

ROYAL BANK OF CANADA
Form 424B2
March 27, 2019

PRICING SUPPLEMENT

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Registration Statement No. 333-227001

Dated March 25, 2019

Royal Bank of Canada Step Down Trigger Autocallable Notes

\$5,030,860 Notes Linked to the Least Performing Underlying of the iShares® MSCI EAFE ETF and the iShares®

Russell 2000 ETF due on March 30, 2023

Investment Description

Step Down Trigger Autocallable Notes (the “Notes”) are unsecured and unsubordinated debt securities issued by Royal Bank of Canada linked to the performance of the least performing of the iShares® MSCI EAFE ETF and the iShares® Russell 2000 ETF (each, an “Underlying,” and together, the “Underlyings”). If each Underlying closes at or above (a) its closing price on March 22, 2019 (its “Initial Level”) on any of the first 12 Observation Dates (which will occur first approximately one year after the settlement date and then quarterly thereafter as described below), or (b) its Downside Threshold on the final Observation Date, we will automatically call the Notes and pay you a Call Price equal to the principal amount per Note plus a Call Return based on the Call Return Rate. The Call Return increases the longer the Notes are outstanding, as described below. If by maturity the Notes have not been called and the Least Performing Underlying (as defined below) closes below the Downside Threshold on the final Observation Date, we will pay less than the principal amount, if anything, resulting in a loss that is proportionate to the decline in the price of the Least Performing Underlying from its closing price on March 22, 2019 to the final Observation Date, up to a 100% loss of your principal amount. The Notes 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 Notes involves significant risks. The Notes do not pay interest. You may lose some or all of your principal amount. Generally, the higher the Call Return Rate on a Note, the greater the risk of loss on that Note. The contingent repayment of principal applies only if you hold the Notes to maturity. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness and is not, either directly or indirectly, an obligation of any third party. If we default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire principal amount. The Notes will not be listed on any securities exchange.

Features Key Dates

Call Return Feature — We will automatically call the Notes for a Call Price equal to the principal amount plus the applicable Call Return based on the Call Return Rate if the closing price of each Underlying on any Observation Date is greater than or equal to (a) its Initial Underlying Price (in the case of any Observation Date except the final Observation Date) or (b) its Downside Threshold (in the case of the final Observation Date). The Call Return increases the longer the Notes are outstanding.

Downside Exposure at Maturity — If the Notes are not called and, therefore, the Least Performing Underlying closes below its Downside Threshold on the final Observation Date, we will pay less than your principal amount, if anything, resulting in a loss of your principal amount that will be proportionate to its full negative Underlying Return. Any contingent repayment of principal only applies if you hold the Notes to maturity. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness.

Trade Date March 25, 2019

Settlement Date March 28, 2019

Observation Dates¹ Quarterly (beginning after one year) (see page 4)

Final Observation Date¹ March 27, 2023

Maturity Date¹ March 30, 2023

Subject to postponement if a market disruption event occurs, as described in the product prospectus supplement under “General Terms of the Securities—Payment at Maturity.”

THE NOTES ARE SIGNIFICANTLY RISKIER THAN CONVENTIONAL DEBT INSTRUMENTS. WE ARE NOT NECESSARILY OBLIGATED TO REPAY THE FULL PRINCIPAL AMOUNT OF THE NOTES AT MATURITY, AND THE NOTES CAN HAVE DOWNSIDE MARKET RISK SIMILAR TO THE LEAST PERFORMING UNDERLYING. YOU WILL BE EXPOSED TO THE MARKET RISK OF EACH UNDERLYING ON EACH OBSERVATION DATE, AND ANY DECLINE IN THE PRICE OF ANY UNDERLYING MAY NEGATIVELY AFFECT YOUR RETURN AND WILL NOT BE OFFSET OR MITIGATED BY A LESSER DECLINE OR ANY POTENTIAL INCREASE IN THE PRICE OF THE OTHER UNDERLYING. THIS MARKET RISK IS IN ADDITION TO THE CREDIT RISK INHERENT IN PURCHASING ONE OF OUR DEBT OBLIGATIONS. YOU SHOULD NOT PURCHASE THE NOTES IF YOU DO NOT UNDERSTAND OR ARE NOT COMFORTABLE WITH THE SIGNIFICANT RISKS INVOLVED IN INVESTING IN THE NOTES. YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED UNDER “KEY RISKS” BEGINNING ON PAGE 6 OF THIS PRICING SUPPLEMENT AND UNDER “RISK FACTORS” BEGINNING ON P-4 OF THE PRODUCT PROSPECTUS SUPPLEMENT AND PAGE S-1 OF THE PROSPECTUS SUPPLEMENT BEFORE PURCHASING ANY NOTES. EVENTS RELATING TO ANY OF THOSE RISKS, OR OTHER RISKS AND UNCERTAINTIES, COULD ADVERSELY AFFECT THE MARKET VALUE OF, AND THE RETURN ON, YOUR NOTES. YOU MAY LOSE SOME OR ALL OF YOUR INITIAL INVESTMENT.

Note Offering

This pricing supplement relates to our Step Down Trigger Autocallable Notes linked to the least performing of the iShares® MSCI EAFE ETF and the iShares® Russell 2000 ETF. The Initial Underlying Prices are the closing prices of the Underlyings on March 22, 2019. The Notes will be issued in minimum denominations of \$10.00, and integral multiples of \$10.00 in excess thereof, with a minimum investment of \$1,000.

Underlyings (Least Performing of)	Tickers	Call Return Rate	Initial Underlying Prices	Downside Thresholds ⁽¹⁾	CUSIP	ISIN
iShares® MSCI EAFE ETF (EFA)	EFA	9.00% per annum	\$64.31	\$45.02, which is 70% of its Initial Underlying Price	78014H458	US78014H4589
iShares® Russell 2000 ETF (IWM)	IWM		\$149.62	\$104.73, which is 70% of its Initial Underlying Price		

⁽¹⁾ Rounded to two decimal places.

See “Additional Information About Royal Bank of Canada and the Notes” in this pricing supplement. The Notes will have the terms specified in the prospectus, prospectus supplement and product prospectus supplement, each 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 Notes or passed upon the accuracy or the adequacy of this pricing supplement or the accompanying prospectus, prospectus supplement and product prospectus supplement. Any representation to the contrary is a criminal offense.

