.80
10-year	1.62	1.77	2.10	1.90	2.15	2.30	2.50	2.70	2.75	2.85	2.90	2.95
30-year	2.30	2.15	2.47	2.15	2.45	2.60	2.80	3.00	3.05	3.10	3.15	3.15
<b>Yield curve slopes</b>												
5-year - 3-month	0.60	0.69	0.75	0.85	0.75	0.70	0.75	0.75	0.75	0.65	0.50	0.55
10-year - 2-year	0.88	0.67	0.58	0.30	0.35	0.45	0.45	0.45	0.45	0.35	0.25	0.30
30-year - 3-month	1.78	1.44	1.47	1.25	1.20	1.25	1.25	1.25	1.25	1.05	0.90	0.90
<b>Yield spreads (Canada—United States)</b>												
3-month	-0.24	-0.32	-0.06	-0.40	-0.25	-0.20	-0.25	-0.25	-0.30	-0.25	-0.30	-0.35
2-year	-0.49	-0.27	0.03	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.30	-0.35
5-year	-0.80	-0.48	-0.17	-0.40	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.40
10-year	-0.77	-0.53	-0.23	-0.50	-0.45	-0.45	-0.45	-0.40	-0.40	-0.40	-0.40	-0.45
30-year	-0.71	-0.69	-0.38	-0.60	-0.55	-0.55	-0.55	-0.50	-0.50	-0.50	-0.50	-0.55

f: forecasts

Sources: Datastream and Desjardins, Economic Studies

## FINANCIAL FORECASTS

The financial markets stayed in a positive mood in the last few weeks, as tax reform seems to be close to approval in Washington. 2017 will turn out to have been very favourable for investors, with stock markets, especially those abroad, recording significant gains without unduly affecting the bond market. Economic outlooks are still encouraging for stock markets, but a clearer upswing in interest rates could limit the returns from the main asset classes in 2018. As excess production capacity will continue to shrink in developed countries and the temporary factors limiting inflation should fade away, central banks will continue to gradually normalize their monetary policies. In the United States, the Federal Reserve hiked its key rates again in December, and its leaders are still signaling that a total increase of 0.75% will likely be appropriate next year. The Bank of Canada kept its monetary policy unchanged in December, but a tightening could be announced in the coming months as everything indicates that this summer's two hikes have not unduly dampened household confidence and spending. We are thus expecting similar increases in U.S. and Canadian key rates in 2018. The Canadian dollar might benefit slightly from the increase in commodity prices, but the outcome of negotiations on the North American Free Trade Agreement (NAFTA) could spark a strong reaction on Canadian financial markets.

**TABLE 2**  
**Summary of the financial forecasts**

END OF PERIOD IN % (EXCEPT IF INDICATED)	2017		2018				2019			
	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>Key interest rate</b>										
United States	1.25	1.50	1.75	1.75	2.00	2.25	2.25	2.50	2.75	2.75
Canada	1.00	1.00	1.25	1.25	1.50	1.75	1.75	2.00	2.25	2.25
Euro zone	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.25	0.25	0.50
United Kingdom	0.25	0.50	0.50	0.75	0.75	0.75	0.75	0.75	0.75	0.75
<b>Federal bonds</b>										
<u>United States</u>										
2-year	1.49	1.85	2.05	2.10	2.30	2.50	2.55	2.75	2.95	3.00
5-year	1.92	2.15	2.35	2.40	2.65	2.85	2.90	3.05	3.10	3.20
10-year	2.33	2.40	2.60	2.75	2.95	3.10	3.15	3.25	3.30	3.40
30-year	2.86	2.75	3.00	3.15	3.35	3.50	3.55	3.60	3.65	3.70
<u>Canada</u>										
2-year	1.52	1.60	1.80	1.85	2.05	2.25	2.30	2.50	2.65	2.65
5-year	1.75	1.75	2.00	2.05	2.30	2.50	2.55	2.70	2.75	2.80
10-year	2.10	1.90	2.15	2.30	2.50	2.70	2.75	2.85	2.90	2.95
30-year	2.47	2.15	2.45	2.60	2.80	3.00	3.05	3.10	3.15	3.15
<b>Currency market</b>										
Canadian dollar (USD/CAD)	1.25	1.28	1.28	1.28	1.27	1.26	1.25	1.25	1.23	1.22
Canadian dollar (CAD/USD)	0.80	0.78	0.78	0.78	0.79	0.80	0.80	0.80	0.81	0.82
Euro (EUR/USD)	1.18	1.18	1.17	1.18	1.19	1.20	1.22	1.24	1.25	1.26
British pound (GBP/USD)	1.34	1.34	1.33	1.34	1.33	1.31	1.30	1.31	1.32	1.33
Yen (USD/JPY)	112	114	116	116	117	118	119	120	120	120
<b>Stock markets (level and growth)*</b>										
United States – S&P 500	2,675		Target: 2,800 (+4.7%)				Target: 2,975 (+6.3%)			
Canada – S&P/TSX	16,100		Target: 17,200 (+6.8%)				Target: 18,500 (+7.6%)			
<b>Commodities (annual average)</b>										
WTI oil (US\$/barrel)	51 (57*)		57 (60*)				62 (65*)			
Gold (US\$/ounce)	1,255 (1,250*)		1,150 (1,100*)				1,050 (1,000*)			

f: forecasts; WTI: West Texas Intermediate; \* End of year.  
 Sources: Datastream and Desjardins, Economic Studies

**TABLE 8**  
**Medium-term major economic and financial indicators**

IN % (EXCEPT IF INDICATED)	ANNUAL AVERAGE							AVERAGES	
	2016	2017f	2018f	2019f	2020f	2021f	2022f	2012-2016	2017-2022f
<b>United States</b>									
Real GDP (var. in %)	1.5	2.3	2.5	2.3	1.9	0.6	1.9	2.2	1.9
Total inflation rate (var. in %)	1.3	2.1	1.9	2.1	1.3	0.4	1.9	1.3	1.6
Unemployment rate	4.9	4.4	3.9	3.7	3.8	4.7	5.0	6.3	4.3
S&P 500 index (var. in %) <sup>1</sup>	9.5	19.5	4.7	6.3	-5.0	0.0	10.0	12.6	5.9
Federal funds rate	0.51	1.10	1.90	2.55	2.95	1.75	1.50	0.30	1.96
Prime rate	3.51	4.10	4.90	5.55	5.95	4.75	4.50	3.30	4.96
Treasury bills – 3-month	0.32	0.95	1.65	2.40	2.70	1.50	1.30	0.11	1.75
Federal bonds – 10-year	1.84	2.35	2.85	3.30	3.25	2.45	2.50	2.12	2.78
– 30-year	2.60	2.90	3.25	3.65	3.55	2.70	2.80	3.03	3.14
WTI oil (US\$/barrel)	43	51	57	62	55	42	50	75	53
Gold (US\$/ounce)	1,249	1,255	1,150	1,050	1,100	1,200	1,250	1,351	1,168
<b>Canada</b>									
Real GDP (var. in %)	1.4	3.0	2.3	2.1	1.7	0.5	1.7	1.9	1.9
Total inflation rate (var. in %)	1.4	1.6	1.9	2.0	1.7	0.5	1.5	1.4	1.5
Employment (var. in %)	0.7	1.8	1.4	1.1	1.0	0.3	0.8	1.0	1.1
Employment (thousands)	133	328	260	205	184	53	147	172	196
Unemployment rate	7.0	6.4	6.1	5.9	5.9	6.5	6.4	7.0	6.2
Housing starts (thousands of units)	198	223	192	190	200	180	195	197	197
S&P/TSX index (var. in %) <sup>1</sup>	17.5	5.3	6.8	7.6	-5.0	0.0	12.0	5.5	4.5
Exchange rate (US\$/C\$)	0.75	0.78	0.79	0.81	0.81	0.77	0.78	0.88	0.79
Overnight funds	0.50	0.70	1.45	2.05	2.20	1.30	1.25	0.83	1.49
Prime rate	2.70	2.90	3.65	4.25	4.40	3.50	3.45	2.90	3.69
Mortgage rate – 1-year	3.14	3.15	3.65	4.20	4.30	3.80	3.80	3.10	3.82
– 5-year	4.66	4.75	5.25	5.75	5.80	5.30	5.35	4.95	5.37
Treasury bills – 3-month	0.49	0.70	1.45	2.10	2.15	1.30	1.25	0.77	1.49
Federal bonds – 2-year	0.56	1.10	2.00	2.50	2.45	1.45	1.55	0.88	1.84
– 5-year	0.73	1.35	2.20	2.70	2.60	1.75	1.90	1.23	2.08
– 10-year	1.26	1.80	2.40	2.85	2.80	2.15	2.25	1.83	2.38
– 30-year	1.93	2.30	2.70	3.10	3.00	2.35	2.45	2.44	2.65
<u>Yield spreads (Canada—United States)</u>									
Treasury bills – 3-month	0.17	-0.25	-0.20	-0.30	-0.55	-0.20	-0.05	0.66	-0.26
Federal bonds – 10-year	-0.58	-0.55	-0.45	-0.45	-0.45	-0.30	-0.25	-0.29	-0.41
– 30-year	-0.67	-0.60	-0.55	-0.55	-0.55	-0.35	-0.35	-0.59	-0.49
<b>Quebec</b>									
Real GDP (var. in %)	1.4	2.5	2.2	1.7	1.1	0.3	1.2	1.3	1.5
Total inflation rate (var. in %)	0.7	1.0	1.3	1.8	1.5	0.3	1.3	1.2	1.2
Employment (var. in %)	0.9	2.1	1.2	0.8	0.3	-0.5	0.2	0.8	0.7
Employment (thousands)	36	87	50	35	15	-20	10	32	29
Unemployment rate	7.1	6.1	5.5	5.1	5.0	5.3	5.1	7.5	5.3
Retail sales (var. in %)	6.2	5.5	4.9	3.5	2.0	1.0	2.5	2.9	3.2
Housing starts (thousands of units)	39	46	41	37	35	30	35	40	37
<b>Ontario</b>									
Real GDP (var. in %)	2.6	3.0	2.3	1.8	1.5	0.3	1.5	1.7	1.7
Total inflation rate (var. in %)	1.8	1.7	2.0	2.1	1.8	0.5	1.5	1.7	1.6
Employment (var. in %)	1.1	1.8	1.9	1.2	0.7	0.2	0.8	0.7	1.1
Employment (thousands)	76	124	133	88	51	15	59	49	78
Unemployment rate	6.5	6.0	5.7	5.7	5.3	6.5	6.3	7.2	5.9
Retail sales (var. in %)	7.1	6.4	3.8	4.0	5.0	2.0	4.5	3.7	4.3
Housing starts (thousands of units)	75	83	69	68	75	68	74	65	73

