

ROYAL BANK OF CANADA  
Form 424B2  
November 21, 2017

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PRICING SUPPLEMENT

Filed Pursuant to Rule 424(b)(2)

Registration Statement No. 333-208507

Dated November 17, 2017

Royal Bank of Canada Buffer GEARS

\$1,371,900 Securities Linked to a Basket of 29 Equity Securities due on November 30, 2022

Investment Description

Buffer GEARS (each, a “Security” and collectively, the “Securities”) are unconditional, unsecured and unsubordinated debt securities issued by Royal Bank of Canada with returns linked to an equally weighted basket (the “Underlying”) of 29 selected equity securities (each, a “Basket Equity”). The Basket Equities represent 29 out of the 30 components of the Dow Jones Industrial Average™ (the “DJIA”) as of November 14, 2017; however, unlike the DJIA, the Basket Equities are equally weighted within the Basket. The Basket Equities are listed on page 4, and described in more detail below. If the Underlying Return is positive, we will repay the principal amount at maturity plus pay a return equal to an amount that is equal to the Underlying Return multiplied by the Upside Gearing of 1.04 (the “Upside Gearing”). If the Underlying Return is zero or negative, but the Final Underlying Level is not below the Downside Threshold of 80% of the Initial Underlying Level, we will repay the full principal amount at maturity. If the Underlying Return is negative and the Final Underlying is below the Downside Threshold, you will lose 1% of the principal amount of your Securities for every 1% decline in the level of the Underlying in excess of the Buffer, up to a loss of 80% of your investment. Investing in the Securities involves significant risks. The Securities do not pay dividends or interest. You may lose up to 80% of the principal amount. The buffered downside exposure to the Underlying is applicable only at maturity. Any payment on the Securities, including any repayment of principal, is subject to our creditworthiness. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Securities and you could lose your entire investment. The Securities will not be listed on any exchange.

Features

q Enhanced Growth Potential— At maturity, if the Underlying Return is positive, we will pay you the principal amount plus a return equal to the Upside Gearing times the Underlying Return.

q Buffered Downside Market Exposure— If the Underlying Return is zero or negative, but the Final Underlying Level is greater than or equal to the Downside Threshold, we will pay the full principal amount at maturity. However, if the Underlying Return is negative and the Final Underlying Level is less than the Downside Threshold, we will pay less than the full principal amount, resulting in a loss of the principal amount that is proportionate to the percentage decline in the Underlying in excess of the Buffer. Accordingly, you may lose up to 80% of the principal amount of the Securities. Any payment on the Securities, including any repayment of principal, is subject to our creditworthiness.

Key Dates

Trade Date November 17, 2017

Settlement Date November 22, 2017

Final Valuation Date<sup>1</sup> November 25, 2022

Maturity Date<sup>1</sup> November 30, 2022

<sup>1</sup> Subject to postponement in the event of a market disruption event and as described under “General Terms of the Securities — Payment at Maturity” in the accompanying product prospectus supplement no. EQUITY-ROS-1.

**NOTICE TO INVESTORS: THE SECURITIES ARE SIGNIFICANTLY RISKIER THAN CONVENTIONAL DEBT INSTRUMENTS. THE ISSUER IS NOT NECESSARILY OBLIGATED TO REPAY THE FULL PRINCIPAL AMOUNT OF THE SECURITIES AT MATURITY, AND THE SECURITIES HAVE DOWNSIDE MARKET RISK SIMILAR TO THE UNDERLYING, SUBJECT TO THE BUFFER. THIS MARKET RISK IS IN ADDITION TO THE CREDIT RISK INHERENT IN PURCHASING OUR DEBT OBLIGATION. YOU SHOULD**

NOT PURCHASE THE SECURITIES IF YOU DO NOT UNDERSTAND OR ARE NOT COMFORTABLE WITH THE SIGNIFICANT RISKS INVOLVED IN INVESTING IN THE SECURITIES.

YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED UNDER “KEY RISKS” BEGINNING ON PAGE 5 OF THIS PRICING SUPPLEMENT AND UNDER “RISK FACTORS” BEGINNING ON PAGE PS-4 OF THE ACCOMPANYING PRODUCT PROSPECTUS SUPPLEMENT NO. EQUITY-ROS-1 BEFORE PURCHASING ANY SECURITIES. EVENTS RELATING TO ANY OF THOSE RISKS, OR OTHER RISKS AND UNCERTAINTIES, COULD ADVERSELY AFFECT THE MARKET VALUE OF, AND THE RETURN ON, YOUR SECURITIES. YOU COULD LOSE UP TO 80% OF THE PRINCIPAL AMOUNT OF THE SECURITIES.

Security Offering

We are offering Buffer GEARS Linked to an equally weighted basket of 29 equity securities. The Securities are offered at a minimum investment of 100 Securities at the Price to Public described below.

Underlying	Weighting of Each Basket Equity	Upside Gearing	Buffer	Downside Threshold	Initial Underlying Level	CUSIP	ISIN
A Basket of 29 Equity Securities	1/29	1.04	20%	80 (80% of the Initial Underlying Level)	\$100	78013F677	US78013F6777

See “Additional Information About Royal Bank of Canada and the Securities” in this pricing supplement. The Securities will have the terms specified in the prospectus dated January 8, 2016, the prospectus supplement dated January 8, 2016, product prospectus supplement no. EQUITY-ROS-1 dated January 29, 2016 and this pricing supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Securities or passed upon the accuracy or the adequacy of this pricing supplement or the accompanying prospectus, prospectus supplement and product prospectus supplement no. EQUITY-ROS-1. Any representation to the contrary is a criminal offense.

Offering of Securities	Price to Public <sup>(1)</sup>		Fees and Commissions <sup>(1)</sup>		Proceeds to Us	
	Total	Per Security	Total	Per Security	Total	Per Security
	\$1,371,900	\$10.00	\$0.00	\$0.00	\$1,371,900	\$10.00

<sup>(1)</sup> All sales of the Securities will be made to certain fee-based advisory accounts for which UBS Financial Services Inc., which we refer to as UBS, is an investment advisor and UBS will act as placement agent. The purchase price will be \$10.00 per Security and UBS will forgo any commissions related to these sales. See “Supplemental Plan of Distribution (Conflicts of Interest)” on the last page of this pricing supplement.