Offering of the Notes	Price to Public		Fees and Commissions ⁽¹⁾		Proceeds to Us	
	Total	Per Note	Total	Per Note	Total	Per Note
Notes linked to the Least Performing Underlying of the iShares® MSCI EAFE ETF and the iShares® Russell 2000 ETF	\$5,030,860	\$10.00	\$0.00	\$0.00	\$5,030,860	\$10.00

⁽¹⁾ All sales of the Notes 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 Note and UBS will forgo any commissions related to these sales. See “Supplemental Plan of Distribution (Conflicts of Interest)” below.

The initial estimated value of the Notes as of the date of this document is \$9.8193 per \$10 in principal amount, which is less than the price to public. The actual value of the Notes 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,” “Supplemental Plan of Distribution (Conflicts of Interest)” and “Structuring the Notes” below.

The Notes 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 Notes

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 Notes are a part, and the more detailed information contained in product prospectus supplement TAS-2 dated September 7, 2019. This pricing supplement, together with the documents listed below, contains the terms of the Notes 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 TAS-2, as the Notes 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 as follows (or if such address has changed, by reviewing our filing for the relevant date on the SEC website):

..Product prospectus supplement TAS-2 dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036118038058/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 Notes may be suitable for you if, among other considerations:

- .. You fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.
- .. You can tolerate a loss of all or a substantial portion of your investment and are willing to make an investment that may have the same downside market risk as the Least Performing Underlying.
- .. You believe each Underlying will close at or above its Initial Underlying Price on any of the first 12 Observation Dates, or you believe each Underlying will not close below its Downside Threshold on the final Observation Date.
- .. You are willing to make an investment whose return is limited to the Call Return Rate, regardless of any potential appreciation of the Underlyings, which could be significant.
- .. You can tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside fluctuations of the Underlyings.
- .. You are willing to invest in Notes for which there may be little or no secondary market, and you accept that the secondary market will depend in large part on the price, if any, at which RBC Capital Markets, LLC, which we refer to as "RBCCM," is willing to purchase the Notes.
- .. You are willing to invest in the Notes based on the Call Return Rate specified on the cover page of this pricing supplement.
- .. You are willing to accept individual exposure to each Underlying and that the performance of the Least Performing Underlying will not be offset or mitigated by the performance of the other Underlying.
- .. You do not seek guaranteed current income from this investment and are willing to forgo the dividends paid on the equity securities held by the Underlyings.
- .. You understand and accept the risks associated with the Underlyings.
- .. You are willing to invest in securities that may be called early and you are otherwise willing to hold such securities to maturity.
- .. You are willing to assume our credit risk for all payments under the Notes, and understand that if we default on our obligations, you may not receive any amounts due to you, including any repayment of principal.

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

- .. You do not fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.
- .. You cannot tolerate a loss on your investment and require an investment designed to provide a full return of principal at maturity.
- .. You are not willing to make an investment that may have the same downside market risk as the Least Performing Underlying.
- .. You do not believe either Underlying will close at or above its Initial Underlying Price on any one of the first 12 Observation Dates, or you believe an Underlying will close below its Downside Threshold on the final Observation Date, exposing you to the full downside performance of the Least Performing Underlying.
- .. You seek an investment that participates in the full appreciation in the prices of the Underlyings, and whose positive return is not limited to the applicable Call Return Rate.
- .. You cannot tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside fluctuations of the Least Performing Underlying.
- .. You are unwilling to invest in the Notes based on Call Return Rate specified on the cover page of this pricing supplement.
- .. You are unwilling to accept individual exposure to each Underlying and that the performance of the Least Performing Underlying will not be offset or mitigated by the performance of the other Underlying.
- .. You seek guaranteed current income from this investment or prefer to receive the dividends paid on the securities held by the Underlyings.
- .. You do not understand or accept the risks associated with the Underlyings.
- .. You are unable or unwilling to hold securities that may be called early, or you are otherwise unable or unwilling to hold such securities to maturity, or you seek an investment for which there will be an active secondary market for the Notes.

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

The suitability considerations identified above are not exhaustive. Whether or not the Notes 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 Notes in light of your particular circumstances. You should also review carefully the “Key Risks” below and “Risk Factors” in the product prospectus supplement for risks related to an investment in the Notes. In addition, you should review carefully the section below, “Information About the Underlyings” for more information about these assets.

Final Terms of the Notes¹

Issuer:	Royal Bank of Canada		
Principal Amount per Note:	\$10 per Note		
Term:	Approximately 4 years, if not previously called		
Underlyings:	The iShares® MSCI EAFE ETF (“EFA”) and the iShares® Russell 2000 ETF (“IWM”)		
Automatic Call Feature:	The Notes will be called if the closing price of each Underlying (a) on any of the first 12 Observation Dates is at or above its Initial Underlying Price or (b) on the final Observation Date is at or above its Downside Threshold. If the Notes are called, we will pay you on the applicable Call Settlement Date a cash payment per \$10 principal amount equal to the Call Price for the applicable Observation Date.		
Observation Dates:	The first Observation Date will occur on March 27, 2020; Observation Dates will occur quarterly thereafter on the dates indicated in the table below.		
Call Settlement Dates:	As set forth in the table below. The Call Settlement Date for the final Observation Date is the Maturity Date.		
Call Price:	The Call Price is calculated based on the following formula: $\$10 + (\$10 \times \text{Call Return})$		
Call Return / Call Return Rate:	The Call Price is based upon the Call Return. The Call Return increases the longer the Notes are outstanding, and is based on the Call Return Rate of 9.00% per annum. The Call Return is a fixed amount based upon equal quarterly installments at the Call Return Rate, which is a per annum rate. The following table sets forth each Observation Date, each Call Settlement Date and the corresponding Call Price for the Notes.		
Observation Dates	Call Settlement Dates	Call Price	Call Return

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March 27, 2020	March 31, 2020	\$10.90	9.00%
June 25, 2020	June 29, 2020	\$11.125	11.25%
September 25, 2020	September 29, 2020	\$11.35	13.50%
December 28, 2020	December 30, 2020	\$11.575	15.75%
March 25, 2021	March 29, 2021	\$11.80	18.00%
June 25, 2021	June 29, 2021	\$12.025	20.25%
September 27, 2021	September 29, 2021	\$12.25	22.50%
December 27, 2021	December 29, 2021	\$12.475	24.75%

¹ Terms used in this pricing supplement, but not defined herein, will have the meanings ascribed to them in the product prospectus supplement.

