

ROYAL BANK OF CANADA  
Form 424B2  
January 30, 2019

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PRICING SUPPLEMENT

Filed Pursuant to Rule 424(b)(2)

Registration Statement No. 333- 227001

Dated January 28, 2019

Royal Bank of Canada Capped Buffer GEARS

\$7,268,880 Securities Linked to the Russell 2000® Index due on January 29, 2021

Investment Description

Capped 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 the performance of the Russell 2000® Index (the “Underlying”). If the Underlying Return (as defined below) is positive, we will repay the principal amount at maturity plus pay a return equal to 2 (the “Upside Gearing”) times the Underlying Return, up to the Maximum Gain. If the Underlying Return is zero or negative, but the Final Underlying Level is greater than or equal to the Downside Threshold, we will repay 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 principal amount at maturity and 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 90% of your investment. The Securities are not subject to conversion into our common shares under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act. Investing in the Securities involves significant risks. The Securities do not pay dividends or interest. You may lose up to 90% of your principal amount if the Final Underlying Level is less than the Downside Threshold. The downside exposure of the Underlying is buffered 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 securities exchange.

Features    Key Dates

Enhanced Growth Potential, Up to the Maximum Gain - 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 up to the Maximum Gain. If the Underlying Return is negative and the Final Underlying Level is below the Downside Threshold, investors will be exposed to the negative Underlying Return at maturity.

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 below 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 90% of the principal amount of the Securities. The downside exposure to the Underlying is buffered only at maturity. Any payment on the Securities, including any repayment of principal, is subject to our creditworthiness.

Trade Date                      January 28, 2019

Settlement Date                January 31, 2019

Final Valuation Date<sup>1</sup>        January 26, 2021

Maturity Date<sup>1</sup>                January 29, 2021

<sup>1</sup> Subject to postponement in the event of a market disruption event, as described under “General Terms of the Securities—Payment at Maturity” in the accompanying product prospectus supplement UBS-IND-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 FULL DOWNSIDE MARKET RISK SIMILAR TO THE UNDERLYING. 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 UBS-IND-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 90% OF THE PRINCIPAL AMOUNT OF THE SECURITIES.

#### Security Offering

We are offering Capped Buffer GEARS Linked to the Russell 2000® Index. The return on the principal amount is subject to, and will not exceed, the predetermined Maximum Gain. The Securities are offered at a minimum investment of 100 Securities at the Price to Public described below.

Underlying	Upside Gearing	Buffer	Downside Threshold	Maximum Gain	Initial Underlying Level	CUSIP	ISIN
Russell 2000® Index (RTY)	2	10%	1,326.182, which is 90% of the Initial Level (rounded to three decimal places)	20.85%	1,473.536	78014H169	US78014H1692

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 September 7, 2018, the prospectus supplement dated September 7, 2018, product prospectus supplement UBS-IND-1 dated September 7, 2018, 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 UBS-IND-1. Any representation to the contrary is a criminal offense.

Offering of the Securities	Price to Public		Fees and Commissions <sup>(1)</sup>		Proceeds to Us	
	Total	Per Security	Total	Per Security	Total	Per Security
Securities Linked to the Russell 2000® Index (RTY)	\$7,268,880	\$10.00	\$145,377.60	\$0.20	\$7,123,502.40	\$9.80

<sup>(1)</sup> UBS Financial Services Inc., which we refer to as UBS, will receive a commission of \$0.20 per \$10 principal amount of the Securities. See “Supplemental Plan of Distribution (Conflicts of Interest)” below.

The initial estimated value of the Securities as of the date of this document is \$9.7939 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, “Supplemental Plan of Distribution (Conflicts of Interest)” and “Structuring the Securities” below.