f: forecasts; WTI : West Texas Intermediate; <sup>1</sup> Variations are based on observation of the end of period.

Sources: Datastream, Statistics Canada, Institut de la statistique du Québec, Ontario's Ministry of Finance, Canada Mortgage and Housing Corporation and Desjardins, Economic Studies



# Laurentian Bank Securities ECONOMIC RESEARCH AND STRATEGY

## Forecast Tables – December 2017

Canadian Economic Outlook															
	(q/q saar)								annual average				Q4/Q4		
	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1	2018Q2	2018Q3	2018Q4	2016	2017	2018	2019	2016	2017	2018
<b>Real GDP</b>	3.7	4.3	1.7	2.4	1.9	1.8	2.0	2.0	1.4	3.0	2.1	1.9	2.0	3.0	2.0
Consumer Expenditure	3.7	5.0	4.0	2.8	2.2	2.2	2.1	1.9	2.4	3.7	2.7	1.9	2.6	3.9	2.1
Business Investment	11.3	7.4	3.5	5.4	2.4	2.7	2.9	2.9	-8.9	1.5	3.5	3.1	-8.5	6.8	2.7
Non-residential structures	0.5	9.1	2.2	2.0	2.0	2.3	2.5	2.7	-11.5	-1.1	2.6	2.6	-8.6	3.4	2.4
Machinery and equipment	28.1	6.8	6.1	3.8	3.5	3.7	4.0	3.8	-6.0	5.5	4.2	4.5	-8.0	10.8	3.7
Residential Investment	11.7	-3.6	-1.4	3.0	-2.0	-2.5	2.0	3.0	3.3	2.7	-0.4	1.1	2.9	2.3	0.1
Government Spending	0.0	3.2	4.6	2.6	2.7	2.7	2.6	2.3	2.7	2.1	2.9	2.5	3.1	2.6	2.6
Exports	2.4	6.1	-10.2	4.8	2.6	2.6	2.8	2.9	0.9	0.9	1.5	2.3	0.7	0.5	2.7
Imports	13.7	6.6	-0.2	3.2	1.5	1.6	1.8	1.9	-1.0	3.3	2.0	2.2	-1.5	5.7	1.7
Total CPI Inflation *	1.9	1.3	1.4	1.9	1.6	1.5	1.9	2.0	1.4	1.6	1.8	1.8	1.4	1.9	2.0
Unemployment rate (%)*	6.7	6.5	6.2	6.0	5.9	5.8	5.8	5.8	7.0	6.3	5.8	5.7	-	-	-
Employment	2.1	1.6	1.7	2.7	1.0	1.0	0.8	0.7	0.7	1.8	1.4	0.7	1.1	2.0	0.9
Housing Starts (in 000s)*	223	207	223	229	210	210	210	210	198	221	210	205	-	-	-
Nominal GDP	7.0	3.9	1.8	5.6	4.4	3.0	4.6	4.6	2.0	5.2	4.0	3.7	3.9	4.5	4.1

\*Average for the period.

Updated: December 2017

Financial Forecasts													
	15Q4	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4
<b>Canada</b>													
Overnight Rate Target	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	1.00	1.25	1.25	1.25	1.25
3-Month Treasury Bills	0.51	0.45	0.50	0.52	0.48	0.54	0.71	1.00	0.95	1.20	1.25	1.25	1.25
2-Year Bond	0.48	0.54	0.52	0.54	0.74	0.75	1.09	1.52	1.55	1.75	1.80	1.85	1.90
5-Year Bond	0.73	0.68	0.57	0.61	1.11	1.11	1.38	1.75	1.75	2.00	2.05	2.10	2.15
10-Year Bond	1.39	1.23	1.06	1.19	1.72	1.62	1.75	2.10	1.92	2.05	2.15	2.30	2.40
30-Year Bond	2.15	2.00	1.71	1.85	2.31	2.30	2.14	2.47	2.20	2.40	2.55	2.65	2.80
<b>United States</b>													
Federal Funds Rate Target*	0.375	0.375	0.375	0.375	0.625	0.875	1.125	1.125	1.375	1.375	1.625	1.625	1.875
3-Month Treasury Bills	0.16	0.21	0.22	0.33	0.61	0.74	1.01	1.10	1.30	1.35	1.55	1.60	1.85
2-Year Bond	1.06	0.76	0.59	0.76	1.18	1.25	1.38	1.48	1.80	1.80	1.90	1.95	2.05
5-Year Bond	1.76	1.21	1.00	1.24	1.93	1.93	1.89	1.93	2.15	2.20	2.30	2.40	2.50
10-Year Bond	2.27	1.78	1.46	1.59	2.44	2.39	2.30	2.38	2.40	2.50	2.65	2.80	3.00
30-Year Bond	3.01	2.61	2.28	2.31	3.07	3.01	2.83	2.86	2.75	2.90	3.10	3.20	3.40
Canadian Dollar (US\$/C\$)	0.72	0.77	0.76	0.76	0.75	0.75	0.77	0.80	0.79	0.80	0.81	0.81	0.82
S&P 500 Index	2044	2060	2099	2168	2239	2366	2423	2519	2650	2700	2735	2780	2800
TSX Index	13010	13494	14064	14726	15288	15548	15350	15635	16500	16900	17300	17600	18000
Oil WTI (US\$/barrel)	37.0	38.3	48.3	48.2	53.7	50.7	46	52	60	62	64	66	67

Quarter-end data and annual averages

Updated: December 2017 \* midpoint of the target range for the Fed funds

## United States Economic Forecast

(Annual % change)*						Q4/Q4		
	2015	2016	2017	2018	2019	2017	2018	2019
Gross domestic product (2009 \$)	2.9	1.5	2.2	2.4	2.0	2.4	2.3	1.9
Consumption	3.6	2.7	2.7	2.4	2.0	2.5	2.3	1.9
Residential construction	10.2	5.5	1.3	0.8	1.9	0.9	1.5	2.2
Business investment	2.3	(0.6)	4.4	2.1	1.8	5.1	1.5	1.5
Government expenditures	1.4	0.8	(0.1)	1.1	1.4	(0.2)	1.7	1.4
Exports	0.4	(0.3)	3.0	1.4	1.2	3.5	1.2	1.2
Imports	5.0	1.3	3.1	0.9	1.2	1.4	1.2	1.2
Change in inventories (bil. \$)	100.5	33.4	20.4	34.8	32.8	36.0	34.0	32.0
Domestic demand	3.3	2.1	2.4	2.1	1.9	2.3	2.1	1.8
Real disposable income	4.2	1.4	1.2	1.6	1.7	1.9	1.7	1.7
Household employment	1.7	1.7	1.3	1.2	1.0	1.4	1.2	0.9
Unemployment rate	5.3	4.9	4.4	4.0	3.9	4.1	3.9	3.9
Inflation	0.1	1.3	2.1	2.2	2.2	2.1	2.2	2.3
Before-tax profits	(1.1)	(2.1)	4.9	6.5	4.5	4.5	4.5	4.5
Federal balance (unified budget, bil. \$)	(438.0)	(586.0)	(666.0)	(677.0)	(913.0)	...	...	...
Current account (bil. \$)	(434.6)	(451.7)	(490.4)	(537.5)	(577.5)	...	...	...