March 25, 2022	March 29, 2022	\$12.70	27.00%
June 27, 2022	June 29, 2022	\$12.925	29.25%
September 26, 2022	September 28, 2022	\$13.15	31.50%
December 27, 2022	December 29, 2022	\$13.375	33.75%
March 27, 2023 (the “final Observation Date”)	March 30, 2023 (Maturity Date)	\$13.60	36.00%

Payment at Maturity:

If the Notes are not called and, therefore, the Final Underlying Price of the Least Performing Underlying is less than its Downside Threshold, we will pay you a cash payment on the maturity date of less than the principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the negative Underlying Return of the Least Performing Underlying, equal to:
 $\$10 + (\$10 \times \text{Underlying Return of the Least Performing Underlying})$
 You may lose a significant portion or all of your principal at maturity that is proportionate to the decline in the Least Performing Underlying, regardless of the performance of the other Underlying.

Least Performing Underlying:

The Underlying with the lowest Underlying Return.

Underlying Returns:

With respect to each Underlying,
 $\frac{\text{Final Underlying Price} - \text{Initial Underlying Price}}{\text{Initial Underlying Price}}$

Downside Thresholds:	With respect to each Underlying, 70% of its Initial Underlying Price, as set forth on the cover page.
Initial Underlying Prices:	With respect to each Underlying, its closing price on March 22, 2019, as set forth on the cover page.
Final Underlying Prices:	With respect to each Underlying, its closing price on the final Observation Date, as determined by the calculation agent.

Investment Timeline

March 22, 2019:	The Initial Underlying Price and Downside Threshold of each Underlying were determined.
Quarterly (beginning after one year):	The Notes will be called if the closing price of each Underlying (a) on any of the first 12 Observation Dates is equal to or greater than its Initial Underlying Price or (b) on the final Observation Date is greater than or equal to its Downside Threshold. If the Notes are called, we will pay the Call Price for the applicable Observation Date, equal to the principal amount plus the applicable Call Return.
Maturity Date:	The Final Underlying Price of each Underlying is observed on the final Observation Date. If the Notes have not been called, and therefore, the Final Underlying Price of the Least Performing Underlying is less than its Downside Threshold, we will pay less than the principal amount, if anything, resulting in a loss on your initial investment proportionate to the decline of the Least Performing Underlying, for an amount equal to: $\\$10 + (\\$10 \times \text{Underlying Return of the Least Performing Underlying})$ per Note You may lose a significant portion or all of your principal at maturity that is proportionate to the decline in the Least Performing Underlying, regardless of the performance of the other Underlying.

INVESTING IN THE NOTES INVOLVES SIGNIFICANT RISKS. YOU MAY LOSE SOME OR ALL OF YOUR PRINCIPAL AMOUNT. YOU WILL BE EXPOSED TO THE MARKET RISK OF EACH UNDERLYING ON EACH OBSERVATION DATE, AND ANY DECLINE IN THE PRICE OF ONE UNDERLYING MAY NEGATIVELY AFFECT YOUR RETURN AND WILL NOT BE OFFSET OR MITIGATED BY A LESSER DECLINE OR ANY POTENTIAL INCREASE IN THE PRICE OF THE OTHER UNDERLYING. ANY PAYMENT ON THE NOTES, INCLUDING ANY REPAYMENT OF PRINCIPAL, IS SUBJECT TO OUR CREDITWORTHINESS. IF WE DEFAULT ON OUR PAYMENT OBLIGATIONS, YOU MAY NOT RECEIVE ANY AMOUNTS OWED TO YOU UNDER THE NOTES AND YOU COULD LOSE YOUR ENTIRE INVESTMENT.

Key Risks

An investment in the Notes involves significant risks. Investing in the Notes is not equivalent to investing directly in the Underlyings or the securities held by the Underlyings. These risks are explained in more detail in the “Risk Factors” section of the accompanying product prospectus supplement no. UBS-TAS-1. We also urge you to consult your investment, legal, tax, accounting and other advisors before investing in the Notes.

Risks Relating to the Notes Generally

Risk of Loss at Maturity — The Notes differ from ordinary debt securities in that we will not necessarily repay the full principal amount of the Notes at maturity. If the Notes are not called prior to the final Observation Date, we will repay you the principal amount of your Notes in cash only if the Final Underlying Price of each Underlying is greater than or equal to its Downside Threshold, and we will only make that payment at maturity. If the Notes are not called and, therefore, the Final Underlying Price of the Least Performing Underlying is less than its Downside Threshold, you will lose some or all of your initial investment in an amount proportionate to the decline in the price of the Least Performing Underlying.

The Contingent Repayment of Principal Applies Only at Maturity — If the Notes are not automatically called, you should be willing to hold your Notes to maturity. If you are able to sell your Notes prior to maturity in the secondary market, if any, you may have to do so at a loss relative to your initial investment, even if the prices of both Underlyings are above their respective Downside Thresholds.

No Periodic Interest Payments — We will not pay any interest with respect to the Notes. We will make any payments on the Notes only at maturity or upon an automatic call.

The Call Feature Limits Your Potential Return — The return potential of the Notes if they are called as of any Observation Date is limited to the applicable Call Return, regardless of the appreciation of either Underlying, which may be significant. Therefore, you may receive a lower payment if the Notes are automatically called or at maturity, as the case may be, than you would have if you had invested directly in one or both of the Underlyings. In addition, because the Call Return increases the longer the Notes are outstanding, the Call Prices payable on the initial Observation Dates are less than the Call Price payable on later Observation Dates.

Reinvestment Risk — If your Notes are called early, the holding period over which you would receive the per annum Call Return Rate could be as little as one year. There is no guarantee that you would be able to reinvest the proceeds from an investment in the Notes in a comparable investment with a similar level of risk if the Notes are called prior to the Maturity Date. To the extent you are able to reinvest your proceeds in an investment comparable to the Notes, you will likely incur transaction costs, and the original issue price for such an investment is likely to include certain built-in costs such as dealer discounts and hedging costs.