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 September 7, 2018, as supplemented by the prospectus supplement dated September 7, 2018, relating to our senior global medium-term notes, Series H, of which these Securities are a part, and the more detailed information contained in product prospectus supplement UBS-IND-1 dated September 7, 2018. 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 UBS-IND-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. 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 UBS-IND-1 dated September 7, 2018:  
<https://www.sec.gov/Archives/edgar/data/1000275/000114036118038046/form424b5.htm>
- ..Prospectus supplement dated September 7, 2018:  
<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005975/f97180424b3.htm>
- ..Prospectus dated September 7, 2018:  
<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005973/l96181424b3.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 90% of the principal amount.
- .. You can tolerate the loss of up to 90% of your initial investment and you 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 level of the Underlying will appreciate over the term of the Securities and that the appreciation is unlikely to exceed the Maximum Gain.
- .. You understand and accept that your potential return is limited by the Maximum Gain and you are willing to invest in the Securities based on the Maximum Gain 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 level of the Underlying.
- .. You do not seek current income from your investment and are willing to forgo dividends paid on the securities represented by the Underlying.
- .. 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.
- .. You fully understand and accept the risks associated with the Underlying.

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 90% of your investment.
- .. You require an investment designed to provide a full return of principal at maturity.
- .. You cannot tolerate the loss of up to 90% 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 at Maturity.
- .. You believe that the level of the Underlying will decline over the term of the Securities, or you believe the level of the Underlying will appreciate over the term of the Securities by a percentage that exceeds the Maximum Gain.
- .. You seek an investment that has unlimited return potential without a cap on appreciation.
- .. You are unwilling to invest in the Securities based on the Maximum Gain 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 level of the Underlying.
- .. You seek current income from this investment or prefer to receive the dividends paid on the securities represented by the Underlying.
- .. 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.
- .. You do not fully understand and accept the risks associated with the Underlying.

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” in this pricing supplement and “Risk Factors” in the accompanying product prospectus supplement UBS-IND-1 for risks related to an investment in the Securities. In addition, you should review carefully the section below, “Information About the Underlying,” for more information about the Underlying.



# 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 2 years
Underlying:	Russell 2000® Index
Upside Gearing:	2
Maximum Gain:	20.85%
Buffer:	10%
Downside Threshold:	90% of the Initial Level
Payment at Maturity (per \$10 Security):	<p>If the Underlying Return is positive, we will pay you:  <math>\\$10 + (\\$10 \times \text{the lesser of (i) Upside Gearing} \times \text{Underlying Return and (ii) Maximum Gain})</math>                      If the Underlying Return is zero or negative, but the Final Underlying Level is not below the Downside Threshold, we will pay you:  <math>\\$10</math>                      If the Underlying Return is negative and the Final Underlying Level is below the Downside Threshold, we will pay you:  <math>\\$10 + (\\$10 \times (\text{Underlying Return} + \text{Buffer}))</math>                      In this scenario, you will lose up to 80.00% of the principal amount of the Securities in an amount proportionate to the percentage the Underlying has declined in excess of the Buffer.</p>
Underlying Return:	<u>Final Underlying Level – Initial Underlying Level</u> Initial Underlying Level
Initial Underlying Level:	The closing level of the Underlying on the Trade Date, as set forth on the cover page of this pricing supplement.
Final Underlying Level:	The closing level of the Underlying on the Final Valuation Date.

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<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.

## Investment Timeline

**Trade Date:** The Maximum Gain was set. The Initial Underlying Level was determined.

**Maturity Date:** The Final Underlying Level and Underlying Return are determined.

If the Underlying Return is positive, we will pay you a cash payment per \$10 Security that provides you with your principal amount plus a return equal to the Underlying Return multiplied by the Upside Gearing, subject to the Maximum Gain. Your payment at maturity per \$10 Security will be equal to:

$\$10 + (\$10 \times \text{the lesser of (i) Upside Gearing} \times \text{Underlying Return and (ii) Maximum Gain})$

If the Underlying Return is zero or negative, but the Final Underlying Level is not below the Downside Threshold, we will pay you a cash payment of \$10 per \$10 Security.