The initial estimated value of the Securities as of the date of this document is \$9.5422 per \$10 in principal amount, which is less than the price to public. The actual value of the Securities at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. We describe our determination of the initial estimated value under “Key Risks” beginning on page 5 and “Supplemental Plan of Distribution (Conflicts of Interest)” and “Structuring the Securities” the last page of this pricing supplement.

The Securities will not constitute deposits insured under the Canada Deposit Insurance Corporation Act or by the United States Federal Deposit Insurance Corporation or any other Canadian or United States government agency or instrumentality.

UBS Financial Services Inc. RBC Capital Markets, LLC

Additional Information About Royal Bank of Canada and the Securities

You should read this pricing supplement together with the prospectus dated January 8, 2016, as supplemented by the prospectus supplement dated January 8, 2016, relating to our senior global medium-term notes, Series G, of which these Securities are a part, and the more detailed information contained in product prospectus supplement no. EQUITY-ROS-1 dated January 29, 2016. This pricing supplement, together with the documents listed below, contains the terms of the Securities and supersedes all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in “Risk Factors” in the accompanying product prospectus supplement no. EQUITY-ROS-1, as the Securities involve risks not associated with conventional debt securities.

If the terms discussed in this pricing supplement differ from those discussed in the product prospectus supplement, the prospectus supplement or the prospectus, the terms discussed herein will control. Please note in particular that, several defined terms in the product prospectus supplement are replaced in this document with different terms:

- instead of “Underlying Basket” in the product prospectus supplement, the term “Underlying” is used in this document;
- instead of “Multiplier” in the product prospectus supplement, the term “Upside Gearing” is used in this document; and
- instead of “Buffer Percentage” in the product prospectus supplement, the term “Buffer” is used in this document.

You may access these on the SEC website at [www.sec.gov](http://www.sec.gov) as follows (or if such address has changed, by reviewing our filing for the relevant date on the SEC website):

· Product prospectus supplement no. EQUITY-ROS-1 dated January 29, 2016:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036116049137/form424b5.htm>

· Prospectus supplement dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008811/p14150424b3.htm>

· Prospectus dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008810/j18160424b3.htm>

As used in this pricing supplement, “we,” “us” or “our” refers to Royal Bank of Canada.

### Investor Suitability

The Securities may be suitable for you if, among other considerations:

.. You fully understand the risks inherent in an investment in the Securities, including the risk of loss of up to 80% of the principal amount.

You can tolerate the loss of up to 80% of the principal amount of the Securities and are willing to make an investment that has similar downside market risk as a hypothetical investment in the Underlying, subject to the Buffer at maturity.

.. You believe that the value of the Underlying will appreciate over the term of the Securities.

.. You are willing to invest in the Securities based on the Upside Gearing indicated on the cover page of this pricing supplement.

.. You can tolerate fluctuations in the price of the Securities prior to maturity that may be similar to or exceed the downside fluctuations in the value of the Underlying.

.. You do not seek current income from your investment and are willing to forgo dividends paid on the Basket Equities.

.. You understand and accept the risks associated with an investment linked to the Basket equities.

.. You are willing to hold the Securities to maturity and accept that there may be little or no secondary market for the Securities.

.. You are willing to assume our credit risk for all payments under the Securities, and understand that if we default on our obligations, you may not receive any amounts due to you, including any repayment of principal.

The Securities may not be suitable for you if, among other considerations:

.. You do not fully understand the risks inherent in an investment in the Securities, including the risk of loss of up to 80% of the principal amount.

.. You require an investment designed to provide a full return of principal at maturity.

You cannot tolerate the loss of up to 80% of the principal amount of the Securities, and you are not willing to make an investment that has similar downside market risk as a hypothetical investment in the Underlying, subject to the Buffer.

.. You believe that the value of the Underlying will decline over the term of the Securities.

.. You are unwilling to invest in the Securities based on the Upside Gearing indicated on the cover page of this pricing supplement.

.. You cannot tolerate fluctuations in the price of the Securities prior to maturity that may be similar to or exceed the downside fluctuations in the value of the Underlying.

.. You seek current income from this investment or prefer to receive the dividends paid on the Basket Equities.

.. You do not understand or accept the risks associated with an investment linked to the Basket Equities.

.. You are unable or unwilling to hold the Securities to maturity, or you seek an investment for which there will be an active secondary market.

.. You are not willing to assume our credit risk for all payments under the Securities, including any repayment of principal.

The suitability considerations identified above are not exhaustive. Whether or not the Securities are a suitable investment for you will depend on your individual circumstances, and you should reach an investment decision only after you and your investment, legal, tax, accounting, and other advisers have carefully considered the suitability of an investment in the Securities in light of your particular circumstances. You should also review carefully the “Key Risks” beginning on page 5 of this pricing supplement and the “Risk Factors” beginning on page PS-4 of the accompanying product prospectus supplement no. EQUITY-ROS-1 for risks related to an investment in the Securities. In addition, you should review carefully the section below, “Information About the Basket Equities,” for more information about the Basket Equities.

Final Terms of the Securities<sup>1</sup>

Issuer: Royal Bank of Canada  
 Issue Price: \$10 per Security (subject to a minimum purchase of 100 Securities).  
 Principal Amount: \$10 per Security.  
 Term: Approximately five (5) years  
 Underlying: An equally weighted basket consisting of the following equity securities:

Basket Equity	Bloomberg Symbol	Initial Equity Price
Apple Inc.	AAPL	\$170.15
American Express Company	AXP	\$93.69
The Boeing Company	BA	\$262.26
Caterpillar Inc.	CAT	\$136.13
Cisco Systems, Inc.	CSCO	\$35.90
Chevron Corporation	CVX	\$114.71
The Walt Disney Company	DIS	\$103.44
DowDuPont Inc.	DWDP	\$70.74
General Electric Company	GE	\$18.21
The Goldman Sachs Group, Inc.	GS	\$238.02
The Home Depot, Inc.	HD	\$167.74
International Business Machines Corporation	IBM	\$148.97
Intel Corporation	INTC	\$44.63
Johnson & Johnson	JNJ	\$138.00
JPMorgan Chase & Co.	JPM	\$98.14
The Coca-Cola Company	KO	\$45.71
McDonald's Corporation	MCD	\$166.72
3M Company	MMM	\$229.36
Merck & Co., Inc.	MRK	\$55.20
Microsoft Corporation	MSFT	\$82.40
NIKE, Inc.	NKE	\$59.19
Pfizer, Inc.	PFE	\$35.37
The Procter & Gamble Company	PG	\$88.43
The Travelers Companies, Inc.	TRV	\$129.92
UnitedHealth Group Incorporated	UNH	\$209.90
United Technologies Corporation	UTX	\$116.53
Verizon Communications Inc.	VZ	\$45.42
Wal-Mart Stores, Inc.	WMT	\$97.47
Exxon Mobil Corporation	XOM	\$80.24

## Weighting of

Each 1/29

## Basket Equity:

Upside Gearing: 1.04

Buffer: 20%

Downside Threshold: 80 (80% of the Initial Underlying Level)

Payment at Maturity (per \$10 Security): If the Underlying Return is positive, we will pay you:

\$10 + (\$10 x Underlying Return x Upside Gearing)

If the Underlying Return is zero or negative, but the Final Underlying Level is greater than or equal to the Downside Threshold, we will pay you:

\$10

If the Underlying Return is negative and the Final Underlying Level is less than the Downside Threshold, we will pay you:

$\$10 + (\$10 \times \text{Underlying Return} + \text{Buffer})$

In this scenario, you will lose up to 80% of the principal amount of the Securities in an amount proportionate to the percentage decline in the Underlying by more than the Buffer.

Underlying Return:  $\frac{\text{Final Underlying Level} - \text{Initial Underlying Level}}{\text{Initial Underlying Level}}$   
Initial Underlying: 100

Level:

Final

Underlying Level:  $100 \times [1 + (\text{the sum of the Equity Return of each Basket Equity multiplied by its Weighting})]$

Equity Return of Each Basket Equity:

$\frac{\text{Final Equity Price} - \text{Initial Equity Price}}{\text{Initial Equity Price}}$

Initial Equity Price:

With respect to each Basket Equity, the Closing Price of that Basket Equity on the Trade Date, as indicated in the table above, subject to adjustment as described in the section “General Terms of the Securities—Anti-dilution Adjustments” of the product prospectus supplement.

Final Equity Price:

With respect to each Basket Equity, the Closing Price of that Basket Equity on the Final Valuation Date.

Investment Timeline

Trade Date: The Upside Gearing was set. The Initial Equity Price of each Basket Equity was determined and the Initial Underlying Level was set to 100.

The Final Equity Price and the Equity Return of each Basket Equity, the Final Underlying Level and the Underlying Return are determined.

If the Underlying Return is positive, we will pay you a cash payment per \$10.00 Security that provides you with your principal amount plus a return equal to the Underlying Return multiplied by the Upside Gearing. Your payment at maturity per \$10.00 Security will be equal to:

$\$10 + (\$10 \times \text{Underlying Return} \times \text{Upside Gearing})$

Maturity Date: If the Underlying Return is zero or negative, but the Final Underlying Level is greater than or equal to the Downside Threshold, we will pay you a cash payment of \$10.00 per \$10.00 Security.

If the Underlying Return is negative and the Final Underlying Level is less than the Downside Threshold, we will pay you a cash payment that is less than the principal amount of \$10.00 per Security, resulting in a loss of principal that is proportionate to the percentage decline in the Underlying in excess of the Buffer, and equal to:

$\$10.00 + (\$10.00 \times \text{Underlying Return} + \text{Buffer})$

In this scenario, you will lose up to 80% of the principal amount of the Securities, in an amount proportionate to the percentage decline in the Underlying by more than the Buffer.

**INVESTING IN THE SECURITIES INVOLVES SIGNIFICANT RISKS. YOU MAY LOSE SOME OR A SIGNIFICANT PORTION OF THE PRINCIPAL AMOUNT. ANY PAYMENT ON THE SECURITIES, INCLUDING ANY REPAYMENT OF PRINCIPAL, IS SUBJECT TO OUR CREDITWORTHINESS. IF WE WERE TO DEFAULT ON OUR PAYMENT OBLIGATIONS, YOU MAY NOT RECEIVE ANY AMOUNTS OWED TO YOU UNDER THE SECURITIES AND YOU COULD LOSE YOUR ENTIRE INVESTMENT.**

<sup>1</sup> Terms used in this pricing supplement, but not defined herein, shall have the meanings ascribed to them in the product prospectus supplement.



## Key Risks

An investment in the Securities involves significant risks. Investing in the Securities is not equivalent to investing directly in the Underlying. These risks are explained in more detail in the “Risk Factors” section of the accompanying product prospectus supplement no. EQUITY-ROS-1. We also urge you to consult your investment, legal, tax, accounting and other advisors before investing in the Securities.

### Risks Relating to the Securities Generally

**Your Investment in the Securities May Result in a Loss of Principal:** The Securities differ from ordinary debt securities in that we are not necessarily obligated to repay the full principal amount of the Securities at maturity. The return on the Securities at maturity is linked to the performance of the Underlying and will depend on whether, and the extent to which, the Underlying Return is positive or negative. If the Underlying Return is negative, and the Final Underlying Level is less than the Downside Threshold, you will be exposed to any percentage decline in the Underlying in excess of the Buffer and we will pay you less than your principal amount at maturity, resulting in a loss of principal of your Securities that is proportionate to the percentage decline in the Underlying. Accordingly, you could lose a significant portion of the principal amount of the Securities.

**The Buffered Downside Market Exposure to the Underlying Applies Only if You Hold the Securities to Maturity:** You should be willing to hold the Securities to maturity. If you are able to sell your Securities in the secondary market prior to maturity, you may have to sell them at a loss even if the Underlying has not declined by more than the 20% Buffer at the time of sale.

**The Upside Gearing Applies Only if You Hold the Securities to Maturity:** The application of the Upside Gearing only applies at maturity. If you are able to sell your Securities prior to maturity in the secondary market, the price you receive will likely not reflect the full effect of the Upside Gearing and the return you realize may be less than the Upside Gearing times the return of the Underlying, even if the return at that time is positive.

**No Interest Payments:** We will not pay any interest with respect to the Securities.

**An Investment in the Securities Is Subject to Our Credit Risk:** The Securities are our unsubordinated, unsecured debt obligations, and are not, either directly or indirectly, an obligation of any third party. Any payment to be made on the Securities, including any repayment of principal at maturity, depends on our ability to satisfy our obligations as they come due. As a result, our actual and perceived creditworthiness may affect the market value of the Securities and, in the event we were to default on our obligations, you may not receive any amounts owed to you under the terms of the Securities and you could lose your entire initial investment.

**Your Return on the Securities May Be Lower than the Return on a Conventional Debt Security of Comparable Maturity:** The return that you will receive on the Securities, which could be negative, may be less than the return you could earn on other investments. Even if your return is positive, your return may be less than the return you could earn if you bought a conventional senior interest bearing debt security that we issued with the same maturity date or if you invested directly in the Basket Equities. Your investment may not reflect the full opportunity cost to you when you take into account factors that affect the time value of money.

**Market Risk:** The price of any Basket Equity can rise or fall sharply due to factors specific to that Basket Equity and its issuer, such as stock price volatility, earnings, financial conditions, corporate, industry and regulatory developments, management changes and decisions and other events, as well as general market factors, such as general stock market volatility and levels, interest rates and economic and political conditions. You, as an investor in the Securities, should make your own investigation into the issuers of the Basket Equities and the Basket Equities. We urge you to review financial and other information filed periodically by the issuers of the Basket Equities with the SEC.

**The Initial Estimated Value of the Securities Is Less than the Price to the Public:** The initial estimated value that is set forth on the cover page of this document, which is less than the public offering price you pay for the Securities, does not represent a minimum price at which we, RBC Capital Markets, LLC (“RBCCM”) or any of our other affiliates would be willing to purchase the Securities in any secondary market (if any exists) at any time. If you attempt to sell the Securities prior to maturity, their market value may be lower than the price you paid for them and the initial estimated value. This is due to, among other things, changes in the value of the Underlying, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of our estimated profit and the costs

relating to our hedging of the Securities. These factors, together with various credit, market and economic factors over the term of the Securities, are expected to reduce the price at which you may be able to sell the Securities in any secondary market and will affect the value of the Securities in complex and unpredictable ways. Assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your Securities prior to maturity may be less than the price to public, as any such sale price would not be expected to include our estimated profit and the costs relating to our hedging of the Securities. In addition, any price at which you may sell the Securities is likely to reflect customary bid-ask spreads for similar trades. In addition to bid-ask spreads, the value of the Securities determined for any secondary market price is expected to be based on the secondary market rate rather than the internal borrowing rate used to price the Securities and determine the initial estimated value. As a result, the secondary price will be less than if the internal borrowing rate was used. The Securities are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Securities to maturity. Our Initial Estimated Value of the Securities Is an Estimate Only, Calculated as of the Time the Terms of the Securities Are Set: The initial estimated value of the Securities is based on the value of our obligation to make the payments on the Securities, together with the mid-market value of the derivative embedded in the terms of the Securities. See “Structuring the Securities” below. Our estimate is based on a variety of assumptions, including our credit spreads, expectations as to dividends, interest rates and volatility, and the expected term of the Securities. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Securities or similar securities at a price that is significantly different than we do.

The value of the Securities at any time after the Trade Date will vary based on many factors, including changes in market conditions, and cannot be predicted with accuracy. As a result, the actual value you would receive if you sold the Securities in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Securities and the amount that may be paid at maturity.

Changes in the Prices of the Basket Equities May Offset Each Other: The Securities are linked to an equally weighted basket comprised of the Basket Equities. If the market price of one or more of the Basket Equities appreciates, the market price of one or more of the other Basket Equities may not appreciate by the same amount or may even decline. Therefore, in determining the Final Underlying Level and the payment at maturity on the Securities, increases in the prices of one or more of the Basket Equities may be moderated, or offset, by lesser increases or declines in the prices of one or more of the other Basket Equities.

Owning the Securities Is Not the Same as Owning the Basket Equities: Investing in the Securities is not equivalent to investing directly in the Underlying. The return on your Securities may not reflect the return you would realize if you actually owned the Basket Equities. As a holder of the Securities, you will not have voting rights or rights to receive dividends or other distributions or other rights that holders of the Basket Equities would have. Any dividends paid on the Basket Equities will not be included in the payment at maturity.

The Historical Prices of any Basket Equity Should Not Be Taken as an Indication of Its Future Prices During the Term of the Securities: The trading prices of the Basket Equities will determine the value of the Securities at any given time. However, it is impossible to predict whether the price of any Basket Equity will rise or fall, and trading prices of the Basket Equities will be influenced by complex and interrelated political, economic, financial and other factors that can affect the value of the Underlying.

Lack of Liquidity: The Securities will not be listed on any securities exchange. RBCCM intends to offer to purchase the Securities in the secondary market, but is not required to do so. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the Securities easily. Because other dealers are not likely to make a secondary market for the Securities, the price at which you may be able to trade your Securities is likely to depend on the price, if any, at which RBCCM is willing to buy the Securities.

The Basket and the DJIA are different, and the performance of the Basket may not correlate with the performance of the DJIA. The weightings of the Basket Equities within the Basket are different than their weightings within the DJIA. Therefore, while the Basket is comprised of 29 of the 30 stocks included in the DJIA as of November 14, 2017, the performance of the Basket will not necessarily correlate with the performance of the DJIA, and consequently, the return on the Securities will not be the same as investing directly in the DJIA or in the Basket Equities comprising the DJIA, and will not be the same as investing in a debt security with a payment at maturity linked to the performance of the DJIA. In fact, there is a risk that the performance of the Basket may be significantly worse than the performance of the DJIA. Additionally, the Basket is static and will not change over the term of the Securities even if there is a change to the components of the DJIA.