The Call Return Rate Reflects in Part the Volatility and Correlation of the Underlyings and May Not Be Sufficient to Compensate You for the Risk of Loss at Maturity — “Volatility” refers to the frequency and magnitude of changes in the prices of the Underlyings. The greater the volatility of the Underlyings, the more likely it is that the price of either Underlying could close below its Downside Threshold on the final Observation Date. This risk will generally be reflected in a higher Call Return Rate for the Notes than the interest rate payable on our conventional debt securities with a comparable term. In addition, lower correlation between the Underlyings can also indicate a greater likelihood of one Underlying closing below its Initial Underlying Price or Downside Threshold on an Observation Date. This greater risk will also be reflected in a higher Call Return Rate than on a security linked to Underlyings with a greater degree of correlation. However, while the Call Return Rate is a fixed amount, the Underlyings’ volatility and correlation can change significantly over the term of the Notes. The prices of one or both of the Underlyings could fall sharply as of the final Observation Date, which could result in the Notes not being called and a significant loss of your principal amount.

The Notes Are Subject to Our Credit Risk — The Notes are subject to our credit risk, and our credit ratings and credit spreads may adversely affect the market value of the Notes. Investors are dependent on our ability to pay all amounts due on the Notes, and therefore investors are subject to our credit risk and to changes in the market’s view of our creditworthiness. Any decline in our credit ratings or increase in the credit spreads charged by the market for taking our credit risk is likely to adversely affect the value of the Notes. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire investment.

The Notes Are 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 Notes could be exposed to losses.

The Initial Estimated Value of the Notes Is Less than the Price to the Public — The initial estimated value for the Notes that is set forth on the cover page of this pricing supplement, which is less than the public offering price you pay for the Notes, does not represent a minimum price at which we, RBCCM or any of our other affiliates would be willing to purchase the Notes in any secondary market (if any exists) at any time. If you attempt to sell the Notes 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 prices of the Underlyings, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to public of our estimated profit and the costs relating to our hedging of the Notes. These factors, together with various credit, market and economic factors over the term of the Notes, are expected to reduce the price at which you may be able to sell the Notes in any secondary market and will affect the value of the Notes 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 Notes 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 Notes. In addition, any price at which you may sell the Notes is likely to reflect customary bid-ask spreads for similar trades. In addition to bid-ask spreads, the value of the Notes 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 Notes and determine the initial estimated value. As a result, the secondary market price will be less than if the internal borrowing rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Notes to maturity.

Our Initial Estimated Value of the Notes Is an Estimate Only, Calculated as of the Time the Terms of the Notes Were Set — The initial estimated value of the Notes is based on the value of our obligation to make the payments on the Notes, together with the mid-market value of the derivative embedded in the terms of the Notes. See “Structuring the Notes” 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 Notes. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Notes or similar securities at a price that is significantly different than we do.

The value of the Notes 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 Notes in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Notes and the amount that may be paid at maturity.

Owning the Notes Is Not the Same as Owning an Underlying or the Stocks Comprising an Underlying’s Underlying Index — The return on your Notes may not reflect the return you would realize if you actually owned an Underlying or stocks included in an Underlying’s underlying index. As a holder of the Notes, you will not have voting rights or rights to receive dividends or other distributions or other rights that holders of an Underlying or these stocks would have, and any such dividends will not be incorporated in the determination of the Underlying Return for either Underlying.

You Will Not Have Any Shareholder Rights and Will Have No Right to Receive Any Shares of the Underlyings at Maturity — Investing in the Notes will not make you a holder of any shares of the Underlyings or any securities held by the Underlyings. Neither you nor any other holder or owner of the Notes will have any voting rights, any right to receive dividends or other distributions, or any other rights with respect to the Underlyings or such other securities. **Changes That Affect the Underlying Indices Will Affect the Market Value of the Notes and the Amount You Will Receive at Maturity —** The policies of the index sponsors concerning the calculation of the underlying indices, additions, deletions or substitutions of the components of the underlying indices and the manner in which changes affecting those components, such as stock dividends, reorganizations or mergers, may be reflected in the underlying indices and, therefore, could affect the share prices of the Underlyings, the amount payable on the Notes, and the market value of the Notes prior to maturity. The amount payable on the Notes and their market value could also be affected if an index sponsor changes these policies, for example, by changing the manner in which it calculates the applicable underlying index, or if an index sponsor discontinues or suspends the calculation or publication of the applicable underlying index.

We Have No Affiliation with Any Index Sponsor and Will Not Be Responsible for Its Actions — The index sponsors are not affiliates of ours and will not be involved in the offering of the Notes in any way. Consequently, we have no control over the actions of the index sponsors, including any actions of the type that would require the calculation

agent to adjust the payment to you at maturity. The index sponsors have no obligation of any sort with respect to the Notes. Thus, the index sponsors have no obligation to take your interests into consideration for any reason, including in taking any actions that might affect the value of the Notes. None of our proceeds from the issuance of the Notes will be delivered to the index sponsors.

Adjustments to an Underlying Could Adversely Affect the Notes — Blackrock, Inc. (“Blackrock”), in its role as the sponsor of the Underlyings, is responsible for calculating and maintaining the Underlyings. Blackrock can add, delete or substitute the stocks comprising the Underlyings or make other methodological changes that could change the share prices of the Underlyings at any time. Consequently, any of these actions could adversely affect the amounts payable on the Notes and/or the market value of the Notes.

We and Our Affiliates Do Not Have Any Affiliation With the Investment Advisor of the Underlyings and Are Not Responsible for Its Public Disclosure of Information — We and our affiliates are not affiliated with Blackrock in any way

and have no ability to control or predict its actions, including any errors in or discontinuance of disclosure regarding its methods or policies relating to the Underlyings. Blackrock is not involved in the offering of the Notes in any way and has no obligation to consider your interests as an owner of the Notes in taking any actions relating to the Underlyings that might affect the value of the Notes. Neither we nor any of our affiliates has independently verified the adequacy or accuracy of the information about Blackrock or the Underlyings contained in any public disclosure of information. You, as an investor in the Notes, should make your own investigation into the Underlyings.