If the Final Underlying Level is negative and the Final Underlying Level is below the Downside Threshold, we will pay you a cash payment that is less than your initial investment of \$10 per Security, resulting in a loss that is proportionate to the percentage decline of the Underlying in excess of the Buffer, and equal to:

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

In this scenario, you will lose up to 90% of the principal amount of the Securities, in an amount proportionate to the percentage that the Underlying has declined in excess of the Buffer.

INVESTING IN THE SECURITIES INVOLVES SIGNIFICANT RISKS. YOU MAY LOSE UP TO 90% OF YOUR 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.

## Key Risks

An investment in the Securities involves significant risks. Investing in the Securities is not equivalent to investing directly in any of the component securities of the Underlying. These risks are explained in more detail in the “Risk Factors” section of the accompanying product prospectus supplement UBS-IND-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 below the Downside Threshold, you will be exposed to any negative Underlying Return 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 in excess of the Buffer.

Accordingly, you could lose up to 90% of the principal amount of the Securities.

**The Buffer Applies Only if You Hold the Securities to Maturity** — The application of the Buffer only applies at 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 10.00% 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 at the time of sale, even if that return is positive and does not exceed the Maximum Gain.

**The Appreciation Potential of the Securities Is Limited by the Maximum Gain** — If the Underlying Return is positive, we will pay you \$10 per Security at maturity plus an additional return that will not exceed the Maximum Gain, regardless of the appreciation in the Underlying, which may be significant. Therefore, you will not benefit from any appreciation of the Underlying in excess of an amount that, when multiplied by the Upside Gearing, exceeds the Maximum Gain and your return on the Securities may be less than your return would be on a hypothetical direct investment in the securities represented by the Underlying.

**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.

**The Securities Will Be Subject to Risks, Including Non-Payment in Full, Under Canadian Bank Resolution Powers** — Under Canadian bank resolution powers, the Canada Deposit Insurance Corporation (“CDIC”) may, in circumstances where we have ceased, or are about to cease, to be viable, assume temporary control or ownership over us and may be granted broad powers by one or more orders of the Governor in Council (Canada), including the power to sell or dispose of all or a part of our assets, and the power to carry out or cause us to carry out a transaction or a series of transactions the purpose of which is to restructure our business. See “Description of Debt Securities Canadian Bank Resolution Powers” in the accompanying prospectus for a description of the Canadian bank resolution powers, including the bail-in regime. If the CDIC were to take action under the Canadian bank resolution powers with respect to us, holders of the Securities could be exposed to losses.

**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 of ours with the same maturity date or if you were able to invest directly in the Underlying or the securities included in the Underlying. Your investment may not reflect the full opportunity cost to you when you take into account factors that affect the time value of money.



**No Dividend Payments or Voting Rights** — Investing in the Securities is not equivalent to investing directly in any of the component securities of the Underlying. As a holder of the Securities, you will not have voting rights or rights to receive cash dividends or other distributions or other rights that holders of the securities represented by the Underlying would have. The Underlying is a price return index, and the Underlying Return excludes any cash dividend payments paid on its component stocks.

**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, 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 level of the Underlying, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the underwriting discount, and 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 the underwriting discount and 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 a 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 Were 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 Affecting the Underlying** — The policies of the index sponsor concerning additions, deletions and substitutions of the stocks included in the Underlying and the manner in which the index sponsor takes account of certain changes affecting those stocks included in the Underlying may adversely affect its level. The policies of the index sponsor with respect to the calculation of the Underlying could also adversely affect its level. The index sponsor may discontinue or suspend calculation or dissemination of the Underlying and has no obligation to consider your interests in the Securities when taking any action regarding the Underlying. Any such actions could have an adverse effect on the value of the Securities and the amount that may be paid at maturity.

**Lack of Liquidity** — The Securities will not be listed on any securities exchange. RBC Capital Markets, LLC ("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.

**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 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 level of the Underlying or the equity securities included in the Underlying, and therefore, the market value of the Securities.