\* or as noted

## Financial Forecast\*\*

	Current							
	12-01-17	Q4 2017	Q1 2018	Q2 2018	Q3 2018	2017	2018	2019
Fed Fund Target Rate	1.25	1.50	1.75	1.75	2.00	1.50	2.00	2.50
3 month Treasury bills	1.25	1.36	1.58	1.74	1.83	1.36	1.86	2.30
Treasury yield curve								
2-Year	1.78	1.78	1.97	2.05	2.21	1.78	2.27	2.79
5-Year	2.13	2.12	2.32	2.46	2.56	2.12	2.62	2.99
10-Year	2.37	2.45	2.60	2.75	2.86	2.45	2.90	3.04
30-Year	2.76	2.86	2.99	3.12	3.21	2.86	3.24	3.31
Exchange rates								
U.S./Euro	1.19	1.20	1.18	1.17	1.14	1.20	1.12	1.10
YEN/U.S.\$	113	113	114	112	110	113	108	107

\*\* end of period

## Quarterly pattern

	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
	actual	actual	actual	forecast	forecast	forecast	forecast	forecast
Real GDP growth (q/q % chg. saar)	1.2	3.1	3.3	2.2	1.4	3.1	2.3	2.2
CPI (y/y % chg.)	2.6	1.9	2.0	2.1	1.8	2.5	2.5	2.2
CPI ex. food and energy (y/y % chg.)	2.2	1.8	1.7	1.8	1.7	2.1	2.3	2.3
Unemployment rate (%)	4.7	4.4	4.3	4.1	4.1	4.0	4.0	3.9

National Bank Financial

## Canada Economic Forecast

<i>(Annual % change)*</i>	2015	2016	2017	2018	2019	2017	Q4/Q4 2018	2019
Gross domestic product (2007 \$)	1.0	1.4	3.0	2.5	1.5	3.0	2.5	1.1
Consumption	2.1	2.4	3.7	2.5	1.5	3.7	2.0	1.5
Residential construction	3.8	3.3	2.5	(0.4)	(1.9)	1.5	0.0	(3.0)
Business investment	(11.3)	(9.4)	1.4	2.6	2.5	6.1	2.0	2.9
Government expenditures	1.4	2.7	2.0	3.0	1.4	2.3	2.7	1.0
Exports	3.5	1.0	1.2	2.3	2.4	1.5	3.1	1.7
Imports	0.7	(1.0)	3.3	1.9	1.7	5.6	1.5	2.0
Change in inventories (millions \$)	4,711	978	13,073	5,225	4,177	12,488	1,541	4,833
Domestic demand	0.3	1.1	2.8	2.4	1.4	3.4	2.0	1.2
Real disposable income	3.5	1.3	3.2	2.1	1.6	2.3	1.7	1.5
Employment	0.9	0.7	1.8	1.4	0.8	1.8	1.1	0.6
Unemployment rate	6.9	7.0	6.4	5.8	5.8	6.1	5.7	5.9
Inflation	1.1	1.4	1.6	2.3	2.1	1.8	2.4	2.1
Before-tax profits	(19.8)	(1.9)	20.0	6.1	5.6	7.9	7.7	5.0
Current account (bil. \$)	(71.5)	(65.4)	(67.2)	(67.6)	(56.4)	....	....	....

\* or as noted

## Financial Forecast\*\*

	Current 12-01-17	Q4 2017	Q1 2018	Q2 2018	Q3 2018	2017	2018	2019
Overnight rate	1.00	1.00	1.25	1.50	1.75	1.00	2.00	2.25
3 month T-Bills	0.88	0.96	1.42	1.68	1.90	0.96	1.96	2.21
Treasury yield curve								
2-Year	1.52	1.51	1.67	1.95	2.09	1.51	2.26	2.55
5-Year	1.69	1.71	1.96	2.17	2.30	1.71	2.38	2.77
10-Year	1.91	1.97	2.29	2.50	2.64	1.97	2.70	3.05
30-Year	2.20	2.34	2.64	2.84	2.95	2.34	2.98	3.29
CAD per USD	1.27	1.25	1.24	1.27	1.28	1.25	1.32	1.32
Oil price (WTI), U.S.\$	58	56	60	58	58	56	60	62

\*\* end of period

## Quarterly pattern

	Q1 2017 actual	Q2 2017 actual	Q3 2017 actual	Q4 2017 forecast	Q1 2018 forecast	Q2 2018 forecast	Q3 2018 forecast	Q4 2018 forecast
Real GDP growth (q/q % chg. saar)	3.7	4.3	1.7	2.4	2.3	2.5	2.7	2.1
CPI (y/y % chg.)	1.9	1.3	1.4	1.8	1.8	2.4	2.7	2.4
CPI ex. food and energy (y/y % chg.)	2.0	1.4	1.4	1.6	1.5	1.9	2.1	2.3
Unemployment rate (%)	6.7	6.5	6.2	6.1	6.0	5.9	5.8	5.7

National Bank Financial

## Financial market forecast detail

### Interest rates—North America

%, end of period

	Actual							Forecast							Actual			Forecast		
	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	2016	2017	2018			
<b>Canada</b>																				
Overnight	0.50	0.50	0.50	0.50	0.50	0.50	1.00	1.00	1.00	1.25	1.50	1.75	2.00	2.25	0.50	1.00	1.75			
Three-month	0.45	0.49	0.53	0.46	0.52	0.71	1.00	0.90	1.00	1.20	1.45	1.70	2.05	2.25	0.46	0.90	1.70			
Two-year	0.54	0.52	0.52	0.75	0.75	1.10	1.52	1.50	1.60	1.75	1.95	2.25	2.40	2.60	0.75	1.50	2.25			
Five-year	0.67	0.57	0.62	1.12	1.12	1.40	1.75	1.70	1.85	2.05	2.30	2.55	2.75	2.90	1.12	1.70	2.55			
10-year	1.23	1.06	1.00	1.71	1.62	1.76	2.10	1.90	2.15	2.35	2.60	2.80	2.95	3.10	1.71	1.90	2.80			
30-year	2.00	1.72	1.66	2.31	2.30	2.14	2.47	2.20	2.50	2.75	2.95	3.10	3.15	3.25	2.31	2.20	3.10			
Yield curve (10s-2s)	69	54	48	96	87	66	58	40	55	60	65	55	55	50	96	40	55			
<b>United States</b>																				
Fed funds*	0.50	0.50	0.50	0.75	1.00	1.25	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	0.75	1.50	2.50			
Three-month	0.21	0.26	0.29	0.51	0.76	1.03	1.06	1.30	1.55	1.80	2.05	2.30	2.55	2.80	0.51	1.30	2.30			
Two-year	0.73	0.58	0.77	1.20	1.27	1.38	1.47	1.85	2.10	2.35	2.55	2.75	3.00	3.25	1.20	1.85	2.75			
Five-year	1.21	1.01	1.14	1.93	1.93	1.89	1.92	2.15	2.50	2.70	2.90	3.05	3.25	3.45	1.93	2.15	3.05			
10-year	1.78	1.49	1.60	2.45	2.40	2.31	2.33	2.30	2.80	3.00	3.15	3.30	3.45	3.60	2.45	2.30	3.30			
30-year	2.61	2.30	2.32	3.06	3.02	2.84	2.86	2.65	3.20	3.35	3.50	3.60	3.70	3.75	3.06	2.65	3.60			
Yield curve (10s-2s)	105	91	83	125	113	93	86	45	70	65	60	55	45	35	125	45	55			
<b>Yield spreads</b>																				
Three-month T-bills	0.24	0.23	0.24	-0.05	-0.24	-0.32	-0.06	-0.40	-0.55	-0.60	-0.60	-0.60	-0.50	-0.55	-0.05	-0.40	-0.60			
Two-year	-0.19	-0.06	-0.25	-0.45	-0.52	-0.28	0.05	-0.35	-0.50	-0.60	-0.60	-0.50	-0.60	-0.65	-0.45	-0.35	-0.50			
Five-year	-0.54	-0.44	-0.52	-0.81	-0.81	-0.49	-0.17	-0.45	-0.65	-0.65	-0.60	-0.50	-0.50	-0.55	-0.81	-0.45	-0.50			
10-year	-0.55	-0.43	-0.60	-0.74	-0.78	-0.55	-0.23	-0.40	-0.65	-0.65	-0.55	-0.50	-0.50	-0.50	-0.74	-0.40	-0.50			
30-year	-0.61	-0.58	-0.66	-0.75	-0.72	-0.70	-0.39	-0.45	-0.70	-0.60	-0.55	-0.50	-0.55	-0.50	-0.75	-0.45	-0.50			

Note: Interest Rates are end of period rates. \* Top of 25 basis point range

### Interest rates—International

%, end of period

	Actual							Forecast							Actual			Forecast		
	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	2016	2017	2018			
<b>United Kingdom</b>																				
Repo	0.50	0.50	0.25	0.25	0.25	0.25	0.25	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.25	0.50	0.50			
Two-year	0.45	0.13	0.13	0.08	0.12	0.36	0.46	0.60	0.65	0.70	0.70	0.70	0.70	0.75	0.08	0.60	0.70			
10-year	1.43	0.89	0.76	1.24	1.14	1.26	1.38	1.50	1.60	1.65	1.75	1.80	1.90	2.05	1.24	1.50	1.80			
<b>Euro Area</b>																				
Deposit rate	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40			
Two-year	-0.48	-0.61	-0.69	-0.78	-0.74	-0.57	-0.69	-0.70	-0.65	-0.65	-0.60	-0.50	-0.50	-0.50	-0.78	-0.70	-0.50			
10-year	0.15	-0.11	-0.12	0.21	0.33	0.47	0.47	0.50	0.65	0.65	0.70	0.80	1.00	1.05	0.21	0.50	0.80			
<b>Australia</b>																				
Cash target rate	2.00	1.75	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.75	2.00	1.50	1.50	1.50				
Two-year swap	1.89	1.59	1.55	1.86	1.76	1.78	1.94	2.00	2.00	2.10	2.25	2.40	2.50	2.60	1.86	2.00	2.40			
10-year swap	2.49	1.98	1.91	2.76	2.70	2.60	2.84	2.55	2.90	3.10	3.40	3.55	3.85	4.10	2.76	2.55	3.55			
<b>New Zealand</b>																				
Cash target rate	2.25	2.25	2.00	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75			
Two-year	2.19	2.22	1.96	2.50	2.31	2.32	2.19	2.20	2.20	2.30	2.40	2.50	2.60	2.75	2.50	2.20	2.50			
10-year	2.97	2.65	2.41	3.58	3.41	3.35	3.24	3.05	3.40	3.60	3.80	3.95	4.10	4.30	3.58	3.05	3.95			

## Growth outlook

% change, quarter-over-quarter in real GDP

	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4	2016	2017F	2018F	2019F
Canada*	3.7	4.3	1.7	2.0	1.9	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.4	2.9	1.9	1.6
United States*	1.2	3.1	3.3	2.4	2.5	2.3	2.0	2.0	1.9	1.8	1.7	1.7	1.5	2.3	2.5	1.9
United Kingdom	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	1.8	1.5	1.4	1.4
Euro area	0.6	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	1.8	2.3	2.2	1.9
Australia	0.4	0.9	0.6	0.9	0.8	0.6	0.5	0.5	0.7	0.7	0.9	0.9	2.6	2.2	2.8	3.0
New Zealand	0.6	0.8	0.8	0.8	1.0	0.8	0.8	0.7	0.7	0.7	0.7	0.7	3.0	2.7	3.4	2.9

\*Seasonally adjusted annualized rates

## Inflation outlook

% change, year-over-year

	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4	2016	2017F	2018F	2019F
Canada	1.9	1.3	1.4	1.7	1.4	1.9	2.0	1.7	1.8	2.0	2.0	2.1	1.4	1.6	1.8	2.0
United States	2.5	1.9	2.0	2.1	1.7	2.0	1.9	1.4	1.7	1.9	2.0	2.1	1.3	2.1	1.7	1.9
United Kingdom	2.2	2.8	2.8	2.9	2.8	2.6	2.6	2.5	2.3	2.2	2.2	2.0	0.6	2.7	2.6	2.2
Euro area	1.8	1.5	1.4	1.4	1.2	1.3	1.4	1.4	1.4	1.4	1.5	1.5	0.2	1.5	1.3	1.5
Australia	2.1	1.9	1.8	2.0	2.1	2.5	2.4	2.3	2.3	2.5	2.6	2.7	1.3	2.0	2.3	2.5
New Zealand	2.2	1.7	1.9	1.8	1.4	2.0	2.1	2.0	2.0	2.0	2.0	2.0	0.6	1.8	2.0	2.0

## Exchange rates

%, end of period

	Actual							Forecast					Actual	Forecast	
	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	2016	2017	2018
AUD/USD	0.77	0.75	0.77	0.72	0.76	0.77	0.78	0.80	0.77	0.74	0.73	0.73	0.72	0.80	0.73
USD/CAD	1.30	1.29	1.31	1.34	1.33	1.30	1.25	1.27	1.33	1.30	1.27	1.24	1.34	1.27	1.24
EUR/USD	1.14	1.11	1.12	1.05	1.07	1.14	1.18	1.14	1.12	1.10	1.08	1.12	1.05	1.14	1.12
USD/JPY	112.6	102.7	101.3	117.0	111.4	112.4	112.5	110.0	107.0	105.0	107.0	109.0	117.0	110.0	109.0
NZD/USD	0.69	0.71	0.73	0.69	0.70	0.73	0.72	0.75	0.72	0.70	0.69	0.69	0.69	0.75	0.69
USD/CHF	0.96	0.98	0.97	1.02	1.00	0.96	0.97	1.02	1.04	1.07	1.11	1.09	1.02	1.02	1.09
GBP/USD	1.44	1.33	1.30	1.24	1.26	1.30	1.34	1.28	1.24	1.21	1.17	1.20	1.24	1.28	1.20

Note: Exchange rates are expressed in units per USD, with the exception of the euro, GBP, AUD, and NZD, which are expressed in USD per local currency unit.

Source: Reuters, RBC Economics Research forecasts

The material contained in this report is the property of Royal Bank of Canada and may not be reproduced in any way, in whole or in part, without express authorization of the copyright holder in writing. The statements and statistics contained herein have been prepared by RBC Economics Research based on information from sources considered to be reliable. We make no representation or warranty, express or implied, as to its accuracy or completeness. This publication is for the information of investors and business persons and does not constitute an offer to sell or a solicitation to buy securities.





FINANCIAL MARKET FORECASTS

December 11, 2017

Interest rates (% , end of quarter, )

	Actual			Forecast							Actual			Forecast		
	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	2016	2017	2018			
<b>Canada</b>																
Overnight	0.50	0.50	1.00	1.00	1.00	1.25	1.50	1.75	2.00	2.25	0.50	1.00	1.75			
Three-month	0.52	0.71	1.00	0.90	1.00	1.20	1.45	1.70	2.05	2.25	0.46	0.90	1.70			
Two-year	0.75	1.10	1.52	1.50	1.60	1.75	1.95	2.25	2.40	2.60	0.75	1.50	2.25			
Five-year	1.12	1.40	1.75	1.70	1.85	2.05	2.30	2.55	2.75	2.90	1.12	1.70	2.55			
10-year	1.62	1.76	2.10	1.90	2.15	2.35	2.60	2.80	2.95	3.10	1.71	1.90	2.80			
30-year	2.30	2.14	2.47	2.20	2.50	2.75	2.95	3.10	3.15	3.25	2.31	2.20	3.10			
Yield curve (10s-2s)	87	66	58	40	55	60	65	55	55	50	96	40	55			
<b>United States</b>																
Fed funds*	1.00	1.25	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	0.75	1.50	2.50			
Three-month	0.76	1.03	1.06	1.30	1.55	1.80	2.05	2.30	2.55	2.80	0.51	1.30	2.30			
Two-year	1.27	1.38	1.47	1.85	2.10	2.35	2.55	2.75	3.00	3.25	1.20	1.85	2.75			
Five-year	1.93	1.89	1.92	2.15	2.50	2.70	2.90	3.05	3.25	3.45	1.93	2.15	3.05			
10-year	2.40	2.31	2.33	2.30	2.80	3.00	3.15	3.30	3.45	3.60	2.45	2.30	3.30			
30-year	3.02	2.84	2.86	2.65	3.20	3.35	3.50	3.60	3.70	3.75	3.06	2.65	3.60			
Yield curve (10s-2s)	113	93	86	45	70	65	60	55	45	35	125	45	55			
<b>Yield spreads</b>																
Three-month T-bills	-0.24	-0.32	-0.06	-0.40	-0.55	-0.60	-0.60	-0.60	-0.50	-0.55	-0.05	-0.40	-0.60			
Two-year	-0.52	-0.28	0.05	-0.35	-0.50	-0.60	-0.60	-0.50	-0.60	-0.65	-0.45	-0.35	-0.50			
Five-year	-0.81	-0.49	-0.17	-0.45	-0.65	-0.65	-0.60	-0.50	-0.50	-0.55	-0.81	-0.45	-0.50			
10-year	-0.78	-0.55	-0.23	-0.40	-0.65	-0.65	-0.55	-0.50	-0.50	-0.50	-0.74	-0.40	-0.50			
30-year	-0.72	-0.70	-0.39	-0.45	-0.70	-0.60	-0.55	-0.50	-0.55	-0.50	-0.75	-0.45	-0.50			

Note: Interest Rates are end of period rates. \* Top of 25 basis point range

Exchange rates (end of quarter, )

	Actual			Forecast					Actual			Forecast		
	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	2016	2017	2018			
AUD/USD	0.76	0.77	0.78	0.80	0.77	0.74	0.73	0.73	0.72	0.80	0.73			
USD/CAD	1.33	1.30	1.25	1.27	1.33	1.30	1.27	1.24	1.34	1.27	1.24			
EUR/USD	1.07	1.14	1.18	1.14	1.12	1.10	1.08	1.12	1.05	1.14	1.12			
USD/JPY	111.4	112.4	112.5	110.0	107.0	105.0	107.0	109.0	117.0	110.0	109.0			
NZD/USD	0.70	0.73	0.72	0.75	0.72	0.70	0.69	0.69	0.69	0.75	0.69			
USD/CHF	1.00	0.96	0.97	1.02	1.04	1.07	1.11	1.09	1.02	1.02	1.09			
GBP/USD	1.26	1.30	1.34	1.28	1.24	1.21	1.17	1.20	1.24	1.28	1.20			

The material contained in this report is the property of Royal Bank of Canada and may not be reproduced in any way, in whole or in part, without express authorization of the copyright holder in writing. The statements and statistics contained herein have been prepared by RBC Economics Research based on information from sources considered to be reliable. We make no representation or warranty, express or implied, as to its accuracy or completeness. This publication is for the information of investors and business persons and does not constitute an offer to sell or a solicitation to buy securities.



ECONOMIC FORECAST DETAIL – UNITED STATES

December 2017

**Real growth in the economy** (Quarter-over-quarter annualized % change unless otherwise indicated)

	Actuals				Forecast								Actual			
	2017				2018				2019				year-over-year % change			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018	2019
Consumer spending	1.9	3.3	2.3	2.8	2.6	2.4	2.1	2.0	1.9	1.9	1.8	1.8	2.7	2.7	2.5	2.0
Durables	-0.1	7.6	8.1	6.3	3.3	2.7	2.1	2.1	1.8	1.8	1.6	1.6	5.5	6.2	4.4	1.9
Non-durables	1.1	4.2	2.0	3.1	2.7	2.8	2.2	2.0	2.0	2.0	1.8	1.8	2.8	2.3	2.7	2.0
Services	2.5	2.3	1.5	2.2	2.4	2.2	2.1	2.0	1.9	1.9	1.8	1.8	2.3	2.3	2.1	1.9
Government spending	-0.6	-0.2	0.4	1.3	0.6	0.4	0.4	0.6	0.8	0.8	0.8	0.8	0.8	0.0	0.6	0.7
Residential investment	11.1	-7.3	-5.1	8.0	8.7	3.7	3.8	3.4	1.8	0.9	1.9	1.2	5.5	1.4	3.8	2.3
Non-residential investment	7.1	6.7	4.7	5.5	4.6	3.9	3.1	2.8	2.8	2.8	2.6	2.6	-0.6	4.6	4.5	2.9
Non-residential structures	14.8	7.0	-6.8	1.0	6.0	3.8	2.9	2.3	2.0	2.0	2.0	2.0	-4.1	5.3	2.4	2.3
Equipment & software	4.4	8.8	10.4	9.0	4.8	4.3	3.2	2.9	2.1	1.4	0.7	0.1	-3.4	4.6	6.1	2.1
Intellectual property	5.8	3.7	5.8	3.7	3.4	3.3	3.2	3.0	2.8	2.6	2.6	2.6	6.3	4.2	3.7	2.8
Final domestic demand	2.4	2.7	2.0	3.1	2.7	2.3	2.0	1.9	1.8	1.7	1.6	1.5	2.1	2.4	2.5	1.8
Exports	7.3	3.5	2.2	0.0	3.0	2.8	3.2	3.2	3.0	2.8	2.8	2.8	-0.3	2.9	2.4	3.0
Imports	4.3	1.5	-1.1	4.0	2.9	3.0	3.5	3.0	3.3	2.1	2.1	2.3	1.3	3.3	2.6	2.8
Inventories (change in \$b)	1.2	5.5	39.0	30.0	22.0	23.0	28.0	32.0	40.0	40.0	40.0	45.0	33.4	18.9	26.3	41.3
<b>Real gross domestic product</b>	<b>1.2</b>	<b>3.1</b>	<b>3.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.3</b>	<b>2.0</b>	<b>2.0</b>	<b>1.9</b>	<b>1.8</b>	<b>1.7</b>	<b>1.7</b>	<b>1.5</b>	<b>2.3</b>	<b>2.5</b>	<b>1.9</b>

**Other indicators** (Year-over-year % change unless otherwise indicated)

Business and labour																
Productivity	1.1	1.3	1.5	1.3	1.8	1.8	1.1	1.2	1.1	1.0	0.9	0.8	0.1	1.3	1.5	0.9
Pre-tax corporate profits	3.3	6.4	5.4	4.0	6.9	6.6	2.6	1.7	1.4	0.8	0.3	0.1	-2.1	4.8	4.4	0.7
Unemployment rate (%)*	4.7	4.4	4.3	4.1	4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.9	4.4	4.1	4.0
Inflation																
Headline CPI	2.5	1.9	2.0	2.1	1.7	2.0	1.9	1.4	1.7	1.9	2.0	2.1	1.3	2.1	1.7	1.9
CPI ex. food and energy	2.2	1.8	1.7	1.8	1.7	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.2	1.9	2.0	2.0
External trade																
Current account balance (\$b)*	-454	-493	-463	-499	-500	-504	-511	-514	-524	-526	-525	-528	-452	-477	-507	-526
% of GDP*	-2.4	-2.6	-2.4	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.4	-2.5	-2.5	-2.5
Housing starts (000s)*	1238	1167	1164	1270	1275	1285	1300	1315	1315	1315	1325	1325	1177	1210	1294	1320
Motor vehicle sales (millions, saar)*	17.1	16.8	17.1	17.5	17.5	17.9	17.9	18.1	18.1	18.3	18.2	18.4	17.5	17.1	17.8	18.2

The material contained in this report is the property of Royal Bank of Canada and may not be reproduced in any way, in whole or in part, without express authorization of the copyright holder in writing. The statements and statistics contained herein have been prepared by RBC Economics Research based on information from sources considered to be reliable. We make no representation or warranty, express or implied, as to its accuracy or completeness. This publication is for the information of investors and business persons and does not constitute an offer to sell or a solicitation to buy securities.

Central Bank Rates	2017		2018				2019			
	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>Americas</b>	(% , end of period)									
Bank of Canada	1.00	1.00	1.00	1.25	1.50	1.50	1.75	2.00	2.25	2.25
US Federal Reserve (upper bound)	1.25	1.50	1.50	1.75	1.75	2.00	2.00	2.00	2.25	2.25
Bank of Mexico	7.00	7.25	7.50	7.50	7.50	7.50	7.25	7.00	6.75	6.75
Central Bank of Brazil	8.25	7.25	7.25	7.25	7.50	7.75	8.00	8.25	8.50	8.50
Bank of the Republic of Colombia	5.25	5.00	4.75	4.75	4.75	4.75	4.75	5.00	5.25	5.25
Central Reserve Bank of Peru	3.50	3.50	3.50	3.50	3.50	3.50	3.75	3.75	4.00	4.00
Central Bank of Chile	2.50	2.50	2.50	2.75	3.00	3.25	3.50	3.50	3.75	3.75
<b>Europe</b>										
European Central Bank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.50
Bank of England	0.25	0.50	0.50	0.75	0.75	1.00	1.00	1.25	1.50	1.50
<b>Asia/Oceania</b>										
Reserve Bank of Australia	1.50	1.50	1.50	1.50	1.50	1.75	1.75	2.00	2.00	2.25
Bank of Japan	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10
People's Bank of China	4.35	4.35	4.35	4.35	4.35	4.35	4.60	4.60	4.85	4.85
Reserve Bank of India	6.00	6.00	6.00	6.00	6.00	6.00	6.25	6.25	6.50	6.50
Bank of Korea	1.25	1.50	1.50	1.75	1.75	2.00	2.00	2.25	2.25	2.25
Bank of Thailand	1.50	1.50	1.50	1.75	1.75	2.00	2.00	2.00	2.25	2.25
<b>Currencies and Interest Rates</b>										
<b>Americas</b>	(end of period)									
Canadian Dollar (USDCAD)	1.25	1.28	1.28	1.27	1.26	1.25	1.25	1.22	1.22	1.25
Canadian Dollar (CADUSD)	0.80	0.78	0.78	0.79	0.79	0.80	0.80	0.82	0.82	0.80
Mexican Peso (USDMXN)	18.25	18.99	19.19	19.04	19.10	19.36	19.46	19.28	19.34	19.61
Brazilian Real (USDBRL)	3.16	3.35	3.45	3.50	3.55	3.60	3.55	3.55	3.50	3.50
Colombian Peso (USDCOP)	2,938	3,005	3,100	3,100	3,050	3,000	3,000	3,050	3,100	3,100
Peruvian Nuevo Sol (USDPEN)	3.27	3.22	3.20	3.19	3.17	3.18	3.19	3.15	3.16	3.13
Chilean Peso (USDCLP)	639	636	633	631	629	626	623	620	617	613
<b>Europe</b>										
Euro (EURUSD)	1.18	1.18	1.18	1.18	1.20	1.20	1.24	1.24	1.28	1.28
UK Pound (GBPUSD)	1.34	1.33	1.35	1.35	1.37	1.37	1.38	1.38	1.40	1.40
<b>Asia/Oceania</b>										
Japanese Yen (USDJPY)	113	112	114	114	115	115	118	118	120	120
Australian Dollar (AUDUSD)	0.78	0.79	0.79	0.79	0.80	0.80	0.81	0.81	0.82	0.82
Chinese Yuan (USDCNY)	6.65	6.60	6.55	6.55	6.50	6.50	6.45	6.45	6.40	6.40
Indian Rupee (USDINR)	65.3	65.0	64.5	64.5	64.0	64.0	63.5	63.5	63.0	63.0
South Korean Won (USDKRW)	1,145	1,120	1,100	1,100	1,080	1,080	1,060	1,060	1,040	1,040
Thai Baht (USDTHB)	33.3	32.5	32.2	32.2	32.0	32.0	31.5	31.5	31.0	31.0
<b>Canada (Yields, %)</b>										
3-month T-bill	1.00	0.90	1.00	1.25	1.50	1.60	1.80	2.10	2.35	2.40
2-year Canada	1.52	1.55	1.60	1.75	1.95	2.05	2.10	2.25	2.40	2.45
5-year Canada	1.75	1.75	1.85	1.95	2.05	2.20	2.30	2.40	2.50	2.60
10-year Canada	2.10	1.95	2.10	2.25	2.35	2.45	2.55	2.60	2.65	2.80
30-year Canada	2.48	2.25	2.35	2.50	2.75	2.90	3.00	3.10	3.15	3.20
<b>United States (Yields, %)</b>										
3-month T-bill	1.04	1.30	1.40	1.60	1.70	2.00	2.05	2.05	2.30	2.30
2-year Treasury	1.48	1.80	1.85	1.95	2.00	2.10	2.20	2.30	2.35	2.45
5-year Treasury	1.93	2.15	2.20	2.25	2.30	2.35	2.40	2.50	2.55	2.60
10-year Treasury	2.34	2.40	2.50	2.60	2.65	2.70	2.75	2.80	2.90	3.00
30-year Treasury	2.86	2.80	2.85	2.90	2.95	3.00	3.10	3.15	3.20	3.30

Sources: Scotiabank Economics, Bloomberg.



U.S. ECONOMIC OUTLOOK												
<i>Period-Over-Period Annualized Per Cent Change Unless Otherwise Indicated</i>												
	Annual Average						Fourth Quarter / Fourth Quarter					
	16	17F	18F	19F	20F	21F	16	17F	18F	19F	20F	21F
<b>Real GDP</b>	1.5	2.3	2.6	2.3	2.0	1.8	1.8	2.6	2.3	2.2	1.8	1.8
<b>Consumer Expenditure</b>	2.7	2.7	2.5	2.4	2.2	2.0	2.8	2.6	2.4	2.4	2.0	2.0
Durable Goods	5.5	6.3	5.4	3.4	3.2	3.2	7.0	5.8	3.8	3.4	3.1	3.2
<b>Business Investment</b>	-0.6	4.7	5.1	4.5	3.9	3.1	0.7	6.4	4.4	4.4	3.6	3.0
Non-Res. Structures	-4.1	5.2	1.7	4.4	4.7	3.6	3.5	3.0	3.8	5.1	4.2	3.2
Equipment & IPP*	0.5	4.6	6.1	4.5	3.7	3.0	-0.1	7.5	4.6	4.2	3.4	2.9
<b>Residential Investment</b>	5.5	1.3	2.2	4.0	4.9	3.8	2.5	0.7	3.5	5.0	4.5	3.2
<b>Govt. Expenditure</b>	0.8	-0.1	0.5	0.8	0.7	0.8	0.4	0.1	0.7	0.6	0.8	0.8
<b>Final Domestic Demand</b>	2.1	2.4	2.5	2.4	2.2	2.0	2.1	2.5	2.4	2.4	2.1	2.0
<b>Exports</b>	-0.3	3.2	4.7	5.7	5.6	4.9	0.6	4.1	5.6	5.8	5.4	4.6
<b>Imports</b>	1.3	3.4	4.9	6.3	6.6	5.5	2.7	2.5	6.2	6.6	6.2	5.3
<b>Change in Private Inventories</b>	33.4	21.6	56.8	62.0	54.3	48.5	---	---	---	---	---	---
<b>Final Sales</b>	1.9	2.4	2.4	2.3	2.0	1.9	1.9	2.7	2.2	2.2	1.9	1.8
<b>International Current Account Balance (\$Bn)</b>	-452	-457	-554	-633	-681	-680	---	---	---	---	---	---
% of GDP	-2.4	-2.4	-2.7	-3.0	-3.1	-3.0	---	---	---	---	---	---
<b>Pre-tax Corporate Profits including IVA&amp;CCA</b>	-2.1	4.8	2.9	1.7	2.2	3.0	8.7	4.0	0.4	1.9	2.5	2.9
% of GDP	11.1	11.2	11.0	10.7	10.5	10.4	---	---	---	---	---	---
<b>GDP Deflator (y/y)</b>	1.3	1.8	1.8	2.2	2.4	2.3	1.5	1.8	1.9	2.3	2.4	2.3
<b>Nominal GDP</b>	2.8	4.1	4.4	4.6	4.4	4.2	3.4	4.5	4.2	4.6	4.3	4.2
<b>Labor Force</b>	1.3	0.7	0.9	1.0	0.8	0.7	1.3	0.7	1.1	0.9	0.8	0.6
<b>Employment</b>	1.8	1.5	1.4	1.1	0.7	0.5	1.6	1.4	1.4	1.0	0.6	0.5
<b>Change in Empl. ('000s)</b>	2,492	2,145	2,082	1,685	1,057	766	2,332	2,058	2,032	1,442	869	758
<b>Unemployment Rate (%)</b>	4.9	4.3	3.9	3.8	4.0	4.3	---	---	---	---	---	---
<b>Personal Disp. Income</b>	2.6	3.0	4.8	5.3	5.1	4.7	1.9	3.7	5.4	5.3	4.9	4.7
<b>Pers. Savings Rate (%)</b>	4.9	3.5	3.9	4.8	5.5	6.2	---	---	---	---	---	---
<b>Cons. Price Index (y/y)</b>	1.3	2.1	1.9	2.0	2.2	2.1	1.8	2.0	1.9	2.1	2.1	2.1
<b>Core CPI (y/y)</b>	2.2	1.8	2.1	2.2	2.2	2.2	2.2	1.8	2.3	2.2	2.2	2.2
<b>Core PCE Price Index (y/y)</b>	1.8	1.5	1.8	2.0	2.0	1.9	1.9	1.5	1.9	2.0	2.0	1.9
<b>Housing Starts (mns)</b>	1.18	1.21	1.28	1.37	1.45	1.50	---	---	---	---	---	---
<b>Real Output per hour** (y/y)</b>	0.0	1.4	1.3	1.3	1.5	1.7	0.8	1.5	1.0	1.5	1.6	1.6

\*Intellectual property products. F: Forecast by TD Economics, December 2017.

\*\*Non-farm business sector.

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, Census Bureau, TD Economics.

CANADIAN ECONOMIC OUTLOOK												
<i>Period-Over-Period Annualized Per Cent Change Unless Otherwise Indicated</i>												
	Annual Average						4th Quarter / 4th Quarter					
	16	17F	18F	19F	20F	21F	16	17F	18F	19F	20F	21F
<b>Real GDP</b>	1.4	3.0	2.4	1.8	1.6	1.6	2.0	3.2	2.1	1.7	1.6	1.7
<b>Consumer Expenditure</b>	2.4	3.7	2.9	1.7	1.3	1.4	2.6	3.9	2.3	1.5	1.3	1.4
Durable Goods	4.5	7.4	3.1	1.6	1.4	1.5	3.4	6.9	2.0	1.5	1.4	1.6
<b>Business Investment</b>	-8.9	1.4	4.1	3.4	2.6	2.5	-8.5	6.5	3.9	3.1	2.5	2.5
Non-Res. Structures	-11.5	-1.1	3.7	2.9	2.4	2.6	-8.6	3.7	3.6	2.6	2.5	2.6
Equipment & IPP*	-6.1	4.1	4.5	3.9	2.8	2.4	-8.5	9.6	4.2	3.5	2.5	2.3
<b>Residential Investment</b>	3.3	2.7	-2.1	0.2	2.3	2.3	2.9	2.1	-2.8	1.8	2.1	2.8
<b>Govt. Expenditure</b>	2.7	2.1	2.7	1.8	1.6	1.5	3.1	2.7	2.1	1.7	1.5	1.5
<b>Final Domestic Demand</b>	1.1	3.0	2.9	1.8	1.6	1.6	1.3	4.1	2.0	1.7	1.5	1.6
<b>Exports</b>	1.0	0.9	1.8	3.1	2.8	2.8	0.7	0.3	3.3	3.1	2.7	2.8
<b>Imports</b>	-1.0	3.0	1.9	2.8	2.7	2.6	-1.5	4.4	2.8	2.8	2.6	2.6
<b>Change in Non-farm Inventories (2007 \$Bn)</b>	0.9	12.3	8.2	6.5	6.0	5.9	---	---	---	---	---	---
<b>Final Sales</b>	1.8	2.4	2.6	1.9	1.6	1.6	2.0	2.5	2.2	1.8	1.6	1.7
<b>International Current Account Balance (\$Bn)</b>	-65.4	-66.2	-67.7	-49.7	-42.6	-41.4	---	---	---	---	---	---
% of GDP	-3.2	-3.1	-3.0	-2.1	-1.8	-1.7	---	---	---	---	---	---
<b>Pre-tax Corp. Profits</b>	-1.9	20.1	4.9	5.7	5.5	5.5	17.3	8.1	6.1	5.5	5.5	5.5
% of GDP	11.2	12.8	12.9	13.1	13.3	13.6	---	---	---	---	---	---
<b>GDP Deflator (y/y)</b>	0.6	2.1	1.6	2.1	1.9	1.9	2.0	1.3	2.0	2.0	1.9	1.9
<b>Nominal GDP</b>	2.0	5.2	4.1	3.9	3.6	3.6	3.9	4.5	4.1	3.8	3.5	3.6
<b>Labour Force</b>	0.8	1.1	0.8	0.6	0.6	0.6	0.9	1.0	0.7	0.6	0.6	0.6
<b>Employment</b>	0.7	1.8	1.3	0.6	0.5	0.6	1.1	1.9	0.8	0.5	0.5	0.6
<b>Change in Empl. ('000s)</b>	134	325	234	108	95	107	197	346	149	97	93	121
<b>Unemployment Rate (%)</b>	7.0	6.4	6.0	6.0	6.1	6.2	---	---	---	---	---	---
<b>Personal Disp. Income</b>	2.2	4.4	4.5	3.3	2.8	2.8	3.4	3.7	4.0	3.0	2.8	2.8
<b>Pers. Savings Rate (%)</b>	3.5	2.8	3.2	3.2	3.2	3.1	---	---	---	---	---	---
<b>Cons. Price Index (y/y)</b>	1.4	1.5	1.8	2.0	2.0	2.0	1.4	1.5	2.0	2.1	2.0	2.0
<b>CPIX (y/y)**</b>	1.9	1.1	1.4	1.9	2.0	2.0	1.5	1.0	1.7	2.0	2.0	2.0
<b>BoC Inflation (y/y)**</b>	1.8	1.5	1.8	2.0	2.0	2.0	1.7	1.6	1.8	2.0	2.0	2.0
<b>Housing Starts ('000s)</b>	199	222	198	193	197	205	---	---	---	---	---	---
<b>Home Prices (y/y)</b>	10.6	4.0	0.1	2.0	2.6	3.4	5.6	4.5	0.2	2.1	3.1	3.2
<b>Real GDP / worker (y/y)</b>	0.7	1.2	1.1	1.2	1.1	1.0	0.9	1.3	1.3	1.2	1.1	1.0

F: Forecast by TD Economics, December 2017.

\*Intellectual Property Products. \*\* CPIX: CPI ex. 8 most volatile components. BoC Inflation: avg. of CPI-trim, CPI-median, and CPI-common.

Home price measure shown is the CREA Composite Sale Price.

Sources: Statistics Canada, Bank of Canada, CMHC, CREA, TD Economics.

INTEREST RATE OUTLOOK												
	Annual Average						End of Period					
	16	17F	18F	19F	20F	21F	16	17F	18F	19F	20F	21F
<b>U.S. FIXED INCOME</b>												
Fed Funds Target Rate (%)*	0.55	1.25	1.75	2.40	2.75	2.75	0.75	1.50	2.00	2.75	2.75	2.75
3-mth T-Bill Rate (%)	0.30	1.05	1.65	2.35	2.65	2.65	0.51	1.35	1.85	2.65	2.65	2.65
2-yr Govt. Bond Yield (%)	0.80	1.50	2.15	2.60	2.70	2.70	1.20	1.80	2.35	2.70	2.70	2.70
5-yr Govt. Bond Yield (%)	1.30	2.00	2.50	2.85	2.85	2.85	1.93	2.20	2.65	2.85	2.85	2.85
10-yr Govt. Bond Yield (%)	1.85	2.35	2.80	3.00	3.00	3.00	2.45	2.40	2.95	3.00	3.00	3.00
10-yr-2-yr Govt. Spread (%)	1.05	0.85	0.65	0.40	0.30	0.30	1.25	0.60	0.60	0.30	0.30	0.30
<b>CANADIAN FIXED INCOME</b>												
Overnight Target Rate (%)	0.50	0.75	1.40	1.90	2.40	2.50	0.50	1.00	1.50	2.00	2.50	2.50
3-mth T-Bill Rate (%)	0.50	0.80	1.45	1.95	2.40	2.50	0.46	0.95	1.63	2.13	2.50	2.50
2-yr Govt. Bond Yield (%)	0.60	1.25	1.90	2.35	2.50	2.55	0.74	1.55	2.10	2.45	2.55	2.55
5-yr Govt. Bond Yield (%)	0.75	1.50	2.05	2.50	2.70	2.70	1.11	1.70	2.25	2.65	2.70	2.70
10-yr Govt. Bond Yield (%)	1.25	1.85	2.35	2.75	2.85	2.85	1.72	1.90	2.55	2.80	2.85	2.85
10-yr-2-yr Govt. Spread (%)	0.65	0.60	0.45	0.40	0.35	0.30	0.98	0.35	0.45	0.35	0.30	0.30
*Upper bound of target range. F: Forecast by TD Economics as at December 2017.												
Annual averages are the average of the four quarterly end-of-period forecasts.												
Source: Bank of Canada, Bloomberg, Statistics Canada, TD Economics.												

## Disclaimer

This report is provided by TD Economics. It is for informational and educational purposes only as of the date of writing, and may not be appropriate for other purposes. The views and opinions expressed may change at any time based on market or other conditions and may not come to pass. This material is not intended to be relied upon as investment advice or recommendations, does not constitute a solicitation to buy or sell securities and should not be considered specific legal, investment or tax advice. The report does not provide material information about the business and affairs of TD Bank Group and the members of TD Economics are not spokespersons for TD Bank Group with respect to its business and affairs. The information contained in this report has been drawn from sources believed to be reliable, but is not guaranteed to be accurate or complete. This report contains economic analysis and views, including about future economic and financial markets performance. These are based on certain assumptions and other factors, and are subject to inherent risks and uncertainties. The actual outcome may be materially different. The Toronto-Dominion Bank and its affiliates and related entities that comprise the TD Bank Group are not liable for any errors or omissions in the information, analysis or views contained in this report, or for any loss or damage suffered.

**MANTOBA HYDRO**  
**DEPRECIATION AND AMORTIZATION EXPENSE**

ELGrates (no net salvage)

(in thousands)

	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>
	<b>Actual</b>	<b>Forecast</b>	<b>Forecast</b>
<b>PROPERTY, PLANT &amp; EQUIPMENT</b>			
<b>Generation</b>			
Hydraulic Generating Stations	115 675	118 291	120 540
Thermal Generating Stations	15 596	15 818	15 911
Diesel Generating Stations	2 079	2 029	1 986
	<u>\$ 133 350</u>	<u>\$ 136 138</u>	<u>\$ 138 437</u>
<b>Transmission</b>			
Transmission	14 203	34 382	40 830
	<u>\$ 14 203</u>	<u>\$ 34 382</u>	<u>\$ 40 830</u>
<b>Stations</b>			
Substations	92 264	139 497	159 426
Transformers	1 776	1 784	1 896
	<u>\$ 94 040</u>	<u>\$ 141 281</u>	<u>\$ 161 322</u>
<b>Distribution</b>			
Subtransmission Lines	7 308	7 642	7 988
Distribution Lines	61 053	65 651	68 785
Meters & Transformers	5 884	5 853	5 843
	<u>\$ 74 245</u>	<u>\$ 79 146</u>	<u>\$ 82 616</u>
<b>Other</b>			
Communications	20 203	22 328	23 169
Motor Vehicles	12 040	13 001	13 589
Structures & Improvements	9 916	10 078	10 277
General Equipment	16 984	16 866	16 596
Miscellaneous	(3 555)	(3 650)	(3 683)
Corporate Allocation	(1 371)	(1 372)	(1 372)
	<u>\$ 54 217</u>	<u>\$ 57 251</u>	<u>\$ 58 576</u>
<b>Total Depreciation on PP &amp; E</b>	<b><u>\$ 370 055</u></b>	<b><u>\$ 448 198</u></b>	<b><u>\$ 481 781</u></b>
<b>INTANGIBLES</b>			
Computer Development	21 388	22 733	24 078
Easements	1 894	2 255	2 334
<b>Total Amortization on Intangibles</b>	<b><u>\$ 23 282</u></b>	<b><u>\$ 24 988</u></b>	<b><u>\$ 26 412</u></b>
Loss on Disposition	8 588	-	-
<b>Total Loss on Disposition</b>	<b><u>\$ 8 588</u></b>	<b><u>\$ -</u></b>	<b><u>\$ -</u></b>
<b>Total Depreciation &amp; Amortization Expense</b>	<b><u>\$ 401 925</u></b>	<b><u>\$ 473 186</u></b>	<b><u>\$ 508 193</u></b>
Year over year \$ change		\$ 71 262	\$ 35 007
Year over year % change		17.7%	7.4%



**MANITOBA HYDRO**  
**DEPRECIATION AND AMORTIZATION EXPENSE**

ASL rates (no net salvage)

(in thousands)

	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>
	<b>Actual</b>	<b>Forecast</b>	<b>Forecast</b>
<b>PROPERTY, PLANT &amp; EQUIPMENT</b>			
<b>Generation</b>			
Hydraulic Generating Stations	107 398	110 128	112 303
Thermal Generating Stations	14 660	14 869	14 958
Diesel Generating Stations	1 832	1 782	1 733
	<u>\$ 123 890</u>	<u>\$ 126 779</u>	<u>\$ 128 994</u>
<b>Transmission</b>			
Transmission	13 362	33 962	39 780
	<u>\$ 13 362</u>	<u>\$ 33 962</u>	<u>\$ 39 780</u>
<b>Stations</b>			
Substations	83 341	125 983	144 277
Transformers	1 729	1 754	1 859
	<u>\$ 85 069</u>	<u>\$ 127 737</u>	<u>\$ 146 136</u>
<b>Distribution</b>			
Subtransmission Lines	5 805	6 121	6 427
Distribution Lines	53 168	56 048	58 835
Meters & Transformers	5 599	5 545	5 514
	<u>\$ 64 572</u>	<u>\$ 67 715</u>	<u>\$ 70 776</u>
<b>Other</b>			
Communications	18 623	20 542	21 251
Motor Vehicles	11 000	11 891	12 457
Structures & Improvements	9 302	9 456	9 649
General Equipment	16 976	16 807	16 486
Miscellaneous	(3 673)	(3 842)	(3 885)
Corporate Allocation	(1 371)	(1 372)	(1 372)
	<u>\$ 50 857</u>	<u>\$ 53 483</u>	<u>\$ 54 587</u>
<b>Total Depreciation on PP &amp; E</b>	<u><b>\$ 337 749</b></u>	<u><b>\$ 409 676</b></u>	<u><b>\$ 440 272</b></u>
<b>INTANGIBLES</b>			
Computer Development	21 122	22 402	23 676
Easements	1 894	2 255	2 334
<b>Total Amortization on Intangibles</b>	<u><b>\$ 23 016</b></u>	<u><b>\$ 24 657</b></u>	<u><b>\$ 26 009</b></u>
Loss on Disposition	8 588	-	-
<b>Total Loss on Disposition</b>	<u><b>\$ 8 588</b></u>	<u><b>\$ -</b></u>	<u><b>\$ -</b></u>
<b>Total Depreciation &amp; Amortization Expense</b>	<u><b>\$ 369 353</b></u>	<u><b>\$ 434 333</b></u>	<u><b>\$ 466 281</b></u>
Year over year \$ change		\$ 64 979	\$ 31 949
Year over year % change		17.6%	7.4%



David R. Moeller  
Senior Attorney  
218-723-3963  
[dmoeller@allete.com](mailto:dmoeller@allete.com)

November 7, 2018

**VIA ELECTRONIC FILING**

Daniel P. Wolf, Executive Secretary  
Minnesota Public Utilities Commission  
350 Metro Square Building, Suite 350  
St. Paul, MN 55101

Re: Route Permit Compliance Filing Report and Complaint Report for October 2018  
Great Northern 500kV Transmission Line Project  
**Docket No. E015/TL-14-21**

Dear Mr. Wolf:

On April 11, 2016, the Minnesota Public Utilities Commission (“Commission”) granted Minnesota Power (“Permittees”) a route permit for the Great Northern Transmission Line (“GNTL”) Project in northern Minnesota.

Per Route Permit Attachment B, the Status Report for October 2018 is attached. Additional information on the schedule and status of the Project is available at: <http://www.greatnortherntransmissionline.com>.

Per the Complaint Handling Procedures established for this Project, the Permittee shall report to the Commission (via electronic filing) a summary of all complaints, including substantial complaints received or resolved during the preceding month:

Minnesota Power was forwarded an informal complaint from Commission Staff from a private landowner along the GNTL right-of-way and is working through the issues raised.

Thank you for your consideration of this matter. Please feel free to give me a call at 218-723-3963 if you have any questions regarding this filing.

Sincerely,

David Moeller

DRM: sr  
Attach.



# Great Northern Transmission Line Project

## Docket No. E-015/TL-14-21

### Monthly Status Report and Complaint Documentation

#### Route Permit Attachment B

October 2018

## Transmission Line Activities

### Segment 1:

Clearing (100% Complete)

Foundations

- Almita installed test helical piles at structure A-19.
- Braun performed soil borings and installed piezometers in Segment 1.

Overhead

- Hooper-Wilson began matting fly yards in Segment 1.
- Materials were delivered to the Warroad Yard.

### Segment 2:

Clearing (100% Complete)

Foundations (100% Complete)

Overhead

- Hooper-Wilson continued to mat fly yards in Segment 2.
- Hooper-Wilson continued receiving materials in the Segment 2 material yard.
- Hooper-Wilson continued to assemble Segment 2 structures in October. (62% Complete)
- No Segment 2 structures were set in October. (22% Complete)

### Segment 3:

Clearing (100% Complete)

Foundations (100% Complete)

Overhead

- Hooper-Wilson continued removing fly yards when complete with structure assembly and setting.
- Hooper-Wilson assembled the final structure in Segment 3. (100% Complete)
- Hooper-Wilson erected the final structure in Segment 3. (100% Complete)
- Hooper-Wilson continued to install wire in October. (53% Complete)

### Segment 4:

Clearing (59%)

- NCI continued clearing activities in October focusing on clearing centerline for geotechnical access.

Soil Borings (86% Complete)

- Braun Intertec did not perform any geotechnical borings in October.

Foundations

- Almita installed test helical piles at structure D-709.

## Substation Activities

### Iron Range Substation:

- 230 yard grounding. Below grade approximately 98%, above grade approximately 50% complete.
- Below grade conduit. Below grade conduit installation is approximately 90% complete.
- Above grade conduit. Above grade installation is approximately 35% complete.
- Structural Steel Erection. Dead end structures erected and detailed. Switch support and other steel structures being erected. Overall steel erection approximately 60% complete.
- Completed site prep punch list and 3:1 slope restoration work.
- Rock surfacing installed in selected areas to prevent erosion.
- Set breakers, SSVT, begin switch and CCVT installation, approximately 40% complete.
- Complete cable tray drain installation, begin cable tray install, overall 70% complete.

### Warroad River Series Compensation Station:

- No activity occurred in October.

## Safety

- One recordable injury occurred in October. A wire crew was using a picking lip to pull wire to snubs. The picking lip slid and struck an employee in the elbow causing a laceration requiring sutures to close the wound.

## Environmental

- SWPPP inspections were ongoing throughout all Segments.
- A hydraulic hose on a bombardier was damaged causing approximately 5 gallons of fluid to contact the ground. All contaminated soils and vegetation were cleaned up and properly disposed of.

## Complaints

- Minnesota Power was forwarded an informal complaint from Commission Staff from a private landowner along the GNTL right-of-way and is working through the issues raised.

Photo 1: Segment 1 – Test Helical Pile Install



Photo 2: Segment 2 Tower Assembly



Photo 3: Segment 3 – Insulator Installation



Photo 4: Segment 3 – Dolly Installation



Photo 5: Segment 4 – ROW Clearing