The Correlation Between the Performance of Each Underlying and the Performance of its Respective Underlying Index May Be Imperfect — The performance of an Underlying is linked principally to the performance of its underlying index. However, because of the potential discrepancies identified in more detail in the product prospectus supplement, the return on each Underlying may correlate imperfectly with the return on its underlying index. Further, the performance of an Underlying may not exactly replicate the performance of its underlying index, because an Underlying will reflect transaction costs and fees that are not included in the calculation of its underlying index. During periods of market volatility, securities underlying an Underlying may be unavailable in the secondary market, market participants may be unable to calculate accurately the net asset value per share of an Underlying and the liquidity of an Underlying may be adversely affected. This kind of market volatility may also disrupt the ability of market participants to create and redeem shares of an Underlying. Further, market volatility may adversely affect, sometimes materially, the prices at which market participants are willing to buy and sell shares of an Underlying. As a result, under these circumstances, the market value of shares of an Underlying may vary substantially from the net asset value per share of that Underlying. For all of the foregoing reasons, the performance of an Underlying may not correlate with the performance of its underlying index as well as its net asset value per share, which could materially and adversely affect the value of the Notes in the secondary market and/or reduce your payment at maturity.

Historical Prices of any Underlying Should Not Be Taken as an Indication of its Future Price During the Term of the Notes — The trading prices of the Underlyings will determine the value of the Notes at any given time. As it is impossible to predict whether the price of any Underlying will rise or fall, and trading prices of the common stocks held by the Underlyings will be influenced by complex and interrelated political, economic, financial and other factors that can affect the issuers of those stocks, and therefore, the value of the Underlyings.

Management Risk — The Underlyings are not managed according to traditional methods of “active” investment management, which involve the buying and selling of securities based on economic, financial and market analysis and investment judgment. Instead, these Underlyings, utilizing a “passive” or indexing investment approach, attempt to approximate the investment performance of its respective underlying index by investing in a portfolio of securities that generally replicate its underlying index. Therefore, unless a specific security is removed from its underlying index, these Underlyings generally would not sell a security because the security’s issuer was in financial trouble. In addition, the Underlyings are subject to the risk that the investment strategy of their respective investment advisors may not produce the intended results.

Your Return on the Notes Is Not Linked to a Basket Consisting of the Underlyings. Rather, It Will Be Contingent Upon the Performance of Each Individual Underlying — Unlike an instrument with a return linked to a basket of Underlyings or other underlying assets, in which risk is mitigated and diversified among all of the components of the basket, you will be exposed equally to the risks related to both of the Underlyings. Poor performance by either one of the Underlyings over the term of the Notes may negatively affect your return and will not be offset or mitigated by a positive performance by the other Underlying. For the Notes to be automatically called, both Underlyings must close above their Initial Underlying Prices or Downside Thresholds, as applicable, on the applicable Observation Date. In addition, if not called prior to maturity, you may incur a loss proportionate to the negative return of the Least Performing Underlying. Accordingly, your investment is subject to the market risk of each Underlying, which results in a higher risk of you incurring a loss at maturity.

Because the Notes Are Linked to the Individual Performance of More than One Underlying, It Is More Likely that One of the Underlyings Will Decrease in Value Below Its Initial Underlying Price or Its Downside Threshold, Increasing the Probability That the Notes Will Not Be Called and that You Will Lose Some or All of Your Initial Investment — The risk that the Notes will not be automatically called and that you will lose some or all of your initial investment in the Notes is greater if you invest in the Notes as opposed to securities that are linked to the performance of a single Underlying if their terms are otherwise substantially similar. With a greater total number of Underlyings, it is more likely that an Underlying will be below its Initial Underlying Price or Downside Threshold,

as applicable, on an Observation Date, and therefore it is more likely that the Notes will not be automatically called and that at maturity you will receive a payment at maturity that is less than your principal amount. In addition, the performances of a pair of Underlyings may be positively or negatively correlated, or may not be correlated at all. If the Underlyings are not correlated to each other or are negatively correlated, there is a greater potential for one of those Underlyings to close below its Initial Underlying Price or Downside Threshold, as applicable.

It is impossible to predict what the correlations between the Underlyings will be over the term of the Notes. The Underlyings represent different equity markets and these different equity markets may not perform similarly over the term of the Notes. Although the correlation of the Underlyings' performance may change over the term of the Notes, the Call Return Rate is determined, in part, based on the Underlyings' performance calculated using our internal models at the time when the terms of the Notes are determined. As stated earlier, a higher Call Return Rate is generally associated with lower correlation of the

Underlyings, which reflects a greater potential for a loss on your investment at maturity. See “Correlation of the Underlyings” below.

An Investment in the Notes is Subject to Risks Associated with Foreign Securities Markets — Because foreign companies or foreign equity securities held by the EFA are publicly traded in the applicable foreign countries and trade in currencies other than U.S. dollars, investments in the Notes involve particular risks. For example, the foreign securities markets may be more volatile than the U.S. securities markets, and market developments may affect these markets differently from the United States or other securities markets. Direct or indirect government intervention to stabilize the securities markets outside the United States, as well as cross-shareholdings in certain companies, may affect trading prices and trading volumes in those markets. Also, the public availability of information concerning the foreign issuers may vary depending on their home jurisdiction and the reporting requirements imposed by their respective regulators. In addition, the foreign issuers may be subject to accounting, auditing and financial reporting standards and requirements that differ from those applicable to United States reporting companies.

Securities prices generally are subject to political, economic, financial and social factors that apply to the markets in which they trade and, to a lesser extent, foreign markets. Securities prices outside the United States are subject to political, economic, financial and social factors that apply in foreign countries. These factors, which could negatively affect foreign securities markets, include the possibility of changes in a foreign government’s economic and fiscal policies, the possible imposition of, or changes in, currency exchange laws or other laws or restrictions applicable to foreign companies or investments in foreign equity securities and the possibility of fluctuations in the rate of exchange between currencies. Moreover, foreign economies may differ favorably or unfavorably from the United States economy in important respects such as growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency.

Exchange Rate Risk — The share price of the EFA will fluctuate based in large part upon its net asset value, which will in turn depend in part upon changes in the value of the currencies in which the stocks held by the EFA are traded.

Accordingly, investors in the Notes will be exposed to currency exchange rate risk with respect to each of the currencies in which the stocks held by the EFA are traded. An investor’s net exposure will depend on the extent to which these currencies strengthen or weaken against the U.S. dollar. If the dollar strengthens against these currencies, the net asset value of the EFA will be adversely affected and the price of the EFA, and consequently, the market value of the Notes may decrease.

An Investment in Notes Linked to IWM Is Subject to Risks Associated with an Investment in Stocks with a Small Market Capitalization — The IWM is linked to 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 share price of the IWM 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.