**An Investment in Securities Linked to the RTY Is Subject to Risks Associated in Investing in Stocks with a Small Market Capitalization.** — The RTY consists of stocks issued by companies with relatively small market capitalizations. These companies often have greater stock price volatility, lower trading volume and less liquidity than large-capitalization companies. As a result, the level of the RTY may be more volatile than that of a market measure that does not track solely small-capitalization stocks. Stock prices of small-capitalization companies are also often more vulnerable than those of large-capitalization companies to adverse business and economic developments, and the stocks of small-capitalization companies may be thinly traded, and be less attractive to many investors if they do not pay dividends. In addition, small capitalization companies are often less well-established and less stable financially than large-capitalization companies and may depend on a small number of key personnel, making them more vulnerable to loss of those individuals. Small capitalization companies tend to have lower revenues, less diverse product lines, smaller shares of their target markets, fewer financial resources and fewer competitive strengths than large-capitalization companies. These companies may also be more susceptible to adverse developments related to their products or services.

**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 and our respective affiliates in the equity securities composing the Underlying or in futures, options, exchange-traded funds or other derivative products on the equity securities included in the Underlying may adversely affect the market value of those equity securities, the level 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 and magnitude of changes in the level 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 up to 90% of your investment. However, an Underlying's volatility can change significantly over the term of the Securities. The level of the Underlying could fall sharply, which could result in a significant loss of principal. The Terms of the Securities Were Influenced 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 level of the Underlying 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 level of the Underlying. The value of the Securities will be affected by a number of other factors that may either offset or magnify each other, including:

- the actual or expected volatility of the Underlying;

- the time remaining to maturity of the Securities;

- the dividend rates on the securities represented by the Underlying;

- interest and yield rates in the market generally, as well as in each of the markets of the securities represented by the Underlying;

- a variety of economic, financial, political, regulatory or judicial events; 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 also influence 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.

# 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 assume a hypothetical Initial Underlying Level of 3,000.00, a Downside Threshold of 90% of the Initial Level, and reflect the Maximum Gain of 20.85% and the Upside Gearing of 2. The actual Initial Underlying Level and Downside Threshold are set forth on the cover page of this document. 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 lesser of the Underlying Return times the Upside Gearing and the Maximum Gain. Since the Underlying Return of 2% times the Upside Gearing is less than the Maximum Gain, we will pay you at maturity a cash payment of \$10.40 per \$10 principal amount Security, calculated as follows:

$$\$10 + (\$10 \times 2\% \times 2) = \$10 + \$0.40 = \$10.40$$

Example 2 - On the Final Valuation Date, the Underlying closes 20% above the Initial Underlying Level. Because the Underlying Return is positive, we will pay you an amount based upon the lesser of the Underlying Return times the Upside Gearing and the Maximum Gain. Since the Underlying Return of 20% times the Upside Gearing is greater than the Maximum Gain, we will pay you at maturity a cash payment of \$12.085 per \$10 principal amount Security, calculated as follows:

$$\$10 + (\$10 \times 20.85\%) = \$10 + \$2.085 = \$12.085$$

Example 3 - On the Final Valuation Date, the Underlying closes 40% above the Initial Underlying Level. Because the Underlying Return is positive, we will pay you an amount based upon the lesser of the Underlying Return times the Upside Gearing and the hypothetical Maximum Gain. Since the Underlying Return of 40% times the Upside Gearing is greater than the hypothetical Maximum Gain, we will pay you at maturity a cash payment of \$12.085 per \$10 principal amount Security, calculated as follows:

$$\$10 + (\$10 \times 20.85\%) = \$10 + \$2.085 = \$12.085$$

Example 4 - On the Final Valuation Date, the Underlying closes 5% below the Initial Underlying Level. Because the Underlying Return is negative, but the Final Underlying Level is not below the Downside Threshold, we will pay at maturity \$10 per \$10 principal amount Security (a zero percent return).

Example 5 - 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 Final Underlying Level is below the Downside Threshold, we will pay you at maturity a cash payment of \$8.00 per \$10 principal amount Security (a 25% loss on the principal amount), calculated as follows:

$$\$10 + [\$10 \times (-40\% + 10\%)] = \$10 - \$3.00 = \$7.00$$

Hypothetical Final Underlying Level	Hypothetical Underlying Return <sup>1</sup>	Hypothetical Payment at Maturity	Hypothetical Total Return on Securities <sup>2</sup>
6,000.00	100.00%	\$12.085	20.85%
5,250.00	75.00%	\$12.085	20.85%
4,500.00	50.00%	\$12.085	20.85%
4,200.00	40.00%	\$12.085	20.85%
3,900.00	30.00%	\$12.085	20.85%
3,750.00	25.00%	\$12.085	20.85%
3,600.00	20.00%	\$12.085	20.85%
3,450.00	15.00%	\$12.085	20.85%
3,312.75	10.425%	\$12.085	20.85%

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3,300.00	10.00%	\$12.00	20.00%
3,150.00	5.00%	\$11.00	10.00%
3,060.00	2.00%	\$10.40	4.00%
3,000.00	0.00%	\$10.00	0.00%
2,940.00	-2.00%	\$10.00	0.00%
2,850.00	-5.00%	\$10.00	0.00%
2,700.00	-10.00%	\$10.00	0.00%
2,550.00	-15.00%	\$9.50	-5.00%
2,400.00	-20.00%	\$9.00	-10.00%
2,250.00	-25.00%	\$8.50	-15.00%
2,100.00	-30.00%	\$8.00	-20.00%
1,800.00	-40.00%	\$7.00	-30.00%
1,500.00	-50.00%	\$6.00	-40.00%
750.00	-75.00%	\$3.50	-65.00%
0.00	-100.00%	\$1.00	-90.00%

<sup>1</sup> The Underlying Return excludes any cash dividend payments.

<sup>2</sup> 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 \$10.00 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 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 (the “IRS”) might assert that a treatment other than that described above is more appropriate. In addition, the IRS has released a notice that may affect the taxation of holders of the Securities. According to the notice, the IRS 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 IRS 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 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, 2021. 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 affecting the Underlying or the Securities (for example, upon an Underlying rebalancing), 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 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.

The accompanying product prospectus supplement notes that FATCA withholding on payments of gross proceeds from a sale or redemption of Securities will only apply to payments made after December 31, 2018. That discussion is modified to reflect regulations proposed by the U.S. Treasury Department in December 2018 indicating an intent to eliminate the requirement under FATCA of withholding on gross proceeds of the disposition of financial instruments. The U.S. Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalization. Prospective investors are urged to consult with their own tax advisors regarding the possible implications of FATCA on their investment in 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 Underlying

The RTY was developed by Russell Investments (“Russell”) before FTSE International Limited (“FTSE”) and Russell combined in 2015 to create FTSE Russell, which is wholly owned by London Stock Exchange Group. Russell began dissemination of the RTY (Bloomberg L.P. index symbol “RTY”) on January 1, 1984. The RTY was set to 135 as of the close of business on December 31, 1986. FTSE Russell (the “index sponsor”) calculates and publishes the RTY. The RTY is designed to track the performance of the small capitalization segment of the U.S. equity market. As a subset of the Russell 3000® Index, the RTY consists of the smallest 2,000 companies included in the Russell 3000® Index. The Russell 3000® Index measures the performance of the largest 3,000 U.S. companies, representing approximately 98% of the investable U.S. equity market. The RTY is determined, comprised, and calculated by the index sponsor without regard to the Securities.

### Selection of Stocks Underlying the RTY

All companies eligible for inclusion in the RTY must be classified as a U.S. company under the index sponsor’s country-assignment methodology. If a company is incorporated, has a stated headquarters location, and trades in the same country (American Depositary Receipts and American Depositary Shares are not eligible), then the company is assigned to its country of incorporation. If any of the three factors are not the same, the index sponsor defines three Home Country Indicators (“HCIs”): country of incorporation, country of headquarters, and country of the most liquid exchange (as defined by a two-year average daily dollar trading volume) (“ADDTV”) from all exchanges within a country. Using the HCIs, the index sponsor compares the primary location of the company’s assets with the three HCIs. If the primary location of its assets matches any of the HCIs, then the company is assigned to the primary location of its assets. If there is insufficient information to determine the country in which the company’s assets are primarily located, the index sponsor will use the primary country from which the company’s revenues are primarily derived for the comparison with the three HCIs in a similar manner. The index sponsor uses the average of two years of assets or revenues data to reduce potential turnover. If conclusive country details cannot be derived from assets or revenues data, the index sponsor will assign the company to the country of its headquarters, which is defined as the address of the company’s principal executive offices, unless that country is a Benefit Driven Incorporation “BDI” country, in which case the company will be assigned to the country of its most liquid stock exchange. BDI countries include: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Channel Islands, Cook Islands, Curacao, Faroe Islands, Gibraltar, Guernsey, Isle of Man, Jersey, Liberia, Marshall Islands, Panama, Saba, Sint Eustatius, Sint Maarten, and Turks and Caicos Islands. For any companies incorporated or headquartered in a U.S. territory, including countries such as Puerto Rico, Guam, and U.S. Virgin Islands, a U.S. HCI is assigned.

All securities eligible for inclusion in the RTY must trade on a major U.S. exchange. Stocks must have a closing price at or above \$1.00 on their primary exchange on the last trading day in May to be eligible for inclusion during annual reconstitution. However, in order to reduce unnecessary turnover, if an existing member’s closing price is less than \$1.00 on the last day of May, it will be considered eligible if the average of the daily closing prices (from its primary exchange) during the month of May is equal to or greater than \$1.00. Initial public offerings are added each quarter and must have a closing price at or above \$1.00 on the last day of their eligibility period in order to qualify for index inclusion. If an existing stock does not trade on the “rank day” (typically the last trading day in May, but a confirmed timetable is announced each Spring) but does have a closing price at or above \$1.00 on another eligible U.S. exchange, that stock will be eligible for inclusion.

An important criterion used to determine the list of securities eligible for the RTY is total market capitalization, which is defined as the market price as of the rank day in May for those securities being considered at annual reconstitution times the total number of shares outstanding. Where applicable, common stock, non-restricted exchangeable shares and partnership units/membership interests are used to determine market capitalization. Any other form of shares such as preferred stock, convertible preferred stock, redeemable shares, participating preferred stock, warrants, rights, installment receipts or trust receipts, are excluded from the calculation. If multiple share classes of common stock exist, they are combined. In cases where the common stock share classes act independently of each other (e.g., tracking stocks), each class is considered for inclusion separately. If multiple share classes exist, the pricing vehicle will be designated as the share class with the highest two-year trading volume as of the rank day in May. Companies with a total market capitalization of less than \$30 million are not eligible for the RTY. Similarly,



companies with only 5% or less of their shares available in the marketplace are not eligible for the RTY. Royalty trusts, limited liability companies, closed-end investment companies (companies that are required to report Acquired Fund Fees and Expenses, as defined by the SEC, including business development companies), blank check companies, special-purpose acquisition companies, and limited partnerships are also not eligible for inclusion in the Russell U.S. Indices. Exchange traded funds and mutual funds are also excluded. Bulletin board, pink-sheets, and over-the-counter (“OTC”) traded securities are not eligible for inclusion.

Annual reconstitution is a process by which the RTY is completely rebuilt. Based on closing levels of the company’s common stock on its primary exchange on the rank day of May of each year, FTSE Russell reconstitutes the composition of the RTY using the then existing market capitalizations of eligible companies. Reconstitution of the RTY occurs on the last Friday in June or, when the last Friday in June is the 29th or 30th, reconstitution occurs on the prior Friday. In addition, FTSE Russell adds initial public offerings to the RTY on a quarterly basis based on total market capitalization ranking within the market-adjusted capitalization breaks established during the most recent reconstitution.

After membership is determined, a security’s shares are adjusted to include only those shares available to the public. This is often referred to as “free float.” The purpose of the adjustment is to exclude from market calculations the capitalization that is not available for purchase and is not part of the investable opportunity set.

#### License Agreement

FTSE Russell and Royal Bank of Canada have entered into a non-exclusive license agreement providing for the license to Royal Bank of Canada, and certain of its affiliates, in exchange for a fee, of the right to use indices owned and published by FTSE Russell in connection with some securities, including the Securities.

FTSE Russell does not guarantee the accuracy and/or the completeness of the RTY or any data included in the RTY and has no liability for any errors, omissions, or interruptions in the RTY. FTSE Russell makes no warranty, express or implied, as to results to be obtained by the calculation agent, holders of the Securities, or any other person or entity from the use of the RTY or any data included in the RTY in connection with the rights licensed under the license agreement described in this document or for any other use. FTSE Russell makes no express or implied warranties, and hereby expressly disclaims all warranties of merchantability or fitness for a particular purpose with respect to the RTY or any data included in the RTY. Without limiting any of the above information, in no event will FTSE Russell have any liability for any special, punitive, indirect or consequential damages, including lost profits, even if notified of the possibility of these damages.

The Securities are not sponsored, endorsed, sold or promoted by FTSE Russell. FTSE Russell makes no representation or warranty, express or implied, to the owners of the Securities or any member of the public regarding the advisability of investing in securities generally or in the Securities particularly or the ability of the RTY to track general stock market performance or a segment of the same. FTSE Russell's publication of the RTY in no way suggests or implies an opinion by FTSE Russell as to the advisability of investment in any or all of the stocks upon which the RTY is based. FTSE Russell's only relationship to Royal Bank of Canada is the licensing of certain trademarks and trade names of FTSE Russell and of the RTY, which is determined, composed and calculated by FTSE Russell without regard to Royal Bank of Canada or the Securities. FTSE Russell is not responsible for and has not reviewed the Securities nor any associated literature or publications and FTSE Russell makes no representation or warranty express or implied as to their accuracy or completeness, or otherwise. FTSE Russell reserves the right, at any time and without notice, to alter, amend, terminate or in any way change the RTY. FTSE Russell has no obligation or liability in connection with the administration, marketing or trading of the Securities.

"Russell 2000" and "Russell 3000" are registered trademarks of FTSE Russell in the U.S. and other countries.

#### HISTORICAL INFORMATION

The following graph sets forth historical closing levels of the Underlying, for the period from January 28, 2009 to January 28, 2019, as reported by Bloomberg Financial Markets. The historical performance of the Underlying should not be taken as an indication of its future performance. We cannot give you assurance that the performance of the Underlying will result in the return of any of your initial investment.

#### HISTORIC PERFORMANCE IS NOT AN INDICATION OF FUTURE PERFORMANCE.

Source: Bloomberg L.P. We have not independently verified the accuracy or completeness of the information obtained from Bloomberg Financial Markets.

#### 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. We have agreed that UBS may sell all or a part of the Securities that it will purchase from us to investors at the price to public listed on the cover hereof, or its affiliates at the price indicated on the cover of this pricing supplement.

UBS may allow a concession not in excess of the underwriting discount set forth on the cover of this pricing supplement to its affiliates for distribution of the Securities. 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” in the accompanying product prospectus supplement UBS-IND-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 eight 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 the underwriting discount and 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 the underwriting discount and 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 September 7, 2018.

#### 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 the 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 the 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 the Underlying, 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 reduces the economic terms of the Securities to you. The initial offering price of the Securities also reflects the underwriting discount and our estimated hedging costs. These factors result 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 UBS-IND-1 dated September 7, 2018 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 September 7, 2018, which has been filed as Exhibit 5.1 to Royal Bank’s Form 6-K filed with the SEC dated September 7, 2018.

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 September 7, 2018, which has been filed as Exhibit 5.2 to the Bank’s Form 6-K dated September 7, 2018.