Potential Conflicts: We and our affiliates play a variety of roles in connection with the issuance of the Securities, including hedging our obligations under the Securities. In performing these duties, the economic interests of the calculation agent and other affiliates of ours are potentially adverse to your interests as an investor in the Securities.

Potentially Inconsistent Research, Opinions or Recommendations by RBCCM, UBS or Their Affiliates: RBCCM, UBS or their respective affiliates may publish research, express opinions or provide recommendations that are inconsistent with investing in or holding the Securities, and which may be revised at any time. Any such research, opinions or recommendations could affect the value of the Underlying, and therefore, the market value of the Securities.

Uncertain Tax Treatment: Significant aspects of the tax treatment of an investment in the Securities are uncertain. You should consult your tax adviser about your tax situation.

Potential Royal Bank of Canada and UBS Impact on Price: Trading or other transactions by Royal Bank of Canada, UBS, or our respective affiliates in a Basket Equity, futures, options, exchange-traded funds or other derivative products on a Basket Equity, may adversely affect the Closing Price of that Basket Equity and the value of the Underlying, and, therefore, the market value of the Securities.

The Probability That the Underlying Will Fall Below the Downside Threshold on the Final Valuation Date Will Depend on the Volatility of the Underlying: "Volatility" refers to the frequency of and magnitude of changes in the value of the Underlying. Greater expected volatility with respect to the Underlying reflects a higher expectation as of the Trade Date that the Underlying could close below its Downside Threshold on the Final Valuation Date resulting in the loss of some or a significant portion of your investment. However, an Underlying's volatility can change significantly over the term of the Securities. The value of the Underlying could fall sharply, which could result in a significant loss of principal.

The Terms of the Securities at Issuance and Their Market Value Prior to Maturity Will Be Influenced by Many Unpredictable Factors: Many economic and market factors influenced the terms of the Securities at issuance and will affect their value prior to maturity. These factors are similar in some ways to those that could affect the value of a combination of instruments that might be used to replicate the payments on the Securities, including a combination of a bond with one or more options or other derivative instruments. For the market value of the Securities, we expect that, generally, the prices of the Basket Equities on any day will affect the value of the Securities more than any other single factor. However, you should not expect the value of the Securities in the secondary market to vary in proportion to changes in the prices of the Basket Equities. The value of the Securities will be affected by a number of other factors that may either offset or magnify each other, including:

the level of the Underlying;

whether the level of the Underlying is below the Initial Underlying Level;

the actual or expected volatility of the prices of the Basket Equities;

.. the time remaining to maturity of the Securities;

the dividend rates on the Basket Equities;

.. interest and yield rates in the market generally;

a variety of economic, financial, political, regulatory or judicial events;

..the occurrence of certain events with respect to the Basket Equities that may or may not require an adjustment to the terms of the Securities; and

our creditworthiness, including actual or anticipated downgrades in our credit ratings.

Some or all of these factors influenced the terms of the Securities at issuance and will affect the price you will receive if you choose to sell the Securities prior to maturity. The impact of any of the factors set forth above may enhance or offset some or all of any change resulting from another factor or factors. You may have to sell the Securities at a substantial discount from the principal amount if, for example, the level of the Underlying is at, below or not sufficiently above, the Initial Underlying Level.

The Anti-Dilution Protection for a Basket Equity Is Limited: The calculation agent will make adjustments to the Initial Equity Price of a Basket Equity for certain events affecting the shares of that Basket Equity. However, the calculation agent will not be required to make an adjustment in response to all events that could affect a Basket Equity. If an event occurs that does not require the calculation agent to make an adjustment, the value of the Securities and the Payment at Maturity may be materially and adversely affected.

## Hypothetical Examples and Return Table at Maturity

Hypothetical terms only. Actual terms may vary. See the cover page for actual offering terms.

The following table and hypothetical examples below illustrate the payment at maturity per \$10.00 Security for a hypothetical range of Underlying Returns from -100.00% to +100.00% and reflect the Initial Underlying Level of 100.00, the Upside Gearing of 1.04 and the Buffer of 20%. The hypothetical Payment at Maturity examples set forth below are for illustrative purposes only and may not be the actual returns applicable to a purchaser of the Securities. The actual payment at maturity will be determined based on the Final Underlying Level on the Final Valuation Date. You should consider carefully whether the Securities are suitable to your investment goals. The numbers appearing in the table below have been rounded for ease of analysis.

Example 1 – On the Final Valuation Date, the Underlying closes 2% above the Initial Underlying Level. Because the Underlying Return is positive, we will pay you an amount based upon the Underlying Return times the Upside Gearing. The payment at maturity per \$10 principal amount Security will be calculated as follows:

$$\$10 + (\$10 \times 2\% \times 1.04) = \$10 + \$0.208 = \$10.208$$

Example 2 – On the Final Valuation Date, the Underlying closes 8% below the Initial Underlying Level. Because the Underlying Return is -8%, which is negative, but the percentage decrease in the level of the Underlying is less than the Buffer, we will pay you at maturity a cash payment of \$10 per \$10 principal amount Security (a 0% return on the principal amount):

Example 3 – On the Final Valuation Date, the Underlying closes 40% below the Initial Underlying Level. Because the Underlying Return is -40%, which is negative and the percentage decrease in the level of the Underlying is greater than the Buffer, we will pay you at maturity a cash payment of \$8 per \$10 principal amount Security (a 20% loss on the principal amount), calculated as follows:

$$\$10 + (\$10 \times (-40\% + 20\%)) = \$10 - \$2 = \$8.00$$

Hypothetical Final Underlying Level	Hypothetical Underlying Return <sup>(1)</sup>	Hypothetical Payment at Maturity (\$)	Hypothetical Total Return on Securities (%) <sup>(2)</sup>
200.00	100.00%	\$20.400	104.00%
175.00	75.00%	\$17.800	78.00%
150.00	50.00%	\$15.200	52.00%
140.00	40.00%	\$14.160	41.60%
115.00	15.00%	\$11.560	15.60%
110.00	10.00%	\$11.040	10.40%
105.00	5.00%	\$10.520	5.20%
102.00	2.00%	\$10.208	2.08%
100.00	0.00%	\$10.000	0.00%
95.00	-5.00%	\$10.000	0.00%
90.00	-10.00%	\$10.000	0.00%
80.00	-20.00%	\$10.000	0.00%
75.00	-25.00%	\$9.500	-5.00%
70.00	-30.00%	\$9.000	-10.00%
60.00	-40.00%	\$8.000	-20.00%
50.00	-50.00%	\$7.000	-30.00%
25.00	-75.00%	\$4.500	-45.00%
0.00	-100.00%	\$2.000	-80.00%

(1) The Underlying Return excludes any cash dividend payments on any Basket Equity.

(2) The “total return” is the number, expressed as a percentage, that results from comparing the payment at maturity per \$10 principal amount Security to the purchase price of \$10 per Security.



## What Are the Tax Consequences of the Securities?

### U.S. Federal Income Tax Consequences

Set forth below, together with the discussion of U.S. federal income tax in the accompanying product prospectus supplement, prospectus supplement, and prospectus, is a summary of the material U.S. federal income tax consequences relating to an investment in the Securities. The following summary supplements, and to the extent inconsistent with, supersedes the discussion under the section entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in the accompanying product prospectus supplement, the section entitled “Certain Income Tax Consequences” in the accompanying prospectus supplement, and the section entitled “Tax Consequences” in the accompanying prospectus, which you should carefully review prior to investing in the Securities.

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat the Securities as pre-paid cash-settled derivative contracts in respect of the Underlying for U.S. federal income tax purposes, and the terms of the Securities require a holder and us (in the absence of a change in law or an administrative or judicial ruling to the contrary) to treat the Securities for all tax purposes in accordance with such characterization. If the Securities are so treated, a U.S. holder should generally recognize capital gain or loss upon the sale or maturity of the Securities in an amount equal to the difference between the amount a holder receives at such time and the holder’s tax basis in the Securities. Capital gain recognized by an individual U.S. holder is generally taxed at preferential rates where the property is held for more than one year and is generally taxed at ordinary income rates where the property is held for one year or less. The deductibility of capital losses is subject to limitations.

Alternative tax treatments are also possible and the Internal Revenue Service might assert that a treatment other than that described above is more appropriate. In addition, the Internal Revenue Service has released a notice that may affect the taxation of holders of the Securities. According to the notice, the Internal Revenue Service and the U.S. Treasury Department are actively considering whether the holder of an instrument such as the Securities should be required to accrue ordinary income on a current basis. It is not possible to determine what guidance they will ultimately issue, if any. It is possible, however, that under such guidance, holders of the Securities will ultimately be required to accrue income currently and this could be applied on a retroactive basis. The Internal Revenue Service and the U.S. Treasury Department are also considering other relevant issues, including whether additional gain or loss from such instruments should be treated as ordinary or capital and whether the special “constructive ownership rules” of Section 1260 of the Internal Revenue Code might be applied to such instruments. Holders are urged to consult their tax advisors concerning the significance, and the potential impact, of the above considerations.

Under Section 871(m) of the Code, a “dividend equivalent” payment is treated as a dividend from sources within the United States. Such payments generally would be subject to a 30% U.S. withholding tax if paid to a non-U.S. holder. Under U.S. Treasury Department regulations, payments (including deemed payments) with respect to equity-linked instruments (“ELIs”) that are “specified ELIs” may be treated as dividend equivalents if such specified ELIs reference an interest in an “underlying security,” which is generally any interest in an entity taxable as a corporation for U.S. federal income tax purposes if a payment with respect to such interest could give rise to a U.S. source dividend. However, the IRS has issued guidance that states that the U.S. Treasury Department and the IRS intend to amend the effective dates of the U.S. Treasury Department regulations to provide that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2019. Based on our determination that the Securities are not delta-one instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Securities. However, it is possible that the Securities could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events, and following such occurrence the Securities could be treated as subject to withholding on dividend equivalent payments. Non-U.S. holders that enter, or have entered, into other transactions in respect of the Underlying Equities or the Securities should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the Securities and their other transactions. If any payments are treated as dividend equivalents subject to withholding, we (or the applicable withholding agent) would be entitled to withhold taxes without being required to pay any additional amounts with respect to amounts so withheld.

Individual holders that own “specified foreign financial assets” may be required to include certain information with respect to such assets with their U.S. federal income tax return. You are urged to consult your own tax advisor regarding such requirements with respect to the Securities.

Please see the discussion under the section entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in the accompanying product prospectus supplement for a further discussion of the U.S. federal income tax consequences of an investment in the Securities.

#### Canadian Federal Income Tax Consequences

For a discussion of the material Canadian federal income tax consequences relating to an investment in the Securities, please see the section entitled “Tax Consequences — Canadian Taxation” in the accompanying prospectus, which you should carefully review prior to investing in the Securities.

### Information About the Basket Equities

Included in this section of the pricing supplement is a brief description of the issuer of each Basket Equity. This information has been obtained from publicly available sources.

Each Basket Equity is registered under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Companies with securities registered under the Exchange Act are required to file financial and other information specified by the SEC periodically. Information filed by the issuer of each Basket Equity with the SEC can be reviewed electronically through the web site maintained by the SEC, which is <http://www.sec.gov>. Information filed with the SEC by the issuer of a Basket Equity under the Exchange Act can be located by reference to its SEC Central Index Key (“CIK”) number provided below. In addition, information filed with the SEC can be inspected and copied at the Public Reference Section of the SEC, 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Copies of this material can also be obtained from the Public Reference Section, at prescribed rates. Information from outside sources is not incorporated by reference in, and should not be considered part of, this pricing supplement or any accompanying prospectus or prospectus supplement. We have not independently verified the accuracy or completeness of the information contained in outside sources.

### Descriptions of Basket Equities

#### Apple Inc.

Apple Inc. designs, manufactures, and markets personal computers and related personal computing and mobile communication devices along with a variety of related software, services, peripherals, and networking solutions.

#### American Express Company

American Express Company is a global payment and travel company. The company’s principal products and services are charge and credit payment card products and travel-related services offered to consumers and businesses around the world.

#### The Boeing Company

The Boeing Company, together with its subsidiaries, develops, produces, and markets commercial jet aircraft, as well as provides related support services to the commercial airline industry worldwide. The company also researches, develops, produces, modifies, and supports information, space, and defense systems, including military aircraft, helicopters and space and missile systems.

#### Caterpillar Inc.

Caterpillar Inc. designs, manufactures, and markets construction, mining, and forestry machinery. The company also manufactures engines and other related parts for its equipment, and offers financing and insurance.

#### Cisco Systems, Inc.

Cisco Systems, Inc. designs, manufactures, and sells Internet Protocol (IP)-based networking and other products related to the communications and information technology (IT) industry and provide services associated with these products and their use. The company provides products for transporting data, voice, and video within buildings, and across campuses.

#### Chevron Corporation

Chevron Corporation is an integrated energy company with operations in countries located around the world. The company produces and transports crude oil and natural gas. Chevron also refines, markets, and distributes fuels, as well as is involved in chemical and mining operations, power generation, and energy services.

#### The Walt Disney Company

The Walt Disney Company is an entertainment company that conducts operations in media networks, studio entertainment, theme parks and resorts, consumer products, and interactive media. The company produces motion pictures, television programs, and musical recordings, as well as books and magazines.

#### DowDuPont Inc.

DowDuPont Inc. operates as a holding company. The company, through its subsidiaries, produces agricultural chemicals, material science, and specialty chemical products.

#### General Electric Company

General Electric Company is a globally diversified technology and financial services company. The company's products and services include aircraft engines, power generation, water processing, and household appliances to medical imaging, business and consumer financing, and industrial products.

The Goldman Sachs Group, Inc.

The Goldman Sachs Group, Inc., a bank holding company, is a global investment banking and securities firm specializing in investment banking, trading and principal investments, asset management and securities services.

The Home Depot, Inc.

The Home Depot, Inc. is a home improvement retailer that sells building materials and home improvement products. The company sells a wide assortment of building materials, home improvement and lawn and garden products, and provides a number of services.

International Business Machines Corporation

International Business Machines Corporation provides computer solutions through the use of advanced information technology. The company's solutions include technologies, systems, products, services, software, and financing.

Intel Corporation

Intel Corporation designs, manufactures, and sells computer components and related products. The company's major products include microprocessors, chipsets, embedded processors and microcontrollers, flash memory, graphic, network and communication, systems management software, conferencing, and digital imaging products.

Johnson & Johnson

Johnson & Johnson manufactures health care products and provides related services for the consumer, pharmaceutical, and medical devices and

diagnostics markets. The company sells products such as skin and hair care products, acetaminophen products, pharmaceuticals, diagnostic equipment, and surgical equipment.

JPMorgan Chase & Co.

JPMorgan Chase & Co. provides global financial services and retail banking. The company provides services such as investment banking, treasury and securities services, asset management, private banking, card member services, commercial banking, and home finance.

The Coca-Cola Company

The Coca-Cola Company manufactures, markets, and distributes soft drink concentrates and syrups. The company also distributes and markets juice and juice-drink products.

McDonald's Corporation

McDonald's Corporation franchises and operates fast-food restaurants in the global restaurant industry. The company's restaurants serve a variety of value-priced menu products.

3M Company

3M Company conducts operations in electronics, telecommunications, industrial, consumer and office, health care, safety, and other markets. The company's businesses share technologies, manufacturing operations, marketing channels, and other resources.

Merck & Co., Inc.

Merck & Co., Inc. is a global health care company that delivers health solutions through its prescription medicines, vaccines, biologic therapies, animal health, and consumer care products, which it markets directly and through its joint ventures.

Microsoft Corporation

Microsoft Corporation develops, manufactures, licenses, sells, and supports software products. The company offers operating system software, server application software, business and consumer applications software, software development tools, and Internet and intranet software. Microsoft also develops video game consoles and digital music entertainment devices.

NIKE, Inc.

NIKE, Inc. designs, develops, and markets athletic footwear, apparel, equipment, and accessory products for men, women, and children.

Pfizer, Inc.

Pfizer Inc. is a research-based, global pharmaceutical company that discovers, develops, manufactures, and markets healthcare products worldwide. The company's products include medicines, vaccines, medical devices, and consumer healthcare products.

The Procter & Gamble Company

The Procter & Gamble Company manufactures and markets consumer products in countries throughout the world. The company provides products in the laundry and cleaning, paper, beauty care, food and beverage, and health care segments.

The Travelers Companies, Inc.

The Travelers Companies, Inc. provides commercial and personal property and casualty insurance products and services to businesses, government units, associations, and individuals.

UnitedHealth Group Incorporated

UnitedHealth Group Incorporated owns and manages organized health systems in the United States and internationally. The company provides employers products and resources to plan and administer employee benefit programs. UnitedHealth also serves the health needs of older Americans, provides specialized care services, and provides health care information and research to providers and payers.

United Technologies Corporation

United Technologies Corporation provides technology products and support services. The company's products include aircraft engines, elevators and escalators, heating and air conditioning equipment, helicopters, aerospace systems, fuel

cell systems, and fire safety equipment.

Verizon Communications Inc.

Verizon Communications Inc. is an integrated telecommunications company that provides wire line voice and data services, wireless services, Internet services, and published directory information. The company also provides network services for the federal government including business phone lines, data services, telecommunications equipment, and payphones.

Wal-Mart Stores, Inc.

Wal-Mart Stores, Inc. operates discount stores, supercenters, and neighborhood markets. The company's discount stores and supercenters offer merchandise such as apparel, housewares, small appliances, electronics, and hardware. Walmart's markets offer a full-line supermarket and a limited assortment of general merchandise.

Exxon Mobil Corporation

Exxon Mobil Corporation operates petroleum and petrochemicals businesses on a worldwide basis. The company's operations include exploration and production of oil and gas, electric power generation, and coal and minerals operations. Exxon Mobil also manufactures and markets fuels, lubricants, and chemicals.

### Hypothetical Historical Performance of the Underlying

While actual historical information on the Underlying did not exist before the Trade Date, the following graph sets forth the hypothetical historical daily performance of the Underlying from January 1, 2011 through November 17, 2017. The graph is based upon actual daily historical closing prices of the Basket Equities and a hypothetical basket level of 100.00 as of January 1, 2011. This hypothetical historical data on the Underlying is not necessarily indicative of the future performance of the Basket or what the value of the Securities may be. Any hypothetical historical upward or downward trend in the level of the Underlying shown below is not an indication that the level of the Underlying is more or less likely to increase or decrease at any time over the term of the Securities.

### Supplemental Plan of Distribution (Conflicts of Interest)

We have agreed to indemnify UBS and RBCCM against liabilities under the Securities Act of 1933, as amended, or to contribute payments that UBS and RBCCM may be required to make relating to these liabilities as described in the prospectus supplement and the prospectus. All sales of the Securities will be made to certain fee-based advisory accounts for which UBS is an investment advisor, and UBS will act as placement agent. The purchase price will be \$10 per Security and UBS will forgo any commissions related to these sales. Investors that purchase and hold the Securities in fee-based advisory accounts will pay advisory fees to UBS based on the amount of securities held. Subject to regulatory constraints and market conditions, RBCCM intends to offer to purchase the Securities in the secondary market, but it is not required to do so.

We or our affiliates may enter into swap agreements or related hedge transactions with one of our other affiliates or unaffiliated counterparties in connection with the sale of the Securities and RBCCM and/or an affiliate may earn additional income as a result of payments pursuant to the swap or related hedge transactions. See “Use of Proceeds and Hedging” beginning on page PS-16 of the accompanying product prospectus supplement no. EQUITY-ROS-1.

The value of the Securities shown on your account statement may be based on RBCCM’s estimate of the value of the Securities if RBCCM or another of our affiliates were to make a market in the Securities (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Securities in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately five months after the issue date, the value of the Securities that may be shown on your account statement may be higher than RBCCM’s estimated value of the Securities at that time. This is because the estimated value of the Securities will not include our hedging costs and profits; however, the value of the Securities shown on your account statement during that period may be a higher amount, reflecting the addition of our estimated costs and profits from hedging the Securities. Any such excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Securities, it expects to do so at prices that reflect their estimated value. This period may be reduced at RBCCM’s discretion based on a variety of factors, including but not limited to, the amount of the Securities that we repurchase and our negotiated arrangements from time to time with UBS.

For additional information as to the relationship between us and RBCCM, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated January 8, 2016.

### Structuring the Securities

The Securities are our debt securities, the return on which is linked to the performance of the Underlying. As is the case for all of our debt securities, including our structured notes, the economic terms of the Securities reflect our actual or perceived creditworthiness at the time of pricing. In addition, because structured notes result in increased operational, funding and liability management costs to us, we typically borrow the funds under these Securities at a rate that is more favorable to us than the rate that we might pay for a conventional fixed or floating rate debt security of comparable maturity. Using this relatively lower implied borrowing rate rather than a secondary market rate is a factor that resulted in a higher initial estimated value of the Securities at the time their terms are set than if a secondary market rate was used. Unlike the estimated value included on the cover of this document, any value of the Securities determined for purposes of a secondary market transaction may be based on a different borrowing rate, which may result in a lower value for the Securities than if our initial internal borrowing rate were used.

In order to satisfy our payment obligations under the Securities, we may choose to enter into certain hedging arrangements (which may include call options, put options or other derivatives) on the issue date with RBCCM or one of our other subsidiaries. The terms of these hedging arrangements take into account a number of factors, including our creditworthiness, interest rate movements, the volatility of each Basket Equity, and the tenor of the Securities. The

economic terms of the Securities and their initial estimated value depend in part on the terms of these hedging arrangements.

The lower implied borrowing rate is a factor that reduced the economic terms of the Securities to you. The initial offering price of the Securities also reflects our estimated hedging costs. These factors resulted in the initial estimated value for the Securities on the Trade Date being less than their public offering price. See “Key Risks—The Initial Estimated Value of the Securities Is Less than the Price to the Public” above.

Terms Incorporated in Master Note

The terms appearing above under the caption “Final Terms of the Securities” and the provisions in the accompanying product prospectus supplement no. EQUITY-ROS-1 dated January 29, 2016 under the caption “General Terms of the Securities,” are incorporated into the master note issued to DTC, the registered holder of the Securities.

Validity of the Securities

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Securities has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Securities have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Securities will be validly issued and, to the extent validity of the Securities is a matter governed by the laws of the Province of Ontario or Québec, or the laws of Canada applicable therein, and will be valid obligations of the Bank, subject to equitable remedies which may only be granted at the discretion of a court of competent authority, subject to applicable bankruptcy, to rights to indemnity and contribution under the Securities or the Indenture which may be limited by applicable law; to insolvency and other laws of general application affecting creditors’ rights, to limitations under applicable limitations statutes, and to limitations as to the currency in which judgments in Canada may be rendered, as prescribed by the Currency Act (Canada). This opinion is given as of the date hereof and is limited to the laws of the Provinces of Ontario and Québec and the federal laws of Canada applicable thereto. In addition, this opinion is subject to customary assumptions about the Trustee’s authorization, execution and delivery of the Indenture and the genuineness of signatures and certain factual matters, all as stated in the letter of such counsel dated January 8, 2016, which has been filed as Exhibit 5.1 to Royal Bank’s Form 6-K filed with the SEC dated January 8, 2016.

In the opinion of Morrison & Foerster LLP, when the Securities have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Securities will be valid, binding and enforceable obligations of Royal Bank, entitled to the benefits of the Indenture, subject to applicable bankruptcy, insolvency and similar laws affecting creditors’ rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith). This opinion is given as of the date hereof and is limited to the laws of the State of New York. This opinion is subject to customary assumptions about the Trustee’s authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel’s reliance on the Bank and other sources as to certain factual matters, all as stated in the legal opinion dated January 8, 2016, which has been filed as Exhibit 5.2 to the Bank’s Form 6-K dated January 8, 2016.