No Assurance that the Investment View Implicit in the Notes Will Be Successful — It is impossible to predict whether and the extent to which the prices of the Underlyings will rise or fall. The closing prices of the Underlyings will be influenced by complex and interrelated political, economic, financial and other factors that affect the Underlyings.

You should be willing to accept the downside risks of owning equities in general and the Underlyings in particular, and the risk of losing some or all of your initial investment.

Lack of Liquidity — The Notes will not be listed on any securities exchange. RBCCM intends to offer to purchase the Notes 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 Notes easily. Because other dealers are not likely to make a secondary market for the Notes, the price at which you may be able to trade your Notes is likely to depend on the price, if any, at which RBCCM is willing to buy the Notes.

Potential Conflicts — We and our affiliates play a variety of roles in connection with the issuance of the Notes, including hedging our obligations under the Notes. 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 Notes.

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 as to the Underlyings that are inconsistent with investing in or holding the Notes, and which may be revised at any time. Any such research, opinions or recommendations could affect the value of the Underlyings, and therefore the market value of the Notes.

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

Potential Royal Bank of Canada and UBS Impact on Price — Trading or transactions by Royal Bank of Canada, UBS or our respective affiliates in one or both of the Underlyings or the securities included in an Underlying's underlying index, or in futures, options, exchange-traded funds or other derivative products on the Underlyings or those securities may adversely affect the market value of the Underlyings or the closing prices of the Underlyings, and, therefore, the market value of the Notes.

The Terms of the Notes at Issuance Were Influenced, and Their Market Value Prior to Maturity Will Be Influenced, by Many Unpredictable Factors — Many economic and market factors influenced the terms of the Notes at issuance, and will influence 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 Notes, including a combination of a bond with one or more options or other derivative instruments. For the market value of the Notes, we expect that, generally, the price of the Underlyings on any day will affect the value of the Notes more than any other single factor. However, you should not expect the value of the Notes in the secondary market to vary in proportion to changes in the prices of the Underlyings. The value of the Notes will be affected by a number of economic and market factors that may either offset or magnify each other, including:

- the price of each Underlying;
- the actual and expected volatility of the price of each Underlying;
 - the expected correlation of the Underlyings;
- the time remaining to maturity of the Notes;
- the dividend rates on the securities held by the Underlyings;
- interest and yield rates in the market generally, as well as in each of the markets of the securities held by the Underlyings;
- a variety of economic, financial, political, regulatory or judicial events;
- the occurrence of certain events with respect to the Underlyings that may or may not require an adjustment to the terms of the Notes; and
- our creditworthiness, including actual or anticipated downgrades in our credit ratings.

Some or all of these factors influenced the terms of the Notes at issuance, and will affect the price you will receive if you choose to sell the Notes 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 Notes at a substantial discount from the principal amount if, for example, the price of one or both of the Underlyings is at, or not sufficiently above, its Downside Threshold.

The Anti-Dilution Protection for Each Underlying Is Limited — The calculation agent will make adjustments to the Initial Underlying Price and Downside Threshold of each Underlying for certain events affecting the shares of the Underlyings. However, the calculation agent will not be required to make an adjustment in response to all events that could affect an Underlying. If an event occurs that does not require the calculation agent to make an adjustment, the value of the Notes and the payments on the Notes may be materially and adversely affected.

Hypothetical Examples

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

The examples below illustrate the payment upon a call or at maturity for a \$10 Note in a hypothetical offering of the Notes, with the following assumptions:*

Principal Amount:	\$10
Term:	4 years (unless earlier called)
Hypothetical Initial Underlying Prices of Each Underlying:	\$100
Call Return Rate:	9.00% per annum
Observation Dates:	Quarterly (beginning one year after the Settlement Date).
Hypothetical Downside Thresholds of Each Underlying:	\$70.00 (which is 70% of its Initial Underlying Price)

*Not the actual Initial Underlying Prices or Downside Thresholds applicable to the Notes. The actual Initial Underlying Prices and Downside Thresholds for the Notes were based on the closing prices of the Underlyings on March 22, 2019, and are set forth on the cover page.

Example 1 - The closing price of each Underlying on the first Observation Date is at or above its Initial Underlying Price; the Notes are called

Closing prices on the first Observation Date:	EFA: \$105.00 (at or above its Initial Underlying Price) IWM: \$105.00 (at or above its Initial Underlying Price)
Call Price (per \$10.00):	\$10.90

In this example, on the first Observation Date, because the closing price of each Underlying is at or above its Initial Underlying Price, the Notes would be called, and we would pay you on the applicable Call Settlement Date a total call price of \$10.90 per \$10.00 in principal amount (a 9.00% total return on the Notes).

Example 2 - The closing price of each Underlying on the final Observation Date is at or above its Downside Threshold; the Notes are called

Closing price at 1st Observation Date:	EFA: \$95.00 (less than its Initial Underlying Price) IWM: \$95.00 (less than its Initial Underlying Price)
Highest closing price at 2nd through 12th Observation Date:	EFA: \$90.00 (less than its Initial Underlying Price) IWM: \$85.00 (less than its Initial Underlying Price)
Closing price at final Observation Date (Final Underlying Price):	EFA: \$105.00 (at or above its Downside Threshold) IWM: \$80.00 (at or above its Downside Threshold)
Call Price (per \$10.00):	\$13.60

In this example, the closing prices of both Underlyings on each of the 1st through 12th Observation Dates are less than their respective Initial Underlying Prices; as a result, the Notes are not automatically called following any of the 1st through 12th Observation Dates.

On the final Observation Date, the closing price of the EFA is \$105.00 and the closing price of the IWM is 80.00. Because the closing price of each Underlying is greater than its respective Downside Threshold, the Notes would be called on the final Observation Date and we would pay you on the applicable Call Settlement Date the call price of \$13.60 per \$10.00 stated principal amount (a 36.00% total return on the Notes). The Notes will be automatically called even though the Final Underlying Price of one Underlying is less than its Initial Underlying Price.

Example 3 - Notes are NOT Called and the Final Underlying Price of the Least Performing Underlying is below Its Downside Threshold on the final Observation Date

Closing price at 1st Observation Date:	EFA: \$95.00 (less than its Initial Underlying Price) IWM: \$95.00 (less than its Initial Underlying Price)
Highest closing price at 2nd through 12th Observation Date:	EFA: \$90.00 (less than its Initial Underlying Price) IWM: \$85.00 (less than its Initial Underlying Price)
Closing price at final Observation Date (Final Underlying Price):	EFA: \$101.00 (at or above its Downside Threshold) IWM: \$50.00 (below its Downside Threshold)
Payment at Maturity (per \$10.00):	$\$10.00 \times (1 + \text{Underlying Return of the Least Performing Underlying})$ $\$10.00 \times (1 - 50\%)$ \$5.00

In this example, the closing price of each Underlying on each of the 1st through 12th Observation Dates is less than its respective Initial Underlying Price; as a result, the Notes are not automatically called following any of those Observation Dates. On the final Observation Date, the Underlying Return of the EFA is 1% and the Underlying Return of the IWM is -50%. As a result, the IWM is the Least Performing Underlying. In this example, because the Notes are not automatically called and, therefore, the Final Underlying Price of the Least Performing Underlying is less than its Downside Threshold, we will pay you at maturity \$5.00 per \$10.00 principal amount (a 50.00% loss on the Notes) and you would incur a loss at maturity equal to the full decline of the Least Performing Underlying. In this scenario, even though one of the Underlyings has a positive Underlying Return on the final Observation Date, your payment at maturity will be based solely on the Least Performing Underlying, and you would not benefit from the performance of the other Underlying.

What Are the Tax Consequences of the Notes?

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 Notes. 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 Notes.

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat the Notes as callable pre-paid cash-settled derivative contracts in respect of the Underlying for U.S. federal income tax purposes, and the terms of the Notes 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 Notes for all tax purposes in accordance with such characterization. If the Notes are so treated, a U.S. holder should generally recognize capital gain or loss upon the sale or maturity of the Notes in an amount equal to the difference between the amount a holder receives at such time and the holder’s tax basis in the Notes. 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 Notes. According to the notice, the IRS and the U.S. Treasury Department are actively considering whether the holder of an instrument such as the Notes 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 Notes 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 Notes are not delta-one instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Notes. However, it is possible that the Notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events (for example, upon a rebalancing of an Underlying), and following such occurrence the Notes 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 Notes should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the Notes 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 Notes.

The accompanying product prospectus supplement notes that FATCA withholding on payments of gross proceeds from a sale or redemption of Notes 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 Notes.

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 Notes.

Canadian Federal Income Tax Consequences

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

Information About the Underlyings

We have derived the following information regarding each of the applicable Underlyings from publicly available documents. We have not independently verified the accuracy or completeness of the following information. We are not affiliated with any of the Underlyings and the Underlyings will have no obligations with respect to the Notes. This document relates only to the Notes and does not relate to the shares of any of the Underlying or any securities included in any of the underlying indices of the Underlyings. Neither we nor any of our affiliates participates in the preparation of the publicly available documents described below. Neither we nor any of our affiliates has made any due diligence inquiry with respect to any of the Underlyings in connection with the offering of any of the Notes. There can be no assurance that all events occurring prior to the date of this document, including events that would affect the accuracy or completeness of the publicly available documents described below, that would affect the trading prices of the shares of any of the Underlyings have been or will be publicly disclosed. Subsequent disclosure of any events or the disclosure of or failure to disclose material future events concerning any of the Underlyings could affect the price of the shares of the applicable Underlying after the Trade Date, and therefore could affect the payment at maturity. The selection of the Underlyings relating to the Notes is not a recommendation to buy or sell the shares of any of the Underlyings. Neither we nor any of our affiliates make any representation to you as to the performance of the shares of any of the Underlyings. Information provided to or filed with the SEC under the Securities Exchange Act of 1934 and the Investment Company Act of 1940 relating to each Underlying may be obtained through the SEC's website at <http://www.sec.gov>.

iShares® Funds

iShares consists of numerous separate investment portfolios (the "iShares Funds"), including the iShares® MSCI EAFE ETF (the "EFA") and the iShares® Russell 2000 ETF (the "IWM"). Each of the EFA and the IWM seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of their respective underlying indices. The EFA and the IWM typically earn income from dividends from securities held by the EFA and the IWM. These amounts, net of expenses and taxes (if applicable), are passed along to shareholders of the EFA and the IWM as "ordinary income." In addition, the EFA and the IWM realize capital gains or losses whenever they sell securities. Net long-term capital gains are distributed to their respective shareholders as "capital gain distributions." However, because the applicable notes are linked only to the share price of the applicable Underlying, you will not be entitled to receive income, dividend, or capital gain distributions from the applicable Underlying or any equivalent payments.

"iShare®" and "BlackRock®" are registered trademarks of BlackRock®. The Notes are not sponsored, endorsed, sold, or promoted by BlackRock®, or by any of the iShares® Funds. Neither BlackRock® nor the iShares® Funds make any representations or warranties to the owners of any of the Notes or any member of the public regarding the advisability of investing in any of the Notes. Neither BlackRock® nor the iShares® Funds shall have any obligation or liability in connection with the registration, operation, marketing, trading, or sale of any of the Notes or in connection with our use of information about any of the Underlyings or any of the iShares® Funds.

iShares® MSCI EAFE ETF

The iShares® MSCI EAFE ETF trades on the NYSE Arca under the ticker symbol "EFA." The EFA's investment adviser is BlackRock Fund Advisors (the "Advisor"). The Advisor employs a technique known as representative sampling to track the MSCI EAFE Index. The EFA generally invests at least 90% of its assets in the securities of the MSCI EAFE Index and in American Depositary Receipts or Global Depositary Receipts based on the securities of the MSCI EAFE Index. The EFA may invest the remainder of its assets in securities not included in the MSCI EAFE Index, but which the Advisor believes will help the EFA track the MSCI EAFE Index, or in futures contracts, options on futures contracts, other types of options and swaps related to the MSCI EAFE Index, as well as cash and cash equivalents, including shares of money market funds affiliated with the Advisor or its affiliates. The Advisor will waive portfolio management fees in an amount equal to the portfolio management fees of such other iShares funds for any portion of the EFA's assets invested in shares of such other funds.

The MSCI EAFE Index

The information below is included only to give insight to the MSCI EAFE Index, the performance of which the EFA attempts to reflect. The Notes are linked to the performance of the EFA and not to the MSCI EAFE Index. We have derived all information contained in this document regarding the MSCI EAFE Index, including, without limitation, its

make-up, method of calculation and changes in its components, from publicly available information. The MSCI EAFE Index is a stock index calculated, published and disseminated daily by MSCI, Inc. ("MSCI"), a majority-owned subsidiary of Morgan Stanley, through numerous data vendors, on the MSCI website and in real time on Bloomberg Financial Markets and Reuters Limited. Neither MSCI nor Morgan Stanley has any obligation to continue to calculate and publish, and may discontinue calculation and publication of the MSCI EAFE Index

The MSCI EAFE Index is a free float-adjusted market capitalization index with a base date of December 31, 1969 and an initial value of 100. The MSCI EAFE Index is calculated daily in U.S. dollars and published in real time every 60 seconds during market trading hours. The MSCI EAFE Index currently consists of the following 21 developed countries: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, The Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The MSCI EAFE Index is comprised of companies in both the Large Cap Index and Mid Cap Index, as discussed in the section "—Defining Market Capitalization Size Segments for Each Market" below. The MSCI EAFE Index is part of the MSCI Regional Equity Indices series and is an MSCI Global Investable Market Index, which is a family within the MSCI International Equity Indices.

General — MSCI Indices

MSCI provides global equity indices intended to measure equity performance in international markets and the MSCI International Equity Indices are designed to serve as global equity performance benchmarks. In constructing these indices, MSCI applies its index construction and maintenance methodology across developed, emerging, and frontier markets.

MSCI enhanced the methodology used in its MSCI International Equity Indices. The MSCI Standard and MSCI Small Cap Indices, along with the other MSCI equity indices based on them, transitioned to the global investable market indices methodology described below. The transition was completed at the end of May 2008. The Enhanced MSCI Standard Indices are composed of the MSCI Large Cap and Mid Cap Indices. The MSCI Global Small Cap Index transitioned to the MSCI Small Cap Index resulting from the Global Investable Market Indices methodology and contains no overlap with constituents of the transitioned MSCI Standard Indices. Together, the relevant MSCI Large Cap, Mid Cap, and Small Cap Indices will make up the MSCI investable market index for each country, composite, sector, and style index that MSCI offers.

Constructing the MSCI Global Investable Market Indices. MSCI undertakes an index construction process, which involves:

- defining the equity universe;
- determining the market investable equity universe for each market;
- determining market capitalization size segments for each market;
- applying index continuity rules for the MSCI Standard Index;
 - creating style segments within each size segment within each market; and
- classifying securities under the Global Industry Classification Standard (the “GICS”).

Defining the Equity Universe. The equity universe is defined by:

Identifying Eligible Equity Securities: the equity universe initially looks at securities listed in any of the countries in the MSCI Global Index Series, which will be classified as either Developed Markets (“DM”) or Emerging Markets (“EM”). All listed equity securities, including Real Estate Investment Trusts, are eligible for inclusion in the equity universe. Conversely, mutual funds, ETFs, equity derivatives and most investment trusts are not eligible for inclusion in the equity universe.

Classifying Eligible Securities into the Appropriate Country: each company and its securities (i.e., share classes) are classified in only one country.

Effective with the November 2015 semi-annual index review, companies traded outside of their country of classification (i.e., “foreign listed companies”) became eligible for inclusion in the MSCI Country Investable Market Indexes along with the applicable MSCI Global Index. In order for a MSCI Country Investable Market Index to be eligible to include foreign listed companies, it must meet the Foreign Listing Materiality Requirement. To meet the Foreign Listing Materiality Requirement, the aggregate market capitalization of all securities represented by foreign listings should represent at least (i) 5% of the free float-adjusted market capitalization of the relevant MSCI Country Investable Market Index and (ii) 0.05% of the free-float adjusted market capitalization of the MSCI ACWI Investable Market Index.

Determining the Market Investable Equity Universes. A market investable equity universe for a market is derived by applying investability screens to individual companies and securities in the equity universe that are classified in that market. A market is equivalent to a single country, except in DM Europe, where all DM countries in Europe are aggregated into a single market for index construction purposes. Subsequently, individual DM Europe country indices within the MSCI Europe Index are derived from the constituents of the MSCI Europe Index under the global investable market indices methodology.

The investability screens used to determine the investable equity universe in each market are as follows:

Equity Universe Minimum Size Requirement: this investability screen is applied at the company level. In order to be included in a market investable equity universe, a company must have the required minimum full market capitalization.

Equity Universe Minimum Free Float–Adjusted Market Capitalization Requirement: this investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have a free float–adjusted market capitalization equal to or higher than 50% of the equity universe minimum size requirement.

DM and EM Minimum Liquidity Requirement: This investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have adequate liquidity. The twelve-month and three-month Annual Traded Value Ratio (“ATVR”), a measure that screens out extreme daily trading volumes and takes into account the free float–adjusted market capitalization size of securities, together with the

three-month frequency of trading are used to measure liquidity. A minimum liquidity level of 20% of three- and twelve-month ATVR and 90% of three-month frequency of trading over the last four consecutive quarters are required for inclusion of a security in a market investable equity universe of a DM, and a minimum liquidity level of 15% of three- and twelve-month ATVR and 80% of three-month frequency of trading over the last four consecutive quarters are required for inclusion of a security in a market investable equity universe of an EM.

Global Minimum Foreign Inclusion Factor Requirement: this investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security's Foreign Inclusion Factor ("FIF") must reach a certain threshold. The FIF of a security is defined as the proportion of shares outstanding that is available for purchase in the public equity markets by international investors. This proportion accounts for the available free float of and/or the foreign ownership limits applicable to a specific security (or company). In general, a security must have an FIF equal to or larger than 0.15 to be eligible for inclusion in a market investable equity universe.

Minimum Length of Trading Requirement: this investability screen is applied at the individual security level. For an initial public offering ("IPO") to be eligible for inclusion in a market investable equity universe, the new issue must have started trading at least three months before the implementation of a semi-annual index review (as described below). This requirement is

applicable to small new issues in all markets. Large IPOs are not subject to the minimum length of trading requirement and may be included in a market investable equity universe and the Standard Index outside of a Quarterly or Semi-Annual Index Review.

Minimum Foreign Room Requirement: this investability screen is applied at the individual security level.

For a security that is subject to a foreign ownership limit to be eligible for inclusion in a market investable equity universe, the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as “foreign room”) must be at least 15%.

Defining Market Capitalