

## ECONOMIC OUTLOOK

2016-2037

ECONOMIC ANALYSIS DEPARTMENT

WINTER, 2016

EO16-2



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## PREFACE

The information in the Economic Outlook is used in several areas of the corporation including load forecasting, project evaluation, and financial planning.

The document is derived from the following forecasting sources from information available in early spring 2016: 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 Cdn\$/US\$ exchange rates has been updated to reflect June 2016 rates. As a final step prior to publication of the Economic Outlook, the forecasts for short-term and long-term benchmark interest rates have been updated in December of 2016 to provide the most up to date outlooks for this key assumption which will be incorporated into the Corporation's Integrated Financial Forecast for 2016.

This forecast is based on what was known and could reasonably be foreseen at the time of its preparation. Users should be cognizant that conditions can and do change and should apply sensitivity analysis accordingly.

The economic and financial indicators are presented in both calendar year and fiscal year format. Most of the text relates to calendar year information with calendar year data provided in Appendix C. Fiscal year data has been derived from calendar year data and is presented in Appendix B.



## EXECUTIVE SUMMARY

### Recent Economic Performance

The recent economic performance of several key economic indicators for Manitoba, Canada, and the U.S. for the past five years is provided on page 2.

In 2015, Manitoba and Canada real GDP growth declined relative to 2014, while U.S. growth remained unchanged relative to the previous year.

In 2015, Manitoba, Canada, and U.S. CPI increased by a modest 1.2%, 1.1%, and 0.1% respectively.

Manitoba and Canada population growth rates declined by 0.2% in 2015 relative to 2014 while employment growth rates rebounded in Manitoba from 0.1 % to 1.5% and increased moderately in Canada from 0.6% to 0.8% over the same period. Manitoba's unemployment rate experienced an increase in 2015 relative to 2014 while Canada's unemployment rate held steady at 6.9% and the U.S. saw a drop in the unemployment rate over the past year.

Although the Canadian and U.S. short-term interest rates (90 Day T-Bill rate) remain historically low, Canada experienced a further drop in 2015 relative to 2014 while the U.S. saw an increase over the same period. Canadian and U.S. long bond rates also declined in 2015 relative to 2014. The Canadian dollar depreciated from 1.10 Cdn\$/US\$ in 2014 to 1.28 Cdn\$/US\$ in 2015.

### Future Outlook of Economic Performance

The outlook of several key economic indicators for Manitoba and Canada is provided on page 3.

Relative to last year's outlook, the long-term average annual growth in real GDP is expected to remain the same for Manitoba, and be lower for both in Canada and the U.S.

The forecast of Manitoba CPI is lower than last year with the long-term outlook projected to be 1.7% compared to last year's long-term rate of 2.1%. Canada and U.S. long-term CPI are expected to escalate at 1.9% and 2.2% respectively.

Manitoba and Canada's population are expected to experience long-term annual growth rates of 0.9%, and 0.8%, respectively.

Relative to EO2015, this year's outlook for housing starts in Manitoba has decreased by 718 units per year from 6960 units to 6242 units. Over the forecast period, Manitoba residential electricity customers are expected to increase on average by 4,790 per year as compared to last year's forecast of 5,850 residential customers per year.

The expectation is that Canada's 90 Day T-Bill and long bond rates will increase at a slower rate and will remain lower than projected in last year's forecast. Similarly, the U.S. 90 Day T-Bill and long bond rates are also expected to increase at a slower rate than last year's forecast with the U.S. long bond rate resulting in a higher forecast in the longer term as compared to EO2015. In EO2016, the Canadian dollar is forecast to be at 1.32 Cdn\$/US\$ by 2016 and appreciate to 1.15 Cdn\$/US\$ in the long run.

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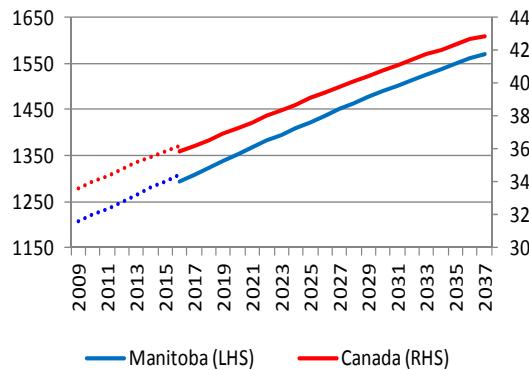
**RECENT ECONOMIC PERFORMANCE**

	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Manitoba</b>					
Real GDP – % chge	2.5	3.0	2.4	2.3	2.0
CPI – % chge	3.0	1.6	2.2	1.9	1.2
Population – % chge	1.0	1.4	1.2	1.2	1.0
Employment – % chge	0.4	1.6	0.7	0.1	1.5
Unemployment rate – %	5.5	5.3	5.4	5.4	5.6
Residential customers – '000s	452	458	464	470	475
Housing starts – Units	6,083	7,242	7,465	6,220	5,501
<b>Canada</b>					
Real GDP – % chge	3.1	1.7	2.2	2.5	1.2
CPI – % chge	2.9	1.5	0.9	2.0	1.1
Population – % chge	1.0	1.2	1.2	1.1	0.9
Employment – % chge	1.5	1.3	1.5	0.6	0.8
Unemployment rate – %	7.5	7.3	7.1	6.9	6.9
Housing starts – '000s	194	215	188	189	196
90 Day T-Bill rate – %	0.93	0.96	0.96	0.91	0.53
LT Bond 10 Yr rate – %	2.88	1.95	2.32	2.26	1.59
C\$/US\$	0.99	1.00	1.03	1.10	1.28
<b>United States</b>					
Real GDP – % chge	1.6	2.2	1.5	2.4	2.4
CPI – % chge	3.1	2.1	1.5	1.6	0.1
GDP Price Deflator – % chge	2.1	1.8	1.6	1.6	1.0
90 Day T-Bill rate – %	0.05	0.09	0.05	0.05	0.17
LT Bond 10 Yr rate – %	2.86	1.89	2.41	2.57	2.18
Unemployment rate – %	8.9	8.1	7.4	6.2	5.3

### SNAPSHOT OF FUTURE OUTLOOK

**Population**

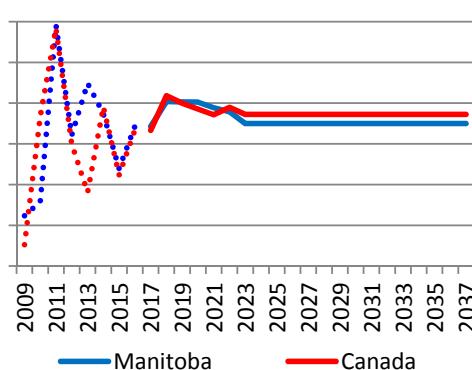
(Thousands)



**Consumer Price Index**

(Millions)

(% chge)

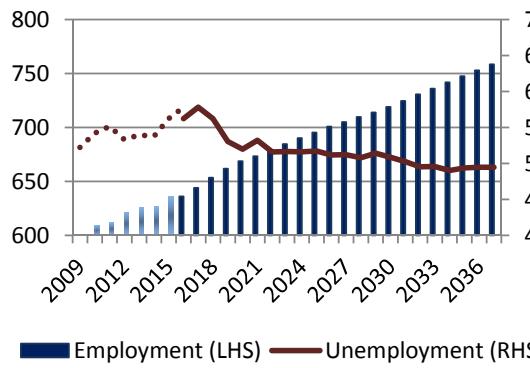


**Manitoba Employment**

(Thousands)

(%)

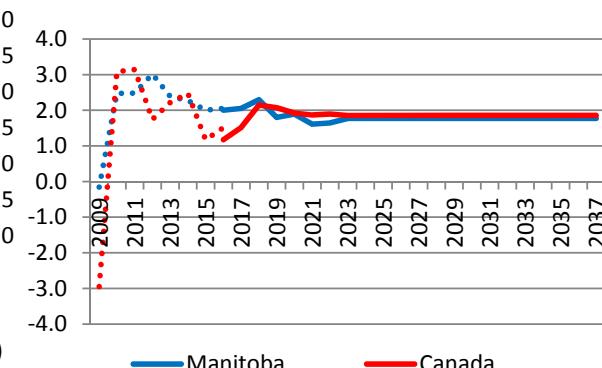
(% chge)



**Real GDP Growth Rate**

(%)

(% chge)

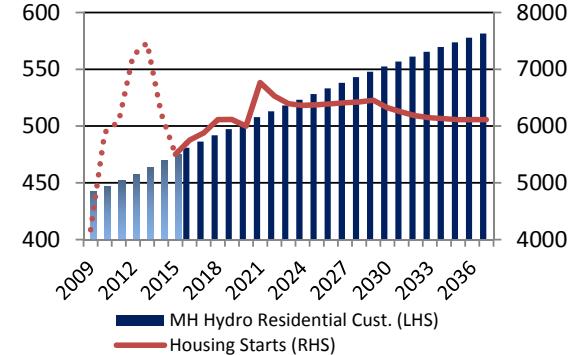


**Manitoba Housing**

(Thousands)

(Units)

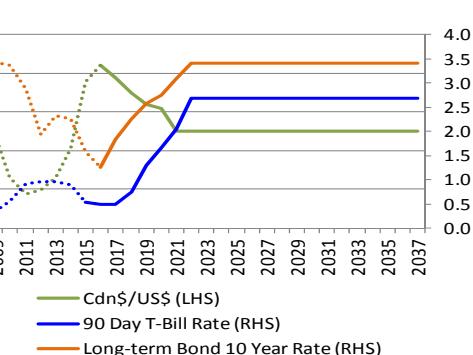
(%)



**Canadian Financial Rates**

(Cdn\$/US\$)

(%)



## FORECASTS OF KEY ECONOMIC AND FINANCIAL INDICATORS

The forecasts reported in the Economic Outlook 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. For the purpose of the 2016 Economic Outlook, the forecasting sources included IHS, The Conference Board of Canada, Spatial Economics, BMO Nesbitt Burns, CIBC, Desjardins, Laurentian, Royal Bank of Canada, Scotiabank, National Bank of Canada, and TD Bank.

The following sections of the report provide tables, graphs, and written summaries of the data behind the forecasts for the following key economic indicators:

- Employment,
- Population,
- Housing,
- Manitoba Disposable Income
- Real Gross Domestic Product Growth Rate,
- Pricing – CPI and GDP Implicit Price Deflator,
- Short-term and Long-term Interest Rates, and
- Cdn\$/US\$ Exchange Rate

Appendix B and C of this report provide the history and forecasts for key economic indicators for Manitoba and Canada on a fiscal year basis and a calendar year basis, respectively.

## EMPLOYMENT

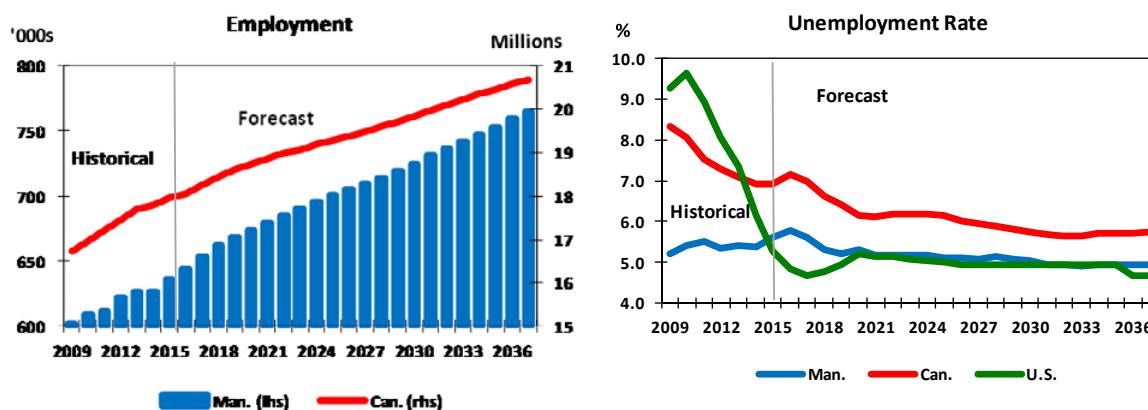
### Recent performance:

Manitoba's total employment expanded by 9500 jobs in 2015 or 1.5% relative to 2014, highest among the Canadian provinces and almost doubles the national average of 0.8%. With little direct exposure to oil, the primary goods producing sector made some gains this past year as construction added 1800 jobs and manufacturing posted gains of 900 persons of employment. The services producing sector gained approximately 8,800 persons of employment with the educational services, health care, and accommodation sectors contributing the highest gains. In 2015 Manitoba's unemployment rate was 5.6%, second lowest of the Canadian provinces after Saskatchewan and below the 6.9% national average.

	Manitoba			Canada			United States		
	2005	2015	% chge 15/14	2005	2015	% chge 15/14	2005	2015	% chge 15/14
Population 15+ - '000s	885	987	1.1	25,755	29,280	1.0	226,083	250,801	1.2
Participation Rate - %	68.4	68.3		67.1	65.8		66.0	62.6	
Labour Force - '000s	605	674	1.8	17,292	19,278	0.8	149,289	157,126	0.8
Employment - '000s	577	636	1.5	16,124	17,947	0.8	141,710	148,839	1.7
Unemployment Rate - %	4.7	5.6		6.8	6.9		5.1	5.3	
Employment Rate - %	65.1	64.4		62.6	61.3		62.7	59.3	

### Outlook:

As compared to Saskatchewan, the employment outlook for Manitoba is much brighter. Due to the relatively large size of the manufacturing sector, big gains in employment are expected from the large transit sector orders from various municipalities and U.S. cities. Manufacturing output is expected to benefit further in the medium term from the combination of a weaker Canadian dollar and strong U.S. demand. Employment growth is expected to increase over most of the medium term and slowing to 0.8% per year over the longer term period. This is in line with overall economic growth averaging 1.8% annually. Over the 2016-2037 period, Canada and U.S. employment levels are forecast to both grow annually at 0.6%. Manitoba's unemployment rate is expected to remain stable in the medium term and trend downwards to 4.9% by 2037.



## POPULATION

### Recent performance:

Manitoba's total population increased by 13,136 persons in 2015 or 1.0% relative to 2014. Total net migration (net international plus net interprovincial) to Manitoba was 10,404 people. Last year's Manitoba share of Canadian immigrants reached a peak at 6.1% bringing in 14,700 immigrants.

Year	Mb Pop'n (000s)	Mb Pop'n. Changes
1997	1,136	1,932
1998	1,137	1,361
1999	1,142	4,959
2000	1,147	4,865
2001	1,151	4,137
2002	1,157	5,186
2003	1,164	6,892
2004	1,173	9,695
2005	1,178	5,073
2006	1,184	5,228
2007	1,189	5,842
2008	1,198	8,408
2009	1,209	10,815
2010	1,221	12,341
2011	1,234	12,798
2012	1,250	16,678
2013	1,265	14,936
2014	1,280	14,900
2015	1,293	13,136

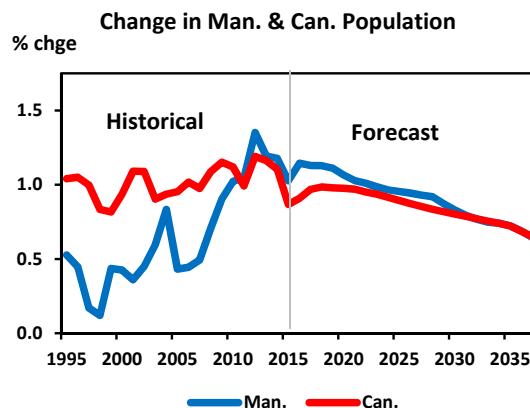
### Outlook:

Manitoba's population is expected to grow on average at 0.9% or 13,040 people annually over the forecast period. During this time, net interprovincial migration is expected to be negative while net international migration gains will continue to offset the outflow. Positive net migration will also help to offset the gradual slowing of the natural rate of increase, resulting in solid population growth over the forecast period.

As the average age of the population increases, the overall consensus of the forecasting sources is that Manitoba will need to continue its strong immigration policy in order for population growth to clear the labour market as the aging population retires.

EO2016 forecasts approximately 2,910 people lower than the growth rate forecast in EO2015. The main reasons for the drop in the forecast of the population growth rate this year are: the exclusion of Manitoba Bureau of Statistics' outlook in this year's consensus forecast as they did not provide a forecast for this year - historically MBS' population forecast has driven the consensus up as they tend to be more optimistic; and the forecasted weak economic growth at the national level driving down the demand for foreign workers.

Canada's population is expected to grow on average at 0.8% annually or 328,000 people per year over the forecast period. In early 2016, there was an announcement made by the Federal immigration minister with plans to welcome at least 280,000 immigrants by the end of 2016 (an increase of about 20,000 from the previous Conservative government levels). The consensus forecasts were released prior to this announcement and therefore, not included in this year's EO2016 assumptions.



## HOUSING

### Recent performance:

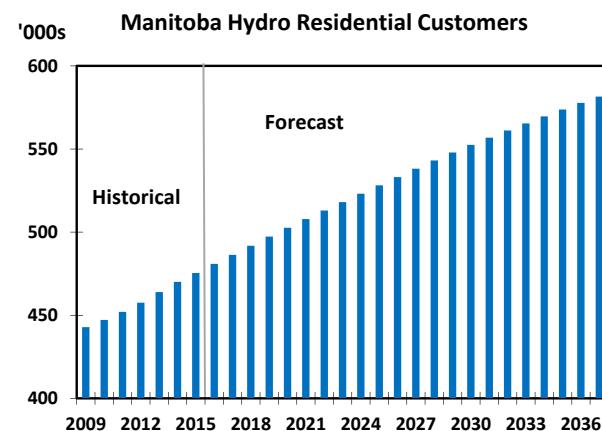
Manitoba housing starts decreased by 11.6% in 2015 relative to the previous year and lower than the national increase of 3.3%. In 2015, single starts were down 17.6% (1,870 units) while multiples were up 8.4% (3,041 units). With respect to Manitoba Hydro metered residential customers, there was an increase of 5,377 units in 2015 relative to 2014.

### Outlook:

The primary driver of housing in Manitoba is the population, while the other main driver is growth in the economy. EO2016 forecasts that the inflow of international immigrants to Manitoba will sustain population growth leading to a rise in housing starts. This in turn should leave the housing sector in better shape compared to most other provinces. The forecasted average annual housing starts in Manitoba of 6,242 units per year in EO2016 is 718 units lower than the average annual forecast predicted in EO2015.

The overall impact to Manitoba Hydro residential customers in this year's forecast is an increase of 4790 units per year or 0.9% annually over the 2016-2037 period, down approximately 1060 units annually from EO2015. Please refer to Appendices B and C for the forecasts of Manitoba residential customers expressed in fiscal and calendar years, respectively.

	Man. Housing Starts	Man. Res. Cust. '000s	Can. Housing Starts '000s
1995	1,963	398	111
1996	2,318	400	125
1997	2,612	403	147
1998	2,895	405	137
1999	3,133	408	150
2000	2,560	410	152
2001	2,963	412	163
2002	3,617	415	205
2003	4,206	418	218
2004	4,440	421	233
2005	4,731	425	225
2006	5,028	429	227
2007	5,738	433	228
2008	5,537	439	211
2009	4,174	443	149
2010	5,888	447	190
2011	6,083	452	194
2012	7,242	458	215
2013	7,465	464	188
2014	6,220	470	189
2015	5,501	475	196



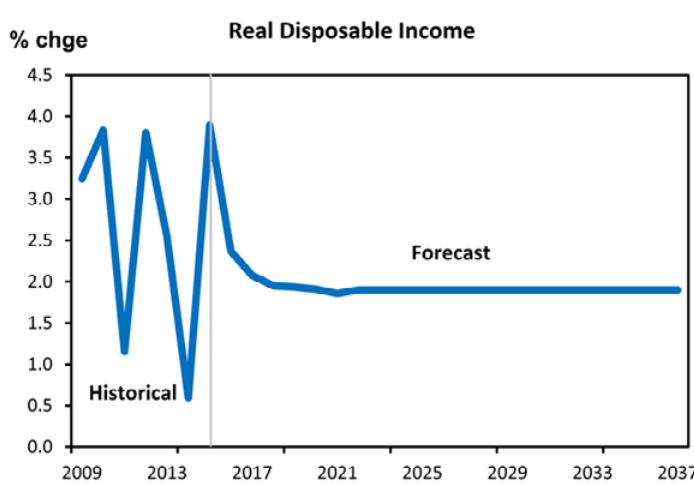
## MANITOBA DISPOSABLE INCOME

### Recent performance:

Early estimates for Manitoba household disposable income in 2015 was a rise of 5.1% (or 3.9% in real terms) from the previous year. The drop in fuel prices, low inflation and the advance of wages helped contribute to this growth.

### Outlook:

Over the medium term, Manitoba's labour market is expected to tighten putting upward pressure on wage rates. The impact of an increase in real wage growth (calculated as wage inflation minus CPI inflation) to real disposable income is a long-term rate of 1.9% over the forecast period in EO2016. At the time of publication there was no commitment made by the provincial government on the provincial sales tax, and therefore, its effect on the forecast of disposable income was not included in the assumptions.



Real Disposable Income	
Year	% chge
1991	-3.6
1992	0.2
1993	-0.7
1994	0.1
1995	-1.2
1996	-0.4
1997	-1.0
1998	2.4
1999	3.6
2000	0.2
2001	3.0
2002	2.8
2003	0.1
2004	2.8
2005	-0.4
2006	4.1
2007	4.7
2008	3.9
2009	3.2
2010	3.8
2011	1.2
2012	3.8
2013	2.5
2014	0.6
2015	3.9
2016	2.4
2026	1.9
2036	1.9

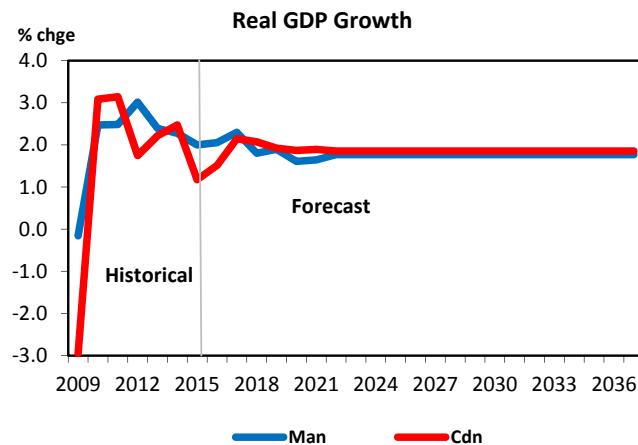
## REAL GROSS DOMESTIC PRODUCT

### Recent performance:

Early estimates indicate that Manitoba's real GDP grew by 2.0% in 2015, down from the 2.3% it experienced in 2014. Although the decline in oil prices negatively affected the mining sector in the province, Manitoba did benefit, on net, from the oil price shock, resulting in third highest growth among the Canadian provinces and above the national average of 1.2%. Last year, the key industries driving growth in Manitoba were construction, manufacturing and real estate.

### Outlook:

The consensus survey expects Manitoba economic growth to advance over the medium term due to its sturdy and diverse economy. Benefits from a low oil environment, a weak dollar, and a strong economy south of the border are expected to support growth in all sectors of the province particularly in the construction and agricultural sectors. U.S. demand for Manitoba manufactured goods, increases in business investment, particularly in the utilities industry, and a positive outcome of the free trade negotiations with Asian-Pacific markets on agriculture are also expected to make healthy gains in the near term. EO2016 forecasts that economic growth in Manitoba is expected to increase strongly in the near term by 2.1% in 2016, and gradually decline in the medium to long-term at 1.8% over the forecast period.



## PRICING: CONSUMER PRICE INDEX AND GDP PRICE DEFULATOR

### Recent performance:

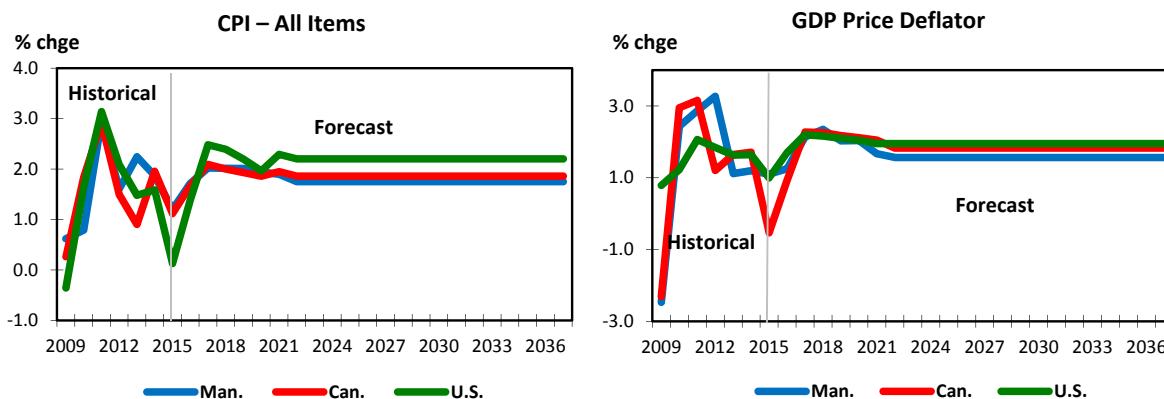
The Consumer Price Index (CPI) is based on a basket of household goods while the GDP price deflator is based on all goods produced domestically. Over the past year, tobacco & alcohol, food, transportation and household operations boosted overall consumer prices in Manitoba while transportation and energy put downward pressure on prices. In Canada, the majority of components boosted overall consumer prices while transportation and energy put downward pressure on prices. In 2015, Manitoba and Canada CPI increased by 1.2% and 1.1%, respectively while the U.S. CPI increased by 0.1%. Manitoba GDP price deflator increased by 1.1% while Canada's GDP price deflator contracted by -0.5%. U.S. GDP price deflator in comparison, increased at a stronger rate at 1.0% in 2015.

**2015 Consumer Price Index**  
% chge

	Manitoba	Canada	U.S.
All Items – CPI	1.2	1.1	0.1
Food	3.4	3.7	1.8
Shelter	1.8	1.1	
Household	2.5	2.7	2.1
Clothing	2.3	1.5	-1.3
Transportation	-2.5	-3.0	-7.8
Health	1.3	1.3	2.6
Recreation	1.7	1.9	0.3
Other Deflators:			
Energy	-9.7	-9.6	-16.7
GDP Price Deflator	1.1	-0.5	1.0

### Outlook:

EO2016 forecasts Manitoba CPI to be lower than EO2015 with the long-term outlook projected to be 1.7% compared to last year's long-term rate of 2.1%. This year's long-term outlook is a consensus of two sources with opposing views. Conference Board of Canada expects prices to grow at a rate of 2.1% over the long-term while Spatial Economics expects prices to grow at a rate of 1.3% to 1.5% annually. The drop in the long-term view since last year is driven by Spatial Economics' downward revision to their previous outlook due to the assumption of falling commodity prices and weaker economic growth. The forecast for long-term Manitoba GDP price deflator is expected to be 1.7%, while Canada and the U.S. GDP price deflators are expected to be 1.8% and 2.0% respectively.

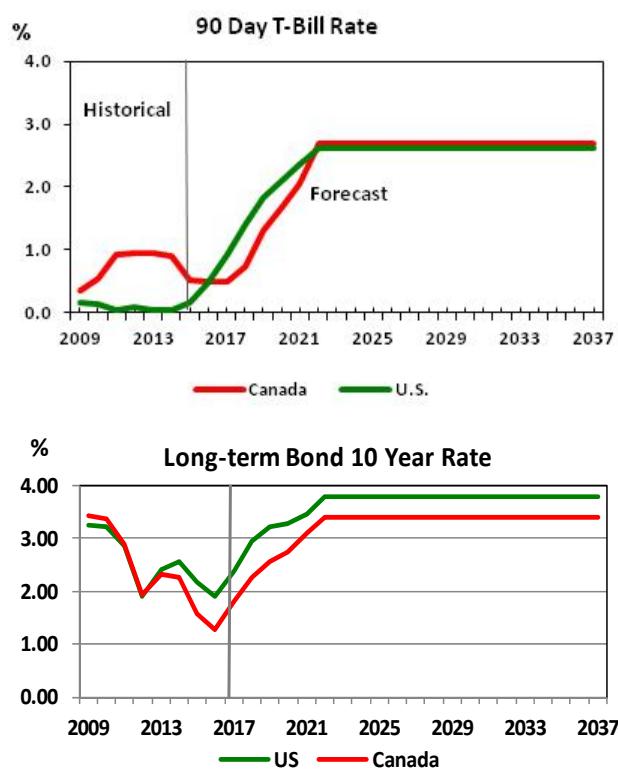


## INTEREST RATES

### Recent performance:

In 2015, the Bank of Canada dropped the overnight policy rate twice, from 1.00% to 0.75% on January 21 and on July 15 by another 25 basis points to 0.5%. The decision to drop the rates was in response to continued and sustained drops in oil prices affecting negative outcomes for economic growth and inflation in Canada. The 90 Day T-bill rate dropped to 0.53% in 2015 from 0.91% in 2014, while the 10 Yr bond rate also decreased from 2.26% in 2014 to 1.59% over the same period.

### Outlook:



The drop in the Bank of Canada target overnight policy rate has caused the lowering of long-term bond yields with the expectation that it will take longer to reach an equilibrium rate. The consensus survey expects the Bank of Canada to keep rates steady for the next year with a move to increase interest rates in 2018. The U.S. Federal Reserve approved a quarter-point to half point increase in its target funds rate range in mid December 2016 which is the first increase since the rate was taken to zero in 2008 as a result of the financial crisis. EO2016 forecasts that short and long-term benchmark interest rates will gradually rise over the last half of the forecast period. Canadian 90 Day T-Bill rates is expected to trend from 0.50% in 2016 to 2.70% in the long term. U.S. 90 Day T-Bill rates is expected to rise from 0.45% in 2016 to 2.65% in the long term. Canada and U.S. long bond rates are forecasted to trend up to 3.40% and 3.80%, respectively.

For a description on the development of Manitoba Hydro's long term interest rate forecast and how it is used to project finance expense in the IFF please refer to Appendix A. For forecasts of all the benchmark interest rates that are used as the basis to develop these long term interest rates please refer to Appendix B2 and C2.

## EXCHANGE RATE

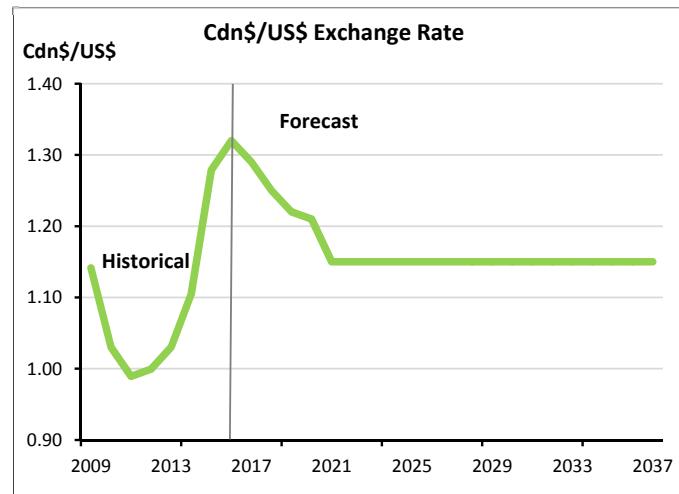
### Recent performance:

In 2015 the Canadian dollar depreciated relative to the U.S. dollar by 15.8% relative to 2014. The more recent decline of the Canada-U.S. dollar has been associated with a continued softening of commodity prices, particularly oil prices, and the worsening current account balance. Renewed confidence in the U.S. currency and the strengthening U.S. economy are also responsible for the loonie's depreciation.

	2015 Average	12 Month Low	12 Month High
Cdn \$/US \$	1.28	1.37	1.21
US \$/Cdn \$	0.78	0.73	0.83

### Outlook:

The expectation of a U.S. Federal Reserve hike coupled with falling oil prices is expected to put downward pressure on the Canadian dollar well below parity to the end of 2016. EO2016 forecasts that as oil prices begin to climb and with expected interest rate hikes by the Bank of Canada, upward pressure will be put on the Canadian dollar causing it to appreciate. The Canadian exchange rate is expected to trend from \$1.32 in 2016 to \$1.15 in the long term.



**Exchange Rate**

Year	US\$/Cdn\$	Cdn\$/US\$
1990	0.86	1.17
1995	0.73	1.37
1996	0.73	1.36
1997	0.72	1.38
1998	0.67	1.48
1999	0.67	1.49
2000	0.65	1.49
2001	0.64	1.55
2002	0.71	1.57
2003	0.77	1.40
2004	0.83	1.30
2005	0.88	1.21
2006	0.93	1.13
2007	0.94	1.07
2008	0.94	1.07
2009	0.88	1.14
2010	0.97	1.03
2011	1.01	0.99
2012	1.00	1.00
2013	0.97	1.03
2014	0.91	1.10
2015	0.78	1.28
2016	0.76	1.32
2026	0.87	1.15
2036	0.87	1.15

**APPENDIX A**

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#### APPENDIX A – IFF16 MANITOBA HYDRO LONG TERM INTEREST RATE FORECAST

For the purposes of representing the long term interest rates that impact Manitoba Hydro, the Canadian long term debt forecast has historically been the average of the 10 year and 30 year Canadian bond rates with the addition of the average of the 10 year and 30 year Manitoba credit spreads and transaction costs. This aggregated rate for new issuance (and the 20 year term to maturity) was referred to as the Manitoba Hydro 10 Yr+ rate. For U.S. long term debt, the 10 year U.S. long rate with the addition of the 10 year Manitoba credit spread for U.S issuance has been used.

Historically, the Economic Outlook has published only the benchmark Government of Canada bond rates. In order to improve transparency of the interest rates which are used in the calculations of interest expense in the IFF, this Appendix provides the all-in forecast interest rates inclusive of the applicable Manitoba credit spreads and transaction costs. The Manitoba credit spread is the difference between the Government of Canada benchmark bond yield for a particular term to maturity and the Province of Manitoba yield for the same term to maturity.

IFF16 will no longer utilize the Manitoba Hydro 10 Yr+ rate for forecasting the Corporation's new debt issuance as IFF16 has modeled a reduction of the Weighted Average Term to Maturity of forecast Canadian debt issuance from 20 to 12 years. For further information on the rationale, risks and benefits of the change in forecasting assumption, please see the *Manitoba Hydro 2017 Debt Management Strategy*.

While Manitoba Hydro will continue to support benchmark Canadian maturity terms of 5, 10 and 30 years, the issuance in the 5 year sector will increase from historical debt issuance levels. The weighted average all-in forecast interest rates updated with recent interest rate forecasts available in January 2017 are as follows:

##### Manitoba Hydro Long Term Canadian Interest Rates

2016/17	2.20
2017/18	2.50
2018/19	2.95
2019/20	3.25
2020/21	3.45
2021/22	3.75
& on	4.10

Manitoba Hydro will continue to issue U.S. maturity terms of primarily 5 and 10 years as has been historical practice. The updated forecast interest rates are as follows:

##### Manitoba Hydro Long Term US Interest Rates

2016/17	2.20
2017/18	3.00
2018/19	3.45
2019/20	3.75
2020/21	3.90
2021/22	4.10
& on	4.25

**APPENDIX B**

**B1 ECONOMIC STATISTICS – FISCAL YEAR BASIS**

Year	Manitoba					Canada			US
	Man. Real GDP	Man. CPI	Man. Real Disposable Income	Man. Popu-lation '000s	Man. Residential Customers '000s	Cdn. Real GDP	Cdn. CPI	Cdn. GDP Price Deflator % chge	US GDP Price Deflator % chge
% chge	% chge	% chge			% chge	% chge			
1991/92	-2.3	3.8	-2.2	1,110	389	-1.1	4.4	2.5	3.0
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	2.9	1.6	3.6	1,254	459	1.6	1.2	1.2	1.8
2013/14	2.4	2.4	1.8	1,269	465	2.4	1.1	1.5	1.6
2014/15	2.2	1.5	1.6	1,284	471	2.4	1.8	1.2	1.5
2015/16	2.0	1.3	3.5	1,297	477	0.9	1.2	-0.4	1.0
<b>Forecast</b>									
2016/17	2.1	1.8	2.3	1,312	483	1.7	1.8	1.3	1.8
2017/18	2.2	2.0	2.0	1,327	488	2.1	2.1	2.3	2.2
2018/19	1.8	2.0	1.9	1,342	494	2.0	2.0	2.2	2.1
2019/20	1.8	2.0	1.9	1,356	499	1.9	1.9	2.2	2.1
2020/21	1.6	1.9	1.9	1,371	504	1.9	1.9	2.1	2.0
2021/22	1.7	1.9	1.8	1,385	510	1.9	1.9	2.0	2.0
2022/23	1.8	1.7	1.9	1,399	515	1.9	1.9	1.8	2.0
2023/24	1.8	1.7	1.9	1,412	520	1.9	1.9	1.8	2.0
2024/25	1.8	1.7	1.9	1,426	525	1.9	1.9	1.8	2.0
2025/26	1.8	1.7	1.9	1,439	530	1.9	1.9	1.8	2.0
2026/27	1.8	1.7	1.9	1,453	535	1.9	1.9	1.8	2.0
2027/28	1.8	1.7	1.9	1,466	540	1.9	1.9	1.8	2.0
2028/29	1.8	1.7	1.9	1,480	545	1.9	1.9	1.8	2.0
2029/30	1.8	1.7	1.9	1,493	549	1.9	1.9	1.8	2.0
2030/31	1.8	1.7	1.9	1,505	554	1.9	1.9	1.8	2.0
2031/32	1.8	1.7	1.9	1,517	558	1.9	1.9	1.8	2.0
2032/33	1.8	1.7	1.9	1,528	563	1.9	1.9	1.8	2.0
2033/34	1.8	1.7	1.9	1,540	567	1.9	1.9	1.8	2.0
2034/35	1.8	1.7	1.9	1,551	571	1.9	1.9	1.8	2.0
2035/36	1.8	1.7	1.9	1,562	575	1.9	1.9	1.8	2.0
2036/37	1.8	1.7	1.9	1,573	579	1.9	1.9	1.8	2.0

## B2 FINANCIAL STATISTICS – FISCAL YEAR BASIS

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 %		
1991/92	8.03	8.77	9.09	9.48	9.29	4.84	7.11	7.86	1.15	
1992/93	6.25	7.47	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	5.53	5.67	5.91	2.62	4.52	5.26	1.57	
2002/03	2.79	4.57	5.21	5.55	5.41	1.46	3.44	4.69	1.55	
2003/04	2.67	3.99	4.74	5.22	4.97	0.95	2.98	4.55	1.35	
2004/05	2.31	3.98	4.60	5.02	4.81	1.78	3.66	4.66	1.28	
2005/06	3.02	3.75	4.07	4.26	4.17	3.61	4.23	4.47	1.19	
2006/07	4.16	4.11	4.22	4.23	4.23	4.87	4.76	4.87	1.14	
2007/08	3.83	4.05	4.20	4.28	4.24	3.62	3.94	4.56	1.03	
2008/09	1.84	2.80	3.54	3.94	3.66	0.91	2.57	3.74	1.13	
2009/10	0.22	2.58	3.58	3.95	3.89	0.12	2.39	3.93	1.09	
2010/11	0.78	2.49	3.30	3.67	3.48	0.14	1.86	3.18	1.02	
2011/12	0.91	1.79	2.56	3.02	2.83	0.04	1.23	2.55	0.99	
2012/13	0.97	1.42	1.92	2.44	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	1.46	2.18	1.87	0.27	1.54	2.17	1.31	
<b>Forecast</b>										
2016/17	0.50	0.85	1.45	2.00	1.75	0.60	1.50	1.85	1.30	
2017/18	0.50	1.25	1.90	2.50	2.20	0.95	2.15	2.65	1.28	
2018/19	0.85	1.80	2.35	2.80	2.60	1.55	2.65	3.05	1.25	
2019/20	1.40	2.10	2.65	3.10	2.90	1.90	3.00	3.25	1.21	
2020/21	1.75	2.35	2.85	3.25	3.10	2.15	3.20	3.35	1.21	
2021/22	2.15	2.70	3.15	3.50	3.30	2.40	3.45	3.50	1.18	
2022/23	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2023/24	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2024/25	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2025/26	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2026/27	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2027/28	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2028/29	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2029/30	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2030/31	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2031/32	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2032/33	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2033/34	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2034/35	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2035/36	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2036/37	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	

**APPENDIX C**

**C1 ECONOMIC STATISTICS – CALENDAR YEAR BASIS**

Year	Manitoba					Canada			US
	Man. Real GDP	Man. CPI	Man. Real Disposable Income	Man. Popu-lation '000s	Man. Residential Customers '000s	Cdn. Real GDP	Cdn. CPI	Cdn. GDP Price Deflator % chge	US GDP Price Deflator % chge
% chge	% chge	% chge	% chge		% chge	% chge	% chge		
1991	-3.3	5.1	-3.6	1,110	389	-2.1	5.6	3.0	3.3
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	2.4	2.2	2.5	1,265	464	2.2	0.9	1.6	1.6
2014	2.3	1.9	0.6	1,280	470	2.5	2.0	1.7	1.6
2015	2.0	1.2	3.9	1,293	475	1.2	1.1	-0.5	1.0
<b>Forecast</b>									
2016	2.1	1.7	2.4	1,308	481	1.5	1.7	0.9	1.7
2017	2.3	2.0	2.1	1,323	486	2.1	2.1	2.3	2.2
2018	1.8	2.0	1.9	1,338	492	2.1	2.0	2.3	2.2
2019	1.9	2.0	1.9	1,353	497	1.9	1.9	2.2	2.1
2020	1.6	1.9	1.9	1,367	503	1.9	1.9	2.1	2.0
2021	1.6	1.9	1.9	1,381	508	1.9	1.9	2.1	2.0
2022	1.8	1.7	1.9	1,395	513	1.9	1.9	1.8	2.0
2023	1.8	1.7	1.9	1,409	518	1.9	1.9	1.8	2.0
2024	1.8	1.7	1.9	1,423	523	1.9	1.9	1.8	2.0
2025	1.8	1.7	1.9	1,436	528	1.9	1.9	1.8	2.0
2026	1.8	1.7	1.9	1,450	533	1.9	1.9	1.8	2.0
2027	1.8	1.7	1.9	1,463	538	1.9	1.9	1.8	2.0
2028	1.8	1.7	1.9	1,477	543	1.9	1.9	1.8	2.0
2029	1.8	1.7	1.9	1,489	548	1.9	1.9	1.8	2.0
2030	1.8	1.7	1.9	1,502	552	1.9	1.9	1.8	2.0
2031	1.8	1.7	1.9	1,514	557	1.9	1.9	1.8	2.0
2032	1.8	1.7	1.9	1,525	561	1.9	1.9	1.8	2.0
2033	1.8	1.7	1.9	1,537	565	1.9	1.9	1.8	2.0
2034	1.8	1.7	1.9	1,548	570	1.9	1.9	1.8	2.0
2035	1.8	1.7	1.9	1,559	574	1.9	1.9	1.8	2.0
2036	1.8	1.7	1.9	1,570	578	1.9	1.9	1.8	2.0
2037	1.8	1.7	1.9	1,580	582	1.9	1.9	1.8	2.0

## C2 FINANCIAL STATISTICS – CALENDAR YEAR BASIS

Year	Canada					United States				Cdn\$/ US\$
	Cdn 90 Day T-Bill	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	US LT Bond 5 Yr Rate %	US LT Bond 10 Yr Rate %		
	Rate %					Rate %				
1991	8.73	9.13	9.42	9.71	9.57	5.38	7.37	7.86	1.15	
1992	6.58	7.51	8.05	8.68	8.37	3.43	6.19	7.01	1.21	
1993	4.84	6.53	7.22	7.86	7.54	3.00	5.15	5.87	1.29	
1994	5.78	7.94	8.43	8.69	8.56	4.25	6.68	7.08	1.37	
1995	6.89	7.70	8.08	8.41	8.24	5.49	6.39	6.58	1.37	
1996	4.21	6.44	7.20	7.75	7.48	5.01	6.18	6.44	1.36	
1997	3.26	5.43	6.11	6.66	6.39	5.06	6.22	6.35	1.38	
1998	4.73	5.13	5.30	5.59	5.44	4.78	5.15	5.26	1.48	
1999	4.72	5.47	5.55	5.72	5.64	4.64	5.54	5.64	1.49	
2000	5.49	5.96	5.89	5.71	5.80	5.82	6.15	6.03	1.49	
2001	3.77	5.10	5.52	5.65	5.63	3.39	4.55	5.02	1.55	
2002	2.59	4.71	5.32	5.60	5.25	1.60	3.82	4.61	1.57	
2003	2.87	4.16	4.87	5.31	5.09	1.01	2.97	4.02	1.40	
2004	2.22	3.96	4.65	5.11	4.87	1.37	3.43	4.27	1.30	
2005	2.73	3.68	4.12	4.41	4.16	3.14	4.05	4.29	1.21	
2006	4.03	4.12	4.23	4.23	4.13	4.73	4.75	4.79	1.13	
2007	4.15	4.22	4.28	4.28	4.29	4.35	4.43	4.63	1.07	
2008	2.39	3.14	3.71	4.05	3.84	1.37	2.80	3.67	1.07	
2009	0.35	2.40	3.44	3.85	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	1.95	2.46	2.25	0.09	0.76	1.89	1.00	
2013	0.96	1.68	2.32	2.83	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	
<b>Forecast</b>										
2016	0.50	0.75	1.35	1.95	1.65	0.45	1.35	1.90	1.32	
2017	0.50	1.20	1.85	2.40	2.15	0.90	2.05	2.40	1.29	
2018	0.75	1.70	2.25	2.75	2.50	1.40	2.55	2.95	1.25	
2019	1.30	2.05	2.55	3.05	2.85	1.85	2.90	3.25	1.22	
2020	1.65	2.25	2.75	3.20	3.00	2.10	3.15	3.30	1.21	
2021	2.05	2.65	3.10	3.45	3.25	2.35	3.45	3.45	1.15	
2022	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2023	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2024	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2025	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2026	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2027	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2028	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2029	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2030	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2031	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2032	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2033	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2034	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2035	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2036	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	
2037	2.70	3.05	3.40	3.85	3.65	2.65	3.45	3.80	1.15	

## **ADDITIONAL INTEREST RATE FORECAST INFORMATION**

### **Economic Outlook**

The Economic Outlook is prepared at the start of the annual forecasting cycle at Manitoba Hydro. The forecasts reported in the Economic Outlook are based on a consensus view of several independent sources including Canada's primary financial institutions in addition to several other independent sources, all of which are well known and respected. The Economic Outlook provides a forecast of economic and financial variables that are used in business analyses throughout the Corporation and are inputs in other forecasts. Variables such as real gross domestic product and residential customer projections are inputs to the Load Forecast; interest, escalation and exchange rates are used in a number of component forecasts that are inputs to the IFF. With the exception of interest rate and exchange rate forecasts, the forecasts documented in the 2016 Economic Outlook reflect the consensus view as at the end of March 2016 of key economic indicators. The forecasts of exchange rates documented in the 2016 Economic Outlook reflect the consensus view as at the end of June 2016 while forecasts of short-term and long-term benchmark interest rates were updated in December of 2016 to reflect the most up-to-date outlooks for these key assumptions.

### **Interest Rate Forecast Calculations**

Table 1 on the following page depicts the sources used to derive the forecast of Canadian 3 month T-bill rates for each quarter of the 2016/17 – 2022/23 period (with end of period rates adjusted to a comparable average period basis), as utilized in IFF16.

Table 2 depicts the sources used to derive the forecast of Canadian bond yield 10 yr+ rates for the 2016/17 – 2022/23 period (with end of period rates adjusted to a comparable average period basis), as utilized in IFF16.

Table 3 depicts the sources used to derive the forecast of Canadian bond yield 5 yr rates for the 2016/17 – 2022/23 period (with end of period rates adjusted to a comparable average period basis), as utilized in IFF16.

Table 4 depicts the sources used to derive the forecast of Canadian bond yield 10 yr rates for the 2016/17 – 2022/23 period (with end of period rates adjusted to a comparable average period basis), as utilized in IFF16.

Table 5 depicts the sources used to derive the forecast of Canadian bond yield 30 yr rates for the 2016/17 – 2022/23 period (with end of period rates adjusted to a comparable average period basis), as utilized in IFF16.

Copies of the publically available source forecasts utilized in IFF16 are provided at the end of this Appendix.

For forecasters that provided end of period rates, the rates provided in Tables 1 through 5 reflect rates adjusted to a comparable average period basis. For example, Desjardin's forecast provided end of period rates. Their forecast for 2017 Q1 end of period is 0.50% and 2017 Q2 end of period is 0.55% for Canada 3-month T-Bill. In order to place the forecast on an equivalent basis for a 2017 Q2 average period forecast, Desjardin's 2017 Q1 end of period forecast of 0.50% was averaged with their 2017 Q2 end of period forecast of 0.55% to approximate an average period 2017 Q2 forecast of 0.53%. This value is shown in Table 1. This process was followed for all subsequent quarters and for all forecasters that provided end of period rates.

**Table 1 – Canadian 3-Month T-Bill Rate - %**

Forecaster	Forecast Date	End of Period or Average	2016			2017				2018				2019				2020				2021				2023 Q1
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
BMO Nesbitt Burns	5-Jan-17	Average	0.51	0.50	0.48	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	*	*	*	*	*	*	*	*	*	*
CIBC	15-Dec-16	End Period	0.51	0.50	0.48	0.45	0.45	0.45	0.45	0.45	0.48	0.48	0.70	0.70	*	*	0.75	0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.60	
Desjardins	21-Dec-16	End Period	0.51	0.50	0.48	0.48	0.53	0.55	0.55	0.55	0.58	0.63	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.60	
Laurentian	2-Dec-16	End Period	0.51	0.50	0.48	0.48	0.50	0.50	0.55	0.55	0.58	0.63	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.60	
National Bank	16-Dec-16	End Period	0.51	0.50	0.48	0.47	0.48	0.48	0.56	0.69	0.85	1.05	1.17	1.17	1.17	1.17	*	*	*	*	*	*	*	*	*	*
Royal Bank	6-Jan-16	End Period	0.51	0.50	0.48	0.48	0.50	0.53	0.58	0.63	0.75	1.00	1.28	1.28	1.28	1.28	*	*	*	*	*	*	*	*	*	*
Scotiabank	22-Nov-16	End Period	0.51	0.50	0.48	0.48	0.50	0.50	0.50	0.55	0.70	0.85	1.00	1.00	1.00	1.00	*	*	*	*	*	*	*	*	*	*
TD Bank	15-Dec-16	End Period	0.51	0.50	0.48	0.48	0.50	0.50	0.50	0.50	0.50	0.50	0.55	0.55	0.55	0.55	0.85	0.85	0.85	0.85	1.20	1.20	1.20	1.20	1.20	
IHS Global Insight	9-Dec-16	Average	0.51	0.50	0.48	0.51	0.52	0.50	0.51	0.52	0.76	1.09	1.59	2.02	2.43	2.76	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	
Conference Board	15-Dec-16	Average	0.51	0.50	0.48	0.51	0.51	0.51	0.51	0.56	0.69	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00	2.13	2.25	2.38	3.01
2016/17			2017/18			2018/19			2019/20			2020/21			2021/22			2022/23 & on			2022/23 & on					
EO 2016 Winter Update - Fiscal			0.49			0.52			0.86			1.42			1.75			2.14			2.68					

Note: The rates provided for Q2, Q3 and Q4 of 2016 reflect actual average period Canadian 3-month T-bill rates.

Note: In the case where source forecasts are provided as end-of-period, the 2016 Q4 end-of-period actual rate of 0.46% was averaged with the source forecasters' end-of-period rate for 2017 Q1 in order to approximate an average period 2017 Q1 forecast rate.

Note: The extended forecast provided by BMO Nesbitt Burns for 2019+ is proprietary and cannot be disclosed.

**Table 2 – Canadian 10 Year+ Bond Yield Rate - %**

Forecaster	Forecast Date	End of Period or Average	2016			2017				2018				2019				2020				2021				2023 Q1
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
BMO Nesbitt Burns	5-Jan-17	Average	1.64	1.41	1.81	2.10	2.13	2.15	2.18	2.23	2.25	2.35	2.48	*	*	*	*	*	*	*	*	*	*	*	*	*
CIBC	15-Dec-16	End Period	1.64	1.41	1.81	2.01	1.95	1.98	2.04	2.10	2.15	2.20	2.22	2.23	2.26	2.41	2.53	2.18	2.18	2.18	2.18	1.85	1.85	1.85	1.85	2.18
Desjardins	21-Dec-16	End Period	1.64	1.41	1.81	2.04	2.05	2.11	2.20	2.23	2.26	2.41	2.53	2.18	2.18	2.18	2.18	1.85	1.85	1.85	1.85	2.18	2.18	2.18	2.18	2.18
Laurentian	2-Dec-16	End Period	1.64	1.41	1.81	2.03	2.05	2.13	2.18	2.23	2.26	2.31	2.42	2.59	2.70	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
National Bank	16-Dec-16	End Period	1.64	1.41	1.81	2.14	2.24	2.26	2.31	2.42	2.59	2.70	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
Royal Bank	6-Jan-16	End Period	1.64	1.41	1.81	1.96	1.90	1.99	2.06	2.15	2.26	2.33	2.40	2.40	2.40	2.40	2.40	2.21	2.21	2.21	2.21	3.95	4.02	4.02	4.02	4.02
Scotiabank	22-Nov-16	End Period	1.64	1.41	1.81	2.04	2.05	2.10	2.16	2.21	2.26	2.33	2.40	2.40	2.40	2.40	2.40	2.49	2.49	2.49	2.49	2.99	3.12	3.25	3.37	3.47
TD Bank	15-Dec-16	End Period	1.64	1.41	1.81	1.81	1.86	1.93	2.01	2.12	2.20	2.33	2.44	2.52	2.65	2.77	2.87	2.87	2.87	2.87	2.87	2.99	3.09	3.32	3.63	3.63
IHS Global Insight	9-Dec-16	Average	1.64	1.41	1.81	1.81	1.86	1.93	2.01	2.12	2.20	2.33	2.44	2.52	2.65	2.77	2.87	2.87	2.87	2.87	2.87	2.99	3.09	3.32	3.63	3.63
Conference Board	15-Dec-16	Average	1.64	1.41	1.81	1.81	1.86	1.93	2.01	2.12	2.20	2.33	2.44	2.52	2.65	2.77	2.87	2.87	2.87	2.87	2.87	2.99	3.09	3.32	3.63	3.63
2016/17			2017/18			2018/19			2019/20			2020/21			2021/22			2022/23 & on			2022/23 & on					
EO 2016 Winter Update - Fiscal			1.73			2.20			2.58			2.90			3.09			3.32			3.63					

Note: The rates provided for Q2, Q3 and Q4 of 2016 reflect actual average period Canadian 10 Year+ Bond Yield rates.

Note: In the case where source forecasts are provided as end-of-period, the 2016 Q4 end-of-period actual rate of 2.06% (average of 1.83% for Canada 10 year and 2.29% for Canada 30 year) was averaged with the source forecasters' end-of-period rate for 2017 Q1 in order to approximate an average period 2017 Q1 forecast rate.

Note: The extended forecast provided by BMO Nesbitt Burns for 2019+ is proprietary and cannot be disclosed.

**Table 3 – Canadian 5 Year Bond Yield Rate - %**

Forecaster	Forecast Date	End of Period or Average	2016			2017			2018			2019			2020			2021			2022			2023 Q1	
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
BMO Nesbitt Burns	5-Jan-17	Average	0.77	0.63	0.95	1.20	1.20	1.25	1.30	1.35	1.45	1.55	1.75	*	*	*	*	*	*	*	*	*	*	*	
Desjardins	21-Dec-16	End Period	0.77	0.63	0.95	1.11	1.15	1.25	1.35	1.40	1.53	1.78	1.95	1.55	1.55	1.55	1.55	1.15	1.15	1.15	1.15	1.55	1.55	1.55	
Laurentian	2-Dec-16	End Period	0.77	0.63	0.95	1.06	1.05	1.13	1.13	1.40	1.53	1.78	1.95	1.55	1.55	1.55	1.55	1.15	1.15	1.15	1.15	1.55	1.55	1.55	
National Bank	16-Dec-16	End Period	0.77	0.63	0.95	1.16	1.35	1.39	1.47	1.60	1.79	1.95	2.04												
Royal Bank	6-Jan-16	End Period	0.77	0.63	0.95	1.23	1.18	1.43	1.70	1.95	2.18	2.38	2.53												
Scotiabank	22-Nov-16	End Period	0.77	0.63	0.95	1.08	1.10	1.20	1.33	1.45	1.58	1.73	1.85												
TD Bank	15-Dec-16	End Period	0.77	0.63	0.95	1.13	1.18	1.23	1.30	1.38	1.43	1.50	1.58	1.70	1.70	1.70	1.70	1.95	1.95	1.95	1.95				
IHS Global Insight	9-Dec-16	Average	0.77	0.63	0.95	0.96	0.98	1.02	1.09	1.15	1.34	1.63	2.02	2.37	2.72	3.03	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	
Conference Board	15-Dec-16	Average	0.77	0.63	0.95	1.00	0.98	1.09	1.21	1.28	1.45	1.58	1.70	1.83	1.94	2.07	2.20	2.32	2.43	2.56	2.69	2.78	2.90	3.13	
			<b>2016/17</b>			<b>2017/18</b>			<b>2018/19</b>			<b>2019/20</b>			<b>2020/21</b>			<b>2021/22</b>			<b>2022/23 &amp; on</b>				
EO 2016 Winter Update - Fiscal			0.86			1.27			1.78			2.11			2.36			2.71			3.03				

Note: The rates provided for Q2, Q3 and Q4 of 2016 reflect actual average period Canadian 5 Year Bond Yield rates.

Note: In the case where source forecasts are provided as end-of-period, the 2016 Q4 end-of-period actual rate of 1.11% was averaged with the source forecasters' end-of-period rate for 2017 Q1 in order to approximate an average period 2017 Q1 forecast rate.

Note: The extended forecast provided by BMO Nesbitt Burns for 2019+ is proprietary and cannot be disclosed.

**Table 4 – Canadian 10 Year Bond Yield Rate - %**

Forecaster	Forecast Date	End of Period or Average	2016			2017			2018			2019			2020			2021			2022			2023 Q1	
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
BMO Nesbitt Burns	5-Jan-17	Average	1.34	1.13	1.55	1.80	1.85	1.90	1.95	2.00	2.05	2.15	2.30	*	*	*	*	*	*	*	*	*	*	*	
CIBC	15-Dec-16	End Period	1.34	1.13	1.55	1.71	1.60	1.63	1.70	1.78	1.83	1.93	2.00	2.23	2.38	2.00	2.00	2.00	1.70	1.70	1.70	1.70	2.05	2.05	2.05
Desjardins	21-Dec-16	End Period	1.34	1.13	1.55	1.76	1.73	1.80	1.90	1.93	2.00	2.23	2.38	2.00	2.00	2.00	2.00	1.70	1.70	1.70	1.70	2.05	2.05	2.05	
Laurentian	2-Dec-16	End Period	1.34	1.13	1.55	1.74	1.70	1.78	1.83																
National Bank	16-Dec-16	End Period	1.34	1.13	1.55	1.89	1.98	2.03	2.10	2.22	2.41	2.53	2.59												
Royal Bank	6-Jan-16	End Period	1.34	1.13	1.55	1.76	1.80	2.03	2.30	2.53	2.70	2.88	3.03												
Scotiabank	22-Nov-16	End Period	1.34	1.13	1.55	1.66	1.55	1.65	1.73	1.80	1.88	1.95	2.03												
TD Bank	15-Dec-16	End Period	1.34	1.13	1.55	1.76	1.73	1.78	1.85	1.90	1.95	2.03	2.10	2.25	2.25	2.25	2.25	2.40	2.40	2.40	2.40				
IHS Global Insight	9-Dec-16	Average	1.34	1.13	1.55	1.98	2.03	2.20	2.39	2.57	2.66	2.86	3.00	3.15	3.36	3.62	3.69	3.68	3.68	3.68	3.68	3.68	3.68	3.68	
Conference Board	15-Dec-16	Average	1.34	1.13	1.55	1.53	1.60	1.69	1.79	1.96	2.07	2.20	2.32	2.43	2.55	2.68	2.78	2.89	3.02	3.15	3.46	3.55	3.66	3.68	
			<b>2016/17</b>			<b>2017/18</b>			<b>2018/19</b>			<b>2019/20</b>			<b>2020/21</b>			<b>2021/22</b>			<b>2022/23 &amp; on</b>				
EO 2016 Winter Update - Fiscal			1.45			1.90			2.34			2.63			2.84			3.15			3.42				

Note: The rates provided for Q2, Q3 and Q4 of 2016 reflect actual average period Canadian 10 Year Bond Yield rates.

Note: In the case where source forecasts are provided as end-of-period, the 2016 Q4 end-of-period actual rate of 1.83% was averaged with the source forecasters' end-of-period rate for 2017 Q1 in order to approximate an average period 2017 Q1 forecast rate.

Note: The extended forecast provided by BMO Nesbitt Burns for 2019+ is proprietary and cannot be disclosed.

**Table 5 – Canadian 30 Year Bond Yield Rate - %**

Forecaster	Forecast Date	End of Period or Average	2016			2017			2018			2019			2020			2021			2022			2023 Q1
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
BMO Nesbitt Burns	5-Jan-17	Average	1.93	1.69	2.08	2.40	2.40	2.40	2.40	2.45	2.45	2.55	2.65	*	*	*	*	*	*	*	*	*	*	*
CIBC	15-Dec-16	End Period	1.93	1.69	2.08	2.30	2.30	2.33	2.38	2.43	2.48	2.53	2.68	2.35	2.35	2.35	2.35	2.00	2.00	2.00	2.00	2.30	2.30	2.30
Desjardins	21-Dec-16	End Period	1.93	1.69	2.08	2.32	2.38	2.43	2.50	2.53	2.53	2.60	2.68											
Laurentian	2-Dec-16	End Period	1.93	1.69	2.08	2.32	2.40	2.48	2.53															
National Bank	16-Dec-16	End Period	1.93	1.69	2.08	2.39	2.50	2.50	2.53	2.62	2.77	2.88	2.93											
Royal Bank	6-Jan-16	End Period	1.93	1.69	2.08	2.30	2.38	2.58	2.83	3.00	3.13	3.25	3.38											
Scotiabank	22-Nov-16	End Period	1.93	1.69	2.08	2.25	2.25	2.33	2.40	2.50	2.60	2.70	2.78											
TD Bank	15-Dec-16	End Period	1.93	1.69	2.08	2.32	2.38	2.43	2.48	2.53	2.58	2.63	2.70											
IHS Global Insight	9-Dec-16	Average	1.93	1.69	2.08	2.63	2.69	2.86	3.05	3.23	3.33	3.52	3.66	3.82	4.03	4.28	4.35	4.35	4.35	4.35	4.35	4.35	4.35	
Conference Board	15-Dec-16	Average	1.93	1.69	2.08	2.08	2.12	2.18	2.22	2.28	2.34	2.46	2.56	2.62	2.75	2.87	2.97	3.09	3.21	3.34	3.47	3.57	3.65	3.75
2016/17			2017/18			2018/19			2019/20			2020/21			2021/22			2022/23 & on						
EO 2016 Winter Update - Fiscal			2.01			2.49			2.81			3.09			3.26			3.50			3.85			

Note: The rates provided for Q2, Q3 and Q4 of 2016 reflect actual average period Canadian 30 Year Bond Yield rates.

Note: In the case where source forecasts are provided as end-of-period, the 2016 Q4 end-of-period actual rate of 2.29% was averaged with the source forecasters' end-of-period rate for 2017 Q1 in order to approximate an average period 2017 Q1 forecast rate.

Note: The extended forecast provided by BMO Nesbitt Burns for 2019+ is proprietary and cannot be disclosed.

The calculations for all of the interest rates for the 2016/17, 2017/18, 2018/19, 2019/20, 2020/21, 2021/22, and 2022/23 period are as follows:

- The 2016/17 forecast included the average of all data points within Q2, Q3, Q4 of 2016 and Q1 of 2017. The 2017/18 forecast included the average of all data points within Q2, Q3, Q4 of 2017 and Q1 of 2018. The 2018/19 forecast included the average of all data points within Q2, Q3, Q4 of 2018 and Q1 of 2019. The 2019/20 forecast included the average of all data points within Q2, Q3, Q4 of 2019 and Q1 of 2020. The 2020/21 forecast included the average of all data points within Q2, Q3, Q4 of 2020 and Q1 of 2021. The 2021/22 forecast included the average of all data points within Q2, Q3, Q4 of 2021 and Q1 of 2022. The 2022/23 forecast included the average of all data points within Q2, Q3, Q4 of 2022 and Q1 of 2023. For example, the Canada 3-Month T-Bill rate for 2017/18 of 0.50% (rounded to the nearest 5 basis points) in Table 1 was calculated as the average of the following data points:

**Table 6**

	<b>2017 Q2</b>	<b>2017 Q3</b>	<b>2017 Q4</b>	<b>2018 Q1</b>
BMO Nesbitt Burns	0.50%	0.50%	0.50%	0.50%
CIBC	0.45%	0.45%	0.45%	0.45%
Desjardins	0.53%	0.55%	0.55%	0.55%
Laurentian	0.50%	0.50%	0.55%	
National Bank	0.48%	0.48%	0.56%	0.69%
Royal Bank	0.50%	0.53%	0.58%	0.63%
Scotiabank	0.50%	0.50%	0.50%	0.55%
TD Bank	0.50%	0.50%	0.50%	0.50%
IHS Global Insight	0.52%	0.50%	0.51%	0.52%
Conference Board	0.51%	0.51%	0.51%	0.56%
<b>Average</b>	<b>0.50%</b>			

The Manitoba Hydro Canadian short-term interest rate was calculated by adding the guarantee fee of 1.00% to the 3-Month T-Bill rate as follows:

**Table 7**

	Canada 3-Month T-Bill	Guarantee Fee	MH Cdn Short Term Rate
2016/17	0.50%	1.00%	1.50%
2017/18	0.50%	1.00%	1.50%
2018/19	0.85%	1.00%	1.85%
2019/20	1.40%	1.00%	2.40%
2020/21	1.75%	1.00%	2.75%
2021/22	2.15%	1.00%	3.15%
2022/23 & on	2.70%	1.00%	3.70%

The Manitoba Hydro Canadian long-term interest rate was calculated by adding the appropriate credit spread to the Canada Bond Yield 10 Year+ rate and a provincial debt guarantee fee as follows:

**Table 8**

	Canada Bond Yield 10 Yr+	Spread	Guarantee Fee	MH Cdn Long Term Rate
2016/17	1.75%	1.05%	1.00%	3.80%
2017/18	2.20%	0.95%	1.00%	4.15%
2018/19	2.60%	0.90%	1.00%	4.50%
2019/20	2.90%	0.90%	1.00%	4.80%
2020/21	3.10%	0.90%	1.00%	5.00%
2021/22	3.30%	0.90%	1.00%	5.25%
2022/23 & on	3.65%	0.90%	1.00%	5.55%

*Note: The rates presented in the table above may not add up due to rounding.*

The Manitoba Hydro Canadian 5 year interest rate was calculated by adding the appropriate credit spread to the Canada Bond Yield 5 Year rate and a provincial debt guarantee fee as follows:

**Table 9**

	Canada Bond Yield 5 Yr	Spread	Guarantee Fee	MH Cdn 5 Year Rate
2016/17	0.85%	0.70%	1.00%	2.55%
2017/18	1.25%	0.60%	1.00%	2.85%
2018/19	1.80%	0.55%	1.00%	3.35%
2019/20	2.10%	0.60%	1.00%	3.70%
2020/21	2.35%	0.60%	1.00%	3.95%
2021/22	2.70%	0.60%	1.00%	4.30%
2022/23 & on	3.05%	0.55%	1.00%	4.60%

*Note: The rates presented in the table above may not add up due to rounding.*

The Manitoba Hydro Canadian 10 year interest rate was calculated by adding the appropriate credit spread to the Canada Bond Yield 10 Year rate and a provincial debt guarantee fee as follows:

**Table 10**

	Canada Bond Yield 10 Yr	Spread	Guarantee Fee	MH Cdn 10 Year Rate
2016/17	1.45%	1.00%	1.00%	3.45%
2017/18	1.90%	0.90%	1.00%	3.80%
2018/19	2.35%	0.85%	1.00%	4.20%
2019/20	2.65%	0.85%	1.00%	4.50%
2020/21	2.85%	0.85%	1.00%	4.70%
2021/22	3.15%	0.85%	1.00%	5.00%
2022/23 & on	3.40%	0.90%	1.00%	5.30%

*Note: The rates presented in the table above may not add up due to rounding.*

The Manitoba Hydro Canadian 30 year interest rate was calculated by adding the appropriate credit spread to the Canada Bond Yield 30 Year rate and a provincial debt guarantee fee as follows:

**Table 11**

	Canada Bond Yield 30 Yr	Spread	Guarantee Fee	MH Cdn 30 Year Rate
2016/17	2.00%	1.15%	1.00%	4.15%
2017/18	2.50%	1.00%	1.00%	4.50%
2018/19	2.80%	0.95%	1.00%	4.75%
2019/20	3.10%	0.95%	1.00%	5.05%
2020/21	3.25%	0.95%	1.00%	5.20%
2021/22	3.50%	0.95%	1.00%	5.45%
2022/23 & on	3.85%	0.95%	1.00%	5.80%

*Note: The rates presented in the table above may not add up due to rounding.*

### Quarterly Medium Term Outlook

**BMO Capital Markets \***

	Forecast Date	2017				2018				Long-Run Assumptions			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Cdn 90 Day T-bill - %	5-Jan-17	0.50	0.50	0.50	0.50	0.50	0.50	0.70	0.70	*			
Cdn 5 Yr Bond Yield - %	5-Jan-17	1.20	1.20	1.25	1.30	1.35	1.45	1.55	1.75	*			
Cdn 10 Yr Bond Yield - %	5-Jan-17	1.80	1.85	1.90	1.95	2.00	2.05	2.15	2.30	*			
Cdn 30 Yr Bond Yield - %	5-Jan-17	2.40	2.40	2.40	2.40	2.45	2.45	2.55	2.65	*			
US 90 day T-bill - %	5-Jan-17	0.50	0.60	0.75	0.80	0.95	1.05	1.25	1.50	*			
US 5 Yr Bond Yield - %	5-Jan-17	2.05	2.15	2.25	2.35	2.45	2.55	2.65	2.74	*			
US 10 Yr Bond Yield - %	5-Jan-17	2.55	2.65	2.70	2.75	2.85	2.90	3.00	3.10	*			
US 30 Yr Bond Yield - %	5-Jan-17	3.15	3.20	3.25	3.25	3.30	3.35	3.40	3.45	*			
Exchange Rate**	5-Jan-17	1.36	1.37	1.38	1.37	1.36	1.34	1.33	1.31	*			
Cdn CPI*** - % change	5-Jan-17	1.90	1.70	1.80	2.00	1.90	1.90	2.00	2.00	*			
Cdn GDP Price Index - % change	5-Jan-17	2.30	2.20	2.20	2.40	2.00	1.80	1.90	2.00	*			
US CPI*** - % change	5-Jan-17	2.60	2.60	2.80	2.60	2.50	2.50	2.40	2.30	*			
US GDP Price Index - % change	5-Jan-17	2.10	2.00	2.20	2.10	2.30	2.10	2.10	2.10	*			

\* Average Period Data

\*\* (C\$/US\$)

\*\*\* CPI All Items (year/year % change)

\*\*\*\* shaded area denotes forecast period

breitz01:  
Annualized Q/Q % change

breitz01:  
Annualized Q/Q % change

## MARKET CALL

- Post-election, we added one additional quarter point hike to our US fed funds outlook, but we're now inclined to also shift that additional hike to the second half of 2017 from 2018. Signals from both inflation and easier fiscal policy could see the Fed move a bit more pre-emptively, while still within the bounds of what historically would have been a very gradualist approach.
- Bond yields quickly attained the targets that we envisaged would take quarters, rather than weeks, to achieve. There should still be some upside for yields in the US and Canada as we get further into the cycle, but look for some range trading activity in the US, and a bit of rally room in Canada, as first quarter economic growth isn't everything hoped for.
- The Canadian curve, and the C\$, are pricing in some odds of a hike in 2017, but the Bank of Canada will use its bully pulpit to try to unwind that. Production cuts overseas helped oil reach our 2017 averages a bit sooner, and we have pushed back the timing for our projected sell-off in the C\$ until later in the year as a result, expecting oil to stall on heavy inventories, and rate differentials to weigh on the loonie.

## INTEREST & FOREIGN EXCHANGE RATES

<b>END OF PERIOD:</b>		<b>2016</b>	<b>2017</b>			<b>2018</b>	
		<b>14-Dec</b>	<b>Mar</b>	<b>Jun</b>	<b>Sep</b>	<b>Dec</b>	<b>Mar</b>
<b>CDA</b>	Overnight target rate	0.50	0.50	0.50	0.50	0.50	0.50
	98-Day Treasury Bills	0.50	0.45	0.45	0.45	0.45	0.50
	2-Year Gov't Bond	0.76	0.65	0.55	0.65	0.70	0.80
	10-Year Gov't Bond	1.71	1.60	1.60	1.65	1.75	1.80
	30-Year Gov't Bond	2.33	2.30	2.30	2.35	2.40	2.45
<b>U.S.</b>	Federal Funds Rate	0.625	0.625	0.875	1.125	1.375	1.375
	91-Day Treasury Bills	0.53	0.60	0.85	1.15	1.25	1.40
	2-Year Gov't Note	1.25	1.20	1.25	1.35	1.60	1.55
	10-Year Gov't Note	2.53	2.45	2.40	2.60	2.65	2.60
	30-Year Gov't Bond	3.14	3.10	3.15	3.20	3.25	3.25
Canada - US T-Bill Spread	-0.04	-0.15	-0.40	-0.70	-0.80	-0.95	-1.15
Canada - US 10-Year Bond Spread	-0.82	-0.85	-0.80	-0.95	-0.90	-0.80	-0.80
Canada Yield Curve (30-Year — 2-Year)	1.57	1.65	1.75	1.70	1.70	1.65	1.65
US Yield Curve (30-Year — 2-Year)	1.89	1.90	1.90	1.85	1.65	1.70	1.45
<b>EXCHANGE RATES</b>	CADUSD	0.75	0.75	0.74	0.72	0.73	0.72
	USDCAD	1.33	1.34	1.36	1.39	1.37	1.38
	USDJPY	117	114	112	110	108	106
	EURUSD	1.05	1.04	1.07	1.10	1.12	1.14
	GBPUSD	1.26	1.22	1.23	1.25	1.27	1.30
	AUDUSD	0.74	0.72	0.72	0.74	0.76	0.77
	USDCHF	1.02	1.04	1.01	0.99	0.98	0.96



**TABLE 4**

**United States: Fixed income market**

END OF PERIOD IN %	2016				2017				2018			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>Key interest rate</b>												
Federal funds	0.50	0.50	0.50	0.75	0.75	1.00	1.00	1.25	1.25	1.50	1.75	2.00
<b>Treasury bills</b>												
3-month	0.21	0.26	0.29	0.50	0.60	0.80	0.85	1.05	1.10	1.35	1.60	1.85
<b>Federal bonds</b>												
2-year	0.75	0.58	0.76	1.25	1.20	1.40	1.45	1.60	1.60	1.90	2.15	2.30
5-year	1.21	1.00	1.15	2.05	1.95	2.05	2.15	2.30	2.30	2.55	2.85	2.90
10-year	1.78	1.49	1.61	2.55	2.50	2.55	2.65	2.80	2.75	2.95	3.25	3.25
30-year	2.62	2.31	2.33	3.15	3.10	3.20	3.25	3.35	3.30	3.40	3.55	3.55
<b>Yield curve slopes</b>												
5-year - 3-month	1.00	0.74	0.86	1.55	1.35	1.25	1.30	1.25	1.20	1.20	1.25	1.05
10-year - 2-year	1.03	0.91	0.85	1.30	1.30	1.15	1.20	1.20	1.15	1.05	1.10	0.95
30-year - 3-month	2.41	2.05	2.04	2.65	2.50	2.40	2.40	2.30	2.20	2.05	1.95	1.70

f: forecasts

Sources: Datastream and Desjardins, Economic Studies

**TABLE 5**

**Canada: Fixed income market**

END OF PERIOD IN %	2016				2017				2018			
	Q1	Q2	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>Key interest rate</b>												
Overnight funds	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.75
<b>Treasury bills</b>												
3-month	0.44	0.49	0.53	0.50	0.50	0.55	0.55	0.55	0.55	0.60	0.65	0.85
<b>Federal bonds</b>												
2-year	0.54	0.52	0.52	0.80	0.70	0.75	0.80	0.85	0.85	1.10	1.25	1.40
5-year	0.67	0.57	0.62	1.20	1.10	1.20	1.30	1.40	1.40	1.65	1.90	2.00
10-year	1.23	1.06	1.00	1.80	1.70	1.75	1.85	1.95	1.90	2.10	2.35	2.40
30-year	2.00	1.71	1.66	2.40	2.35	2.40	2.45	2.55	2.50	2.55	2.65	2.70
<b>Yield curve slopes</b>												
5-year - 3-month	0.23	0.08	0.09	0.70	0.60	0.65	0.75	0.85	0.85	1.05	1.25	1.15
10-year - 2-year	0.69	0.54	0.47	1.00	1.00	1.00	1.05	1.10	1.05	1.00	1.10	1.00
30-year - 3-month	1.56	1.22	1.13	1.90	1.85	1.85	1.90	2.00	1.95	1.95	2.00	1.85
<b>Yield spreads (Canada—United States)</b>												
3-month	0.23	0.23	0.24	0.00	-0.10	-0.25	-0.30	-0.50	-0.55	-0.75	-0.95	-1.00
2-year	-0.22	-0.06	-0.24	-0.45	-0.50	-0.65	-0.65	-0.75	-0.75	-0.80	-0.90	-0.90
5-year	-0.54	-0.43	-0.53	-0.85	-0.85	-0.85	-0.85	-0.90	-0.90	-0.90	-0.95	-0.90
10-year	-0.56	-0.43	-0.61	-0.75	-0.80	-0.80	-0.80	-0.85	-0.85	-0.85	-0.90	-0.85
30-year	-0.62	-0.59	-0.67	-0.75	-0.75	-0.80	-0.80	-0.80	-0.80	-0.85	-0.90	-0.85

f: forecasts

Sources: Datastream and Desjardins, Economic Studies



**TABLE 1**  
**Currency market: Yields**

COUNTRY – CURRENCY*	SPOT PRICE Dec. 21	VARIATION (%)				LAST 52 WEEKS		
		-1 month	-3 months	-6 months	-1 year	Higher	Average	Lower
<b>Americas</b>								
Argentina – peso	15.8450	2.23	4.67	14.32	24.50	16.0725	14.6853	12.7270
Brazil – real	3.3357	-0.49	2.86	-1.90	-17.30	4.1608	3.5094	3.1186
Canada – (USD/CAD)	1.3399	0.01	1.44	4.57	-4.16	1.4637	1.3268	1.2526
Canada – (CAD/USD)	0.7464	-0.01	-1.42	-4.37	4.34	0.7983	0.7537	0.6832
Mexico – peso	20.4963	-0.14	3.24	9.87	20.04	21.2033	18.5884	17.0747
<b>Asia and South Pacific</b>								
Australia – (AUD/USD)	0.7238	-1.77	-5.06	-2.84	0.67	0.7814	0.7435	0.6866
China – yuan renminbi	6.9422	0.72	4.05	5.34	7.12	6.9603	6.6303	6.4490
Hong Kong – dollar	7.7628	0.09	0.09	0.04	0.14	7.8194	7.7621	7.7502
India – rupee	67.8365	-0.57	1.64	0.31	2.39	68.7835	67.1208	65.9471
Japan – yen	117.55	6.06	17.18	12.22	-3.00	121.19	108.96	99.89
New Zealand – (NZD/USD)	0.6899	-2.37	-6.17	-3.15	2.00	0.7451	0.6961	0.6410
South Korea – won	1,194	0.61	6.59	3.22	1.38	1,239	1,160	1,090
<b>Europe</b>								
Denmark – krona	7.1319	1.89	7.05	7.83	4.31	7.1569	6.7234	6.4525
Euro zone – (EUR/USD)	1.0433	-1.78	-6.35	-7.44	-4.44	1.1518	1.1076	1.0378
Norway – kroner	8.6825	1.61	5.10	4.40	-1.13	8.9520	8.4019	7.9816
Russia – ruble	61.1112	-4.39	-4.91	-4.71	-14.25	84.2412	67.3213	60.6950
Sweden – krona	9.2328	0.15	7.89	11.50	8.62	9.4090	8.5390	7.9588
Switzerland – swiss franc	1.0262	1.69	5.05	7.07	3.41	1.0312	0.9845	0.9513
United Kingdom – (GBP/USD)	1.2374	-0.81	-4.53	-15.66	-16.87	1.4941	1.3627	1.2131

\* In comparison with the U.S. dollar, unless otherwise indicated.

Note: Currency table base on previous day closure.

**TABLE 2**  
**Currency market: History and forecasts**

END OF PERIOD	2016		2017				2018			
	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>U.S. dollar</b>										
Canadian dollar	USD/CAD	1.3129	1.3514	1.3699	1.3889	1.3889	1.4085	1.4085	1.4286	1.4085
Euro	EUR/USD	1.1238	1.0400	1.0500	1.0300	1.0300	1.0200	1.0100	1.0100	1.0100
British pound	GBP/USD	1.2990	1.2400	1.2100	1.1700	1.1500	1.1400	1.1300	1.1200	1.1000
Swiss franc	USD/CHF	0.9684	1.0300	1.0200	1.0400	1.0400	1.0400	1.0500	1.0500	1.0500
Yen	USD/JPY	101.35	118.00	118.00	120.00	120.00	122.00	122.00	123.00	124.00
Australian dollar	AUD/USD	0.7664	0.7300	0.7300	0.7200	0.7200	0.7200	0.7200	0.7100	0.7200
Chinese yuan	USD/CNY	6.6716	6.9500	6.9500	7.0000	7.0500	7.1500	7.2000	7.2500	7.3000
Mexican peso	USD/MXN	19.38	20.50	21.00	21.00	21.50	22.00	22.50	23.00	23.00
Brazilian real	USD/BRL	3.2459	3.4000	3.5000	3.7000	3.7000	3.8000	3.8000	3.9000	4.0000
Effective dollar <sup>1</sup>		90.01	96.50	96.80	98.60	98.80	100.00	100.50	101.10	101.50
<b>Canadian dollar</b>										
U.S. dollar	CAD/USD	0.7617	0.7400	0.7300	0.7200	0.7200	0.7100	0.7100	0.7000	0.7100
Euro	EUR/CAD	1.4754	1.4054	1.4384	1.4306	1.4306	1.4366	1.4225	1.4429	1.4085
British pound	GBP/CAD	1.7055	1.6757	1.6575	1.6250	1.5972	1.6056	1.5915	1.6000	1.5493
Swiss franc	CAD/CHF	0.7376	0.7622	0.7446	0.7488	0.7488	0.7384	0.7455	0.7350	0.7455
Yen	CAD/JPY	77.19	87.32	86.14	86.40	86.40	86.62	86.62	86.10	88.04
Australian dollar	AUD/CAD	1.0062	0.9865	1.0000	1.0000	1.0000	1.0141	1.0141	1.0143	1.0000
Chinese yuan	CAD/CNY	5.0816	5.1430	5.0735	5.0400	5.0760	5.0765	5.1120	5.0750	5.1830
Mexican peso	CAD/MXN	14.77	15.17	15.33	15.12	15.48	15.62	15.98	16.10	16.33
Brazilian real	CAD/BRL	2.4723	2.5160	2.5550	2.6640	2.6640	2.6980	2.6980	2.7300	2.8400

f: forecasts; <sup>1</sup> Trade-weighted against major U.S. partners (1973 = 100).

Sources: Datastream, Federal Reserve Board and Desjardins, Economic Studies



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

IN % (EXCEPT IF INDICATED)	ANNUAL AVERAGE							AVERAGES	
	2015	2016f	2017f	2018f	2019f	2020f	2021f	2009–2015	2016–2021f
<b>United States</b>									
Real GDP (var. in %)	2.6	1.6	2.5	2.1	1.8	1.3	1.9	1.5	1.9
Total inflation rate (var. in %)	0.1	1.3	2.1	2.4	2.5	1.8	1.5	1.4	1.9
Unemployment rate	5.3	4.9	4.6	4.4	4.6	5.2	5.8	7.8	4.9
S&P 500 index (var. in %) <sup>1</sup>	-0.7	10.1	6.7	2.1	0.0	4.0	8.0	12.8	5.1
Federal funds rate	0.26	0.50	1.00	1.65	1.80	1.50	1.55	0.25	1.33
Prime rate	3.26	3.50	4.00	4.65	4.80	4.50	4.55	3.25	4.33
Treasury bills – 3-month	0.05	0.30	0.85	1.50	1.60	1.30	1.40	0.08	1.16
Federal bonds – 10-year	2.13	1.85	2.65	3.05	2.80	2.45	2.80	2.57	2.60
– 30-year	2.84	2.60	3.25	3.45	3.10	2.75	3.05	3.54	3.03
WTI oil (US\$/barrel)	49	43	55	57	52	52	58	81	53
Gold (US\$/ounce)	1,160	1,250	1,150	1,050	1,150	1,200	1,150	1,325	1,158
<b>Canada</b>									
Real GDP (var. in %)	0.9	1.4	1.9	2.0	1.2	1.0	1.7	1.6	1.5
Total inflation rate (var. in %)	1.1	1.5	1.9	2.0	1.6	1.1	1.5	1.5	1.6
Employment (var. in %)	0.8	0.7	1.0	1.0	0.6	0.3	0.5	0.8	0.7
Employment (thousands)	144	129	186	191	113	56	91	134	128
Unemployment rate	6.9	7.0	6.8	6.6	6.6	6.8	6.6	7.4	6.7
Housing starts (thousands of units)	196	196	176	172	175	170	180	189	178
S&P/TSX index (var. in %) <sup>1</sup>	-11.1	16.8	5.9	4.0	0.0	5.0	10.0	6.3	7.0
Exchange rate (US\$/C\$)	0.78	0.76	0.72	0.71	0.73	0.72	0.77	0.93	0.73
Overnight funds	0.65	0.50	0.50	0.55	0.80	0.50	0.55	0.81	0.57
Prime rate	2.79	2.70	2.70	2.75	3.00	2.70	2.75	2.83	2.77
Mortgage rate – 1-year	2.97	3.15	3.15	3.20	3.20	3.00	3.20	3.36	3.15
– 5-year	4.67	4.65	4.75	4.95	4.95	4.85	5.05	5.25	4.87
Treasury bills – 3-month	0.53	0.50	0.55	0.65	0.75	0.50	0.60	0.74	0.59
Federal bonds – 2-year	0.55	0.55	0.80	1.15	1.05	0.70	1.00	1.14	0.88
– 5-year	0.86	0.70	1.25	1.75	1.55	1.15	1.55	1.75	1.33
– 10-year	1.53	1.25	1.80	2.20	2.00	1.70	2.05	2.45	1.83
– 30-year	2.20	1.90	2.45	2.60	2.35	2.00	2.30	3.03	2.27
<u><b>Yield spreads (Canada—United States)</b></u>									
Treasury bills – 3-month	0.23	-0.35	-0.95	-0.95	-0.55	-0.90	0.52	0.52	-0.57
Federal bonds – 10-year	-0.32	-1.40	-1.25	-0.60	-0.45	-1.10	-0.52	-0.52	-0.77
– 30-year	-0.40	-1.35	-1.00	-0.50	-0.40	-1.05	-1.24	-1.24	-0.77
<b>Quebec</b>									
Real GDP (var. in %)	1.2	1.5	1.6	1.5	1.0	0.8	1.2	1.2	1.3
Total inflation rate (var. in %)	1.1	0.8	1.6	1.9	1.5	1.0	1.5	1.5	1.4
Employment (var. in %)	0.9	0.8	1.0	0.5	0.2	0.1	0.4	0.8	0.5
Employment (thousands)	37	33	41	21	8	4	17	31	21
Unemployment rate	7.6	7.1	6.9	6.8	6.6	6.7	6.6	7.9	6.8
Retail sales (var. in %)	0.5	4.0	2.8	2.7	2.3	2.0	2.5	2.0	2.7
Housing starts (thousands of units)	38	38	34	32	32	30	33	44	33
<b>Ontario</b>									
Real GDP (var. in %)	2.5	2.7	2.3	2.2	1.3	1.1	1.7	1.5	1.9
Total inflation rate (var. in %)	1.2	1.8	2.1	2.2	1.7	1.2	1.6	1.7	1.8
Employment (var. in %)	0.7	1.1	1.2	1.3	0.7	0.4	0.6	0.7	0.9
Employment (thousands)	45	75	81	90	50	29	43	45	61
Unemployment rate	6.8	6.6	6.4	6.2	6.1	6.3	6.1	7.9	6.3
Retail sales (var. in %)	4.2	4.2	3.5	3.2	3.0	2.5	3.2	2.8	3.3
Housing starts (thousands of units)	70	74	64	62	62	60	65	64	64

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

Sources: Datastream, Statistics Canada, Canada Mortgage and Housing Corporation and Desjardins, Economic Studies



# Forecast Tables

December 2, 2016

Canadian Economic Forecasts																
	(q/q saar)								Annual Average			Q4/Q4				
	2015Q4	2016Q1	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2015	2016	2017	2018	2015	2016	2017
Real GDP	0.5	2.7	-1.3	3.5	2.0	1.7	1.7	2.0	2.1	0.9	1.3	1.8	2.0	0.4	1.7	1.8
Consumption	1.7	2.5	1.8	2.6	1.4	1.7	1.7	1.7	1.7	1.9	2.2	1.7	1.7	1.7	2.1	1.7
Business investment	-12.0	-8.6	-0.7	0.2	-2.7	1.0	2.1	3.4	3.4	-11.1	-6.8	0.8	3.3	-15.2	-3.0	2.5
Non-residential structures	-16.1	-12.7	-4.3	15.7	-11.0	0.0	2.0	4.0	4.0	-16.0	-9.4	0.5	3.7	-21.4	-3.7	2.5
Machinery and equipment	-10.1	-2.2	4.1	-12.2	4.0	2.0	2.0	2.5	2.5	-3.3	-3.6	0.7	2.5	-6.1	-1.8	2.2
Residential construction	1.8	10.2	0.3	-5.5	-3.5	-3.0	-2.0	0.0	0.0	3.8	2.3	-2.5	0.1	2.3	0.2	-1.3
Government spending	-0.1	3.2	4.3	-0.6	4.0	2.6	2.6	3.6	3.7	1.9	1.9	2.8	3.3	2.0	2.7	3.1
Exports	-2.1	9.0	-14.8	8.9	4.3	2.9	2.9	2.9	2.9	3.6	1.0	2.7	2.7	1.8	1.3	2.9
Imports	-6.3	2.3	1.4	3.3	-2.0	2.0	2.0	2.0	2.0	0.3	-0.7	1.4	2.0	-2.9	1.2	2.0
Inflation																
Total CPI (y/y %)	1.3	1.5	1.6	1.2	1.9	2.4	1.7	1.8	1.8	1.1	1.6	1.9	1.9	1.3	1.9	1.8
Core CPI (y/y %)	2.0	2.0	2.1	1.9	2.2	2.2	1.7	1.9	1.9	2.2	2.0	1.9	1.9	2.0	2.2	1.9
Unemployment rate (%)*)	7.1	7.2	7.0	7.0	6.9	6.9	6.9	6.9	6.8	6.9	7.0	6.9	6.7	-	-	-
Employment	0.9	0.2	0.7	0.3	1.1	0.9	0.9	0.9	0.9	0.8	0.6	0.9	0.9	0.8	0.6	0.9
Housing starts (in 000s)*	194	198	198	200	186	180	180	180	180	194	196	180	180	-	-	-
Nominal GDP	-0.3	2.7	-0.2	6.1	5.4	4.2	2.6	3.9	4.5	0.2	2.0	4.0	3.7	-0.4	3.5	3.8

\*Average for the period.

Updated: December 2016

Financial Forecasts													
	14Q4	15Q1	15Q2	15Q3	15Q4	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4
Canada													
Overnight Rate Target	1.00	0.75	0.75	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
3-Month Treasury Bills	0.91	0.55	0.58	0.43	0.51	0.45	0.50	0.52	0.50	0.50	0.50	0.50	0.60
2-Year Bond	1.01	0.51	0.49	0.53	0.48	0.54	0.52	0.54	0.60	0.60	0.65	0.70	0.80
5-Year Bond	1.34	0.77	0.81	0.81	0.73	0.68	0.57	0.61	0.95	1.00	1.10	1.15	1.10
10-Year Bond	1.79	1.36	1.68	1.45	1.39	1.23	1.06	1.19	1.60	1.65	1.75	1.80	1.85
30-Year Bond	2.33	1.99	2.31	2.21	2.15	2.00	1.71	1.85	2.25	2.35	2.45	2.50	2.55
United States													
Federal Funds Rate Target*	0.125	0.125	0.125	0.125	0.375	0.375	0.375	0.375	0.625	0.625	0.875	0.875	1.125
3-Month Treasury Bills	0.04	0.03	0.01	0.00	0.16	0.21	0.22	0.33	0.55	0.60	0.75	0.80	1.00
2-Year Bond	0.67	0.56	0.64	0.64	1.06	0.76	0.59	0.76	1.10	1.25	1.40	1.50	1.60
5-Year Bond	1.65	1.37	1.63	1.37	1.76	1.21	1.00	1.24	1.75	1.80	1.90	2.00	2.10
10-Year Bond	2.17	1.94	2.35	2.06	2.27	1.78	1.46	1.59	2.30	2.35	2.45	2.55	2.65
30-Year Bond	2.75	2.54	3.11	2.87	3.01	2.61	2.28	2.31	3.00	3.10	3.20	3.30	3.40
Canadian Dollar (US\$/C\$)	0.86	0.79	0.80	0.75	0.72	0.77	0.76	0.76	0.76	0.77	0.78	0.79	0.80
S&P 500 Index	2059	2068	2063	1920	2044	2060	2099	2168	2300	---	---	---	2500
TSX Index	14632	14902	14553	13307	13010	13494	14064	14726	15000	---	---	---	16500
Oil WTI (US\$/barrel)	53.5	47.7	59.5	45.1	37.0	38.3	48.3	48	55.0	60.0	65.0	70.0	70.0

Quarter-end data and annual averages

Updated: December 2016 \* midpoint of the target range for the Fed funds



**FINANCIAL MARKETS**

A division of National Bank of Canada

# MONTHLY FIXED INCOME MONITOR

Economics and Strategy

**January 2017**

## Highlights

- Until we know more about what the new administration will deliver, our base case scenario is US GDP growth of 2.2% in 2017 and 2.4% in 2018, leaving the year-end unemployment rate at 4.8% in 2017 and 4.6% in 2018. In these conditions we still see only two rate hikes in 2017 and three in 2018.
- Assuming president-elect Trump's policy mix ends up pro-growth for North America and 10-year Treasuries are heading toward 3.03%, we expect 10-year Canadas to be dragged partway along, yielding 2.14% by year end 2017.

**Paul-André Pinsonnault**

## Forecast dated December 16, 2016

### United States

Quarters	Fed Fund	3 Mth Bill	2YR	5YR	10YR	30YR
12/16/16	0.50	0.50	1.25	2.07	2.59	3.17
Q4	0.75	0.55	1.22	2.00	2.54	3.15
Q1/17	0.75	0.58	1.55	2.27	2.70	3.22
Q2	1.00	0.80	1.60	2.34	2.78	3.25
Q3	1.00	0.84	1.75	2.41	2.82	3.27
Q4	1.25	1.05	1.89	2.62	3.03	3.43
Q1/18	1.50	1.29	2.05	2.69	3.08	3.45
Q2	1.50	1.29	2.35	2.81	3.15	3.52
Q3	1.75	1.55	2.56	2.90	3.21	3.57
Q4	2.00	1.93	2.58	2.92	3.24	3.59

### Canada

Quarters	Overnight	3 Mth Bill	2YR	5YR	10YR	30YR
12/16/16	0.50	0.49	0.82	1.21	1.83	2.42
Q4	0.50	0.48	0.80	1.18	1.80	2.40
Q1/2017	0.50	0.48	0.89	1.34	1.96	2.49
Q2	0.50	0.48	0.89	1.36	2.00	2.50
Q3	0.50	0.48	0.94	1.42	2.05	2.50
Q4	0.50	0.63	1.03	1.52	2.14	2.56
Q1/2018	0.75	0.74	1.14	1.67	2.30	2.68
Q2	1.00	0.96	1.37	1.91	2.51	2.86
Q3	1.00	1.13	1.45	1.98	2.55	2.89
Q4	1.25	1.21	1.65	2.09	2.62	2.96

## ECONOMIC OUTLOOK

### ANNEX

#### Canada Economic Forecast

<i>(Annual % change)*</i>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2016</b>	<b>Q4/Q4 2017</b>	<b>2018</b>
Gross domestic product (2007 \$)	2.6	0.9	1.3	1.9	1.7	1.7	1.9	1.6
Consumption	2.8	1.9	2.2	1.6	1.3	2.3	1.1	1.3
Residential construction	2.7	3.8	2.2	(3.0)	(1.5)	(0.2)	(2.0)	(1.5)
Business investment	3.2	(11.5)	(7.0)	0.7	2.6	(2.7)	2.7	1.9
Government expenditures	0.0	1.9	1.8	2.8	0.8	2.2	2.7	0.5
Exports	5.8	3.4	1.1	3.4	4.3	1.5	4.1	3.7
Imports	2.2	0.3	(0.5)	2.2	2.2	2.0	2.5	1.7
Change in inventories (millions \$)	9,392	3,861	-47	1,485	1,249	2,511	1,608	1,500
Domestic demand	1.9	0.3	1.0	1.4	1.1	1.5	1.5	1.0
Real disposable income	1.3	3.3	2.8	2.6	1.7	2.8	1.9	1.7
Employment	0.6	0.9	0.7	0.8	0.7	0.8	0.6	0.7
Unemployment rate	6.9	6.9	7.0	7.0	6.9	6.9	6.9	6.8
Inflation	1.9	1.1	1.5	1.8	2.0	1.6	1.9	1.9
Before-tax profits	8.2	(19.5)	(4.8)	15.1	7.5	8.8	11.5	6.0
Current account (bil. \$)	(48.2)	(67.6)	(72.0)	(63.4)	(52.2)	....	....	....

\* or as noted

#### Financial Forecast\*\*

	<b>Current</b>	<b>12-20-16</b>	<b>Q1 2017</b>	<b>Q2 2017</b>	<b>Q3 2017</b>	<b>Q4 2017</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Overnight rate	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.25
3 month T-Bills	0.48	0.48	0.48	0.48	0.48	0.63	0.48	0.63	1.21
Treasury yield curve									
2-Year	0.82	0.89	0.89	0.94	1.03	0.80	1.03	1.65	
5-Year	1.20	1.34	1.36	1.42	1.52	1.18	1.52	2.09	
10-Year	1.80	1.96	2.00	2.05	2.14	1.80	2.14	2.62	
30-Year	2.40	2.49	2.50	2.50	2.56	2.40	2.56	2.96	
CAD per USD	1.34	1.38	1.40	1.39	1.37	1.34	1.37	1.33	
Oil price (WTI), U.S.\$	52	50	47	52	55	50	55	60	

National Bank Financial

\*\* end of period



## FINANCIAL MARKET FORECASTS

January 2017

**Interest rates (%, end of quarter, )**

	Actual				Forecast								Actual		Forecast	
	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	2015	2016	2017	2018
<b>Canada</b>																
Overnight	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.75	1.00	1.25	0.50	0.50	0.50	1.25
Three-month	0.45	0.49	0.53	0.46	0.50	0.50	0.55	0.60	0.65	0.85	1.15	1.40	0.51	0.46	0.60	1.40
Two-year	0.54	0.52	0.52	0.75	0.75	0.85	0.95	1.05	1.20	1.40	1.60	1.80	0.48	0.75	1.05	1.80
Five-year	0.67	0.57	0.62	1.12	1.05	1.30	1.55	1.85	2.05	2.30	2.45	2.60	0.73	1.12	1.85	2.60
10-year	1.23	1.06	1.00	1.71	1.70	1.90	2.15	2.45	2.60	2.80	2.95	3.10	1.40	1.71	2.45	3.10
30-year	2.00	1.72	1.66	2.31	2.30	2.45	2.70	2.95	3.05	3.20	3.30	3.45	2.15	2.31	2.95	3.45
Yield curve (10s-2s)	69	54	48	96	95	105	120	140	140	140	135	130	92	96	140	130
<b>United States</b>																
Fed funds*	0.50	0.50	0.50	0.75	0.75	1.00	1.00	1.25	1.50	1.75	2.00	2.25	0.50	0.75	1.25	2.25
Three-month	0.21	0.26	0.29	0.51	0.55	0.90	0.90	1.10	1.40	1.65	1.90	2.10	0.16	0.51	1.10	2.10
Two-year	0.73	0.58	0.77	1.20	1.20	1.40	1.55	1.80	2.05	2.30	2.50	2.70	1.06	1.20	1.80	2.70
Five-year	1.21	1.01	1.14	1.93	1.90	2.10	2.25	2.45	2.65	2.90	3.00	3.15	1.76	1.93	2.45	3.15
10-year	1.78	1.49	1.60	2.45	2.40	2.65	2.80	3.00	3.15	3.40	3.50	3.60	2.27	2.45	3.00	3.60
30-year	2.61	2.30	2.32	3.06	3.00	3.20	3.35	3.50	3.60	3.75	3.80	3.85	3.01	3.06	3.50	3.85
Yield curve (10s-2s)	105	91	83	125	120	125	125	120	110	110	100	90	121	125	120	90
<b>Yield spreads</b>																
Three-month T-bills	0.24	0.23	0.24	-0.05	-0.05	-0.40	-0.35	-0.50	-0.75	-0.80	-0.75	-0.70	0.35	-0.05	-0.50	-0.70
Two-year	-0.19	-0.06	-0.25	-0.45	-0.45	-0.55	-0.60	-0.75	-0.85	-0.90	-0.90	-0.90	-0.58	-0.45	-0.75	-0.90
Five-year	-0.54	-0.44	-0.52	-0.81	-0.85	-0.80	-0.70	-0.60	-0.60	-0.60	-0.55	-0.55	-1.03	-0.81	-0.60	-0.55
10-year	-0.55	-0.43	-0.60	-0.74	-0.70	-0.75	-0.65	-0.55	-0.55	-0.60	-0.55	-0.50	-0.87	-0.74	-0.55	-0.50
30-year	-0.61	-0.58	-0.66	-0.75	-0.70	-0.75	-0.65	-0.55	-0.55	-0.55	-0.50	-0.40	-0.86	-0.75	-0.55	-0.40

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

**Exchange rates (end of quarter, )**

	Actual				Forecast								Actual		Forecast	
	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	2015	2016	2017	2018
<b>AUD/USD</b>																
	0.77	0.75	0.77	0.74	0.74	0.74	0.73	0.72	0.72	0.72	0.73	0.73	0.73	0.74	0.72	0.73
<b>USD/CAD</b>																
	1.30	1.29	1.31	1.33	1.35	1.38	1.38	1.38	1.37	1.36	1.35	1.33	1.38	1.33	1.38	1.33
<b>EUR/USD</b>																
	1.14	1.11	1.12	1.04	1.02	1.00	0.98	0.96	0.98	1.00	1.02	1.04	1.09	1.04	0.96	1.04
<b>USD/JPY</b>																
	112.6	102.7	101.3	118.0	120.0	118.0	115.0	110.0	105.0	107.0	108.0	109.0	120.1	118.0	110.0	109.0
<b>NZD/USD</b>																
	0.69	0.71	0.73	0.70	0.71	0.72	0.73	0.74	0.74	0.74	0.75	0.75	0.68	0.70	0.74	0.75
<b>USD/CHF</b>																
	0.96	0.98	0.97	1.04	1.05	1.06	1.09	1.13	1.12	1.11	1.09	1.08	1.00	1.04	1.13	1.08
<b>GBP/USD</b>																
	1.44	1.33	1.30	1.24	1.15	1.15	1.16	1.16	1.18	1.20	1.23	1.25	1.47	1.24	1.16	1.25

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GLOBAL ECONOMICS  
SCOTIABANK'S FORECAST TABLES

November 22, 2016

<b>Central Bank Rates</b>	2016			2017			2018			
	Q3	Q4f	Q1f	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
<b>Americas</b>										
Bank of Canada	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.75	0.75	1.00
U.S. Federal Reserve	0.50	0.75	0.75	1.00	1.25	1.50	1.50	1.75	1.75	2.00
Bank of Mexico	4.75	5.75	6.25	6.50	6.75	7.00	7.00	7.00	7.00	7.00
Central Bank of Brazil	14.25	13.75	13.50	13.00	12.50	11.50	11.00	10.50	10.00	9.50
Bank of the Republic of Colombia	7.75	7.75	7.75	7.75	7.50	7.25	6.75	6.50	6.50	6.00
Central Reserve Bank of Peru	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Central Bank of Chile	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75	4.00	4.25
<b>Europe</b>										
European Central Bank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bank of England	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Swiss National Bank	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75
<b>Asia/Oceania</b>										
Reserve Bank of Australia	1.50	1.50	1.25	1.25	1.25	1.25	1.25	1.25	1.50	1.75
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	4.35	4.35	4.35	4.35
Reserve Bank of India	6.50	6.25	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Bank of Korea	1.25	1.25	1.00	1.00	1.00	1.00	1.00	1.25	1.25	1.50
Bank Indonesia	5.00	4.75	4.50	4.50	4.50	4.50	4.50	4.75	4.75	5.00
Bank of Thailand	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.75	1.75	2.00
<b>Currencies &amp; Interest Rates</b>										
<b>Americas</b>										
Canadian Dollar (USDCAD)	1.31	1.36	1.38	1.40	1.38	1.36	1.36	1.34	1.32	1.30
Canadian Dollar (CADUSD)	0.76	0.74	0.72	0.71	0.72	0.74	0.74	0.75	0.76	0.77
Mexican Peso (USDMXN)	19.39	21.72	21.63	20.91	20.47	20.20	19.14	18.96	19.01	19.28
Brazilian Real (USDBRL)	3.26	3.40	3.50	3.50	3.55	3.70	3.50	3.50	3.60	3.80
Colombian Peso (USDCOP)	2882	2980	3000	3100	3125	3150	3175	3200	3175	3125
Peruvian Nuevo Sol (USD PEN)	3.38	3.35	3.36	3.32	3.33	3.35	3.23	3.22	3.20	3.19
Chilean Peso (USDCLP)	657	667	666	665	664	664	660	656	652	649
<b>Europe</b>										
Euro (EURUSD)	1.12	1.05	1.02	1.02	1.05	1.10	1.12	1.12	1.15	1.15
U.K. Pound (GBPUSD)	1.30	1.21	1.20	1.20	1.25	1.25	1.30	1.30	1.35	1.35
Swiss Franc (USDCHF)	0.97	1.05	1.09	1.09	1.07	1.02	1.00	1.00	0.97	0.98
Swedish Krona (USDSEK)	8.58	8.80	9.00	8.45	8.20	8.05	8.05	8.05	8.05	7.67
Norwegian Krone (USDNOK)	7.98	8.30	8.20	8.20	8.00	8.00	7.80	7.60	7.40	7.20
Russian Ruble (USDRUB)	62.9	68.5	68.0	67.5	67.0	66.5	66.0	65.0	64.0	64.0
<b>Asia/Oceania</b>										
Japanese Yen (USDJPY)	101	110	110	110	115	115	117	117	120	120
Australian Dollar (AUDUSD)	0.77	0.76	0.76	0.76	0.75	0.75	0.75	0.75	0.78	0.78
Chinese Yuan (USDCNY)	6.67	6.85	6.90	7.00	6.95	7.20	7.20	7.30	7.25	7.40
Indian Rupee (USDINR)	66.6	68.0	68.0	68.4	68.4	68.8	68.0	68.0	67.0	67.0
South Korean Won (USDKRW)	1101	1200	1200	1220	1220	1250	1220	1220	1200	1200
Indonesian Rupiah (USDIRD)	13042	13400	13400	13500	13500	13600	13500	13500	13200	13200
Thai Baht (USDTHB)	34.6	35.5	36.0	36.5	36.5	37.0	36.5	36.5	36.0	36.0
<b>Canada (Yields, %)</b>										
3-month T-bill	0.53	0.50	0.50	0.50	0.50	0.50	0.60	0.80	0.90	1.10
2-year Canada	0.52	0.60	0.65	0.75	0.85	1.05	1.20	1.35	1.45	1.60
5-year Canada	0.62	0.95	1.05	1.15	1.25	1.40	1.50	1.65	1.80	1.90
10-year Canada	1.00	1.40	1.50	1.60	1.70	1.75	1.85	1.90	2.00	2.05
30-year Canada	1.66	2.10	2.20	2.30	2.35	2.45	2.55	2.65	2.75	2.80
<b>United States (Yields, %)</b>										
3-month T-bill	0.27	0.50	0.55	0.80	1.05	1.25	1.30	1.55	1.60	1.80
2-year Treasury	0.76	1.00	1.10	1.20	1.30	1.50	1.65	1.80	1.95	2.05
5-year Treasury	1.15	1.65	1.75	1.85	1.90	2.00	2.10	2.20	2.30	2.40
10-year Treasury	1.59	2.10	2.20	2.30	2.40	2.50	2.50	2.55	2.55	2.60
30-year Treasury	2.31	2.90	3.00	3.05	3.15	3.25	3.30	3.40	3.45	3.50



INTEREST RATE OUTLOOK													
		2016				2017				2018			
		Q1	Q2	Q3	Q4*	Q1F	Q2F	Q3F	Q4F	Q1F	Q2F	Q3F	Q4F
<b>CANADA</b>													
Overnight Target Rate		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
3-mth T-Bill Rate		0.45	0.48	0.53	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.60
2-yr Govt. Bond Yield		0.54	0.52	0.52	0.81	0.65	0.70	0.70	0.75	0.80	0.90	0.95	1.00
5-yr Govt. Bond Yield		0.68	0.57	0.62	1.17	1.15	1.20	1.25	1.35	1.40	1.45	1.55	1.60
10-yr Govt. Bond Yield		1.23	1.06	1.00	1.79	1.70	1.75	1.80	1.90	1.90	2.00	2.05	2.15
30-yr Govt. Bond Yield		2.00	1.72	1.66	2.39	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.75
10-yr-2-yr Govt Spread		0.69	0.54	0.48	0.98	1.05	1.05	1.10	1.15	1.10	1.10	1.10	1.15
<b>U.S.</b>													
Fed Funds Target Rate		0.50	0.50	0.50	0.75	0.75	0.75	1.00	1.00	1.00	1.25	1.25	1.25
3-mth T-Bill Rate		0.21	0.26	0.29	0.53	0.65	0.70	0.90	0.90	0.95	1.15	1.15	1.20
2-yr Govt. Bond Yield		0.73	0.58	0.77	1.27	1.20	1.25	1.35	1.45	1.50	1.60	1.65	1.80
5-yr Govt. Bond Yield		1.21	1.01	1.14	2.05	1.90	2.00	2.05	2.15	2.25	2.30	2.40	2.45
10-yr Govt. Bond Yield		1.78	1.49	1.60	2.57	2.45	2.50	2.55	2.65	2.70	2.80	2.85	3.00
30-yr Govt. Bond Yield		2.61	2.30	2.32	3.18	3.15	3.20	3.25	3.35	3.40	3.50	3.55	3.70
10-yr-2-yr Govt Spread		1.05	0.91	0.83	1.31	1.25	1.25	1.20	1.20	1.20	1.20	1.20	1.20
<b>CANADA - U.S SPREADS</b>													
Can - U.S. T-Bill Spread		0.24	0.22	0.24	-0.03	-0.15	-0.20	-0.40	-0.40	-0.45	-0.65	-0.65	-0.60
Can - U.S. 10-Year Bond Spread		-0.55	-0.43	-0.60	-0.79	-0.75	-0.75	-0.75	-0.75	-0.80	-0.80	-0.80	-0.85

F: Forecast by TD Bank Group as at December 2016; All forecasts are end-of-period; Source: Bloomberg, Bank of Canada, Federal Reserve. \* Spot rate as at December 14, 2016.

FOREIGN EXCHANGE OUTLOOK													
Currency	Exchange rate	2016				2017				2018			
		Q1	Q2	Q3	Q4*	Q1F	Q2F	Q3F	Q4F	Q1F	Q2F	Q3F	Q4F
<b>Exchange rate to U.S. dollar</b>													
Japanese yen	JPY per USD	112	103	101	117	112	113	114	115	116	116	117	117
Euro	USD per EUR	1.14	1.10	1.12	1.05	1.06	1.08	1.10	1.12	1.14	1.15	1.15	1.16
U.K. pound	USD per GBP	1.44	1.32	1.30	1.26	1.22	1.22	1.24	1.29	1.33	1.35	1.36	1.37
<b>Exchange rate to Canadian dollar</b>													
U.S. dollar	USD per CAD	0.771	0.769	0.762	0.753	0.741	0.741	0.746	0.746	0.752	0.758	0.763	0.766
Japanese yen	JPY per CAD	86.7	79.0	77.2	88.14	83.0	83.7	85.1	85.8	86.8	87.9	88.9	89.7
Euro	CAD per EUR	1.48	1.44	1.47	1.40	1.43	1.46	1.47	1.50	1.52	1.51	1.51	1.51
U.K. pound	CAD per GBP	1.87	1.72	1.71	1.67	1.65	1.65	1.66	1.73	1.77	1.78	1.78	1.78

F: Forecast by TD Bank Group as at December 2016. All forecasts are end-of-period. Source: Federal Reserve, Bloomberg, TDBG.

\* Spot rate as at December 14, 2016.

COMMODITY PRICE OUTLOOK												
	2016				2017				2018			
	Q1	Q2	Q3	Q4*	Q1F	Q2F	Q3F	Q4F	Q1F	Q2F	Q3F	Q4F
Crude Oil (WTI, \$US/bbl)	33	45	45	51	52	52	55	55	56	56	57	57
Natural Gas (\$US/MMBtu)	1.97	2.13	2.85	3.52	3.15	3.15	3.25	3.25	3.30	3.30	3.30	3.30
Gold (\$US/troy oz.)	1182	1259	1335	1143	1250	1250	1275	1280	1300	1300	1350	1350
Silver (US\$/troy oz.)	14.93	16.84	19.63	16.83	17.25	17.75	18.25	18.75	19.00	19.00	19.50	19.50
Copper (cents/lb)	212	215	216	258	225	225	226	227	230	230	235	235
Nickel (US\$/lb)	3.86	4.00	4.65	5.17	5.10	5.00	4.75	4.75	5.00	5.00	5.25	5.25
Aluminum (cents/lb)	69	71	73	79	74	74	76	76	78	78	78	78
Wheat (\$US/bu)	5.89	6.06	5.73	6.55	6.50	6.50	6.60	6.60	6.70	6.80	6.85	6.90

F: Forecast by TD Bank Group as at December 2016. All forecasts are period averages. Source: Bloomberg, USDA (Haver). \* Spot rate as at December 14, 2016.



INTEREST RATE OUTLOOK												
	Annual Average						End of Period					
	15	16F	17F	18F	19F	20F	15	16F	17F	18F	19F	20F
<b>U.S. FIXED INCOME</b>												
Fed Funds Target Rate (%)*	0.31	0.55	0.90	1.20	1.55	1.90	0.50	0.75	1.00	1.25	1.75	2.00
3-mth T-Bill Rate (%)	0.05	0.35	0.80	1.10	1.50	1.80	0.16	0.55	0.90	1.20	1.65	1.90
2-yr Govt. Bond Yield (%)	0.73	0.75	1.30	1.65	1.95	2.25	1.06	1.30	1.45	1.80	2.10	2.35
5-yr Govt. Bond Yield (%)	1.53	1.25	2.00	2.30	2.50	2.70	1.76	2.05	2.15	2.45	2.55	2.75
10-yr Govt. Bond Yield (%)	2.16	1.75	2.50	2.80	3.10	3.25	2.27	2.60	2.65	3.00	3.15	3.25
10-yr-2-yr Govt. Spread (%)	1.43	1.00	1.20	1.15	1.15	1.00	1.21	1.30	1.20	1.20	1.05	0.90
<b>CANADIAN FIXED INCOME</b>												
Overnight Target Rate (%)	0.63	0.50	0.50	0.50	0.80	1.15	0.50	0.50	0.50	0.50	1.00	1.25
3-mth T-Bill Rate (%)	0.52	0.50	0.50	0.55	0.85	1.20	0.51	0.50	0.50	0.60	1.00	1.30
2-yr Govt. Bond Yield (%)	0.50	0.55	0.70	0.90	1.20	1.55	0.48	0.80	0.75	1.00	1.35	1.65
5-yr Govt. Bond Yield (%)	0.78	0.70	1.15	1.45	1.70	1.95	0.73	1.20	1.35	1.60	1.80	2.00
10-yr Govt. Bond Yield (%)	1.47	1.20	1.70	2.00	2.25	2.40	1.39	1.80	1.90	2.15	2.30	2.45
10-yr-2-yr Govt. Spread (%)	0.97	0.65	1.00	1.10	1.05	0.85	0.91	1.00	1.15	1.15	0.95	0.80

\*Upper bound of target range. F: Forecast by TD Economics, December 2016

Source: Statistics Canada, Bank of Canada, Bloomberg

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INTEREST RATE OUTLOOK												
	2016				2017				2018			
	Q1	Q2	Q3	Q4*	Q1F	Q2F	Q3F	Q4F	Q1F	Q2F	Q3F	Q4F
Fed Funds Target Rate	0.50	0.50	0.50	0.75	0.75	0.75	1.00	1.00	1.00	1.25	1.25	1.25
3-mth T-Bill Rate	0.21	0.26	0.29	0.53	0.65	0.70	0.90	0.90	0.95	1.15	1.15	1.20
2-yr Govt. Bond Yield	0.73	0.58	0.77	1.27	1.20	1.25	1.35	1.45	1.50	1.60	1.65	1.80
5-yr Govt. Bond Yield	1.21	1.01	1.14	2.05	1.90	2.00	2.05	2.15	2.25	2.30	2.40	2.45
10-yr Govt. Bond Yield	1.78	1.49	1.60	2.57	2.45	2.50	2.55	2.65	2.70	2.80	2.85	3.00
30-yr Govt. Bond Yield	2.61	2.30	2.32	3.18	3.15	3.20	3.25	3.35	3.40	3.50	3.55	3.70
10-yr-2-yr Govt Spread	1.05	0.91	0.83	1.31	1.25	1.25	1.20	1.20	1.20	1.20	1.20	1.20

F: Forecast by TD Bank Group as at December 2016; All forecasts are end-of-period; Source: Bloomberg, Bank of Canada, Federal Reserve.

\* Spot rate as at December 14, 2016.

FOREIGN EXCHANGE OUTLOOK													
Currency	Exchange rate	2016				2017				2018			
		Q1	Q2	Q3	Q4*	Q1F	Q2F	Q3F	Q4F	Q1F	Q2F	Q3F	Q4F
Canadian dollar	CAD per USD	1.30	1.30	1.31	1.33	1.35	1.35	1.34	1.34	1.33	1.32	1.31	1.31
Japanese yen	JPY per USD	112	103	101	117.03	112	113	114	115	116	116	117	117
Euro	USD per EUR	1.14	1.10	1.12	1.05	1.06	1.08	1.10	1.12	1.14	1.15	1.15	1.16
U.K. pound	USD per GBP	1.44	1.32	1.30	1.26	1.22	1.22	1.24	1.29	1.33	1.35	1.36	1.37
Swiss franc	CHF per USD	0.96	0.98	0.97	1.02	1.01	1.01	1.01	1.00	1.00	1.00	1.00	1.00
Australian dollar	USD per AUD	0.77	0.74	0.77	0.74	0.72	0.72	0.73	0.74	0.75	0.75	0.75	0.75
NZ dollar	USD per NZD	0.69	0.71	0.73	0.71	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.64

F: Forecast by TD Bank Group as at December 2016. All forecasts are end-of-period. Source: Federal Reserve, Bloomberg, TDBG.

\* Spot rate as at December 14, 2016.

COMMODITY PRICE OUTLOOK												
	2016				2017				2018			
	Q1	Q2	Q3	Q4*	Q1F	Q2F	Q3F	Q4F	Q1F	Q2F	Q3F	Q4F
Crude Oil (WTI, \$US/bbl)	33	45	45	51	52	52	55	55	56	56	57	57
Natural Gas (\$US/MMBtu)	1.97	2.13	2.85	3.52	3.15	3.15	3.25	3.25	3.30	3.30	3.30	3.30
Gold (\$US/troy oz.)	1182	1259	1335	1143	1250	1250	1275	1280	1300	1300	1350	1350
Silver (US\$/troy oz.)	14.93	16.84	19.63	16.83	17.25	17.75	18.25	18.75	19.00	19.00	19.50	19.50
Copper (cents/lb)	212	215	216	258	225	225	226	227	230	230	235	235
Nickel (US\$/lb)	3.86	4.00	4.65	5.17	5.10	5.00	4.75	4.75	5.00	5.00	5.25	5.25
Aluminum (cents/lb)	69	71	73	79	74	74	76	76	78	78	78	78
Wheat (\$US/bu)	5.89	6.06	5.73	6.55	6.50	6.50	6.60	6.60	6.70	6.80	6.85	6.90

F: Forecast by TD Bank Group as at December 2016. All forecasts are period averages. Source: Bloomberg, USDA (Haver). \* Spot rate as at December 14, 2016.

## Conference Board December 15, 2016

	2016-Q2	2016-Q3	2016-Q4	2017-Q1	2017-Q2	2017-Q3	2017-Q4	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	
<b>RGOCL</b>	<b>Cdn Long Bond rate</b>	1.94	1.65	2.05	2.08	2.12	2.18	2.22	2.28	2.34	2.46	2.56	2.62	2.75	2.87	2.97	3.09	3.21	3.34	3.47	3.57
<b>RTB90</b>	<b>Cdn T-Bill Rate</b>	0.53	0.52	0.51	0.51	0.51	0.51	0.51	0.56	0.69	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00
<b>PFX</b>	<b>Cdn\$/US\$</b>	1.29	1.31	1.33	1.34	1.34	1.34	1.34	1.33	1.32	1.32	1.31	1.30	1.30	1.29	1.29	1.29	1.29	1.29	1.28	1.28
<b>USRRTB90</b>	<b>US T-Bill Rate %</b>	0.26	0.30	0.48	0.61	0.77	0.88	1.01	1.13	1.36	1.48	1.57	1.68	1.80	1.91	2.02	2.13	2.26	2.38	2.51	2.63
<b>RGOC10</b>	<b>Cdn 10 Yr Bond rate</b>	1.33	1.02	1.44	1.53	1.60	1.69	1.79	1.96	2.07	2.20	2.32	2.43	2.55	2.68	2.78	2.89	3.02	3.15	3.28	3.37
<b>RGOC5</b>	<b>Cdn 5 Yr Bond rate</b>	0.77	0.63	0.89	0.90	0.98	1.09	1.21	1.28	1.45	1.58	1.70	1.83	1.94	2.07	2.20	2.32	2.43	2.56	2.69	2.78

IHS Global Insight - December 9, 2016

Table 1

IHS Global Insight - December 9, 2016

IHS Global Insight - December 9, 2016

Table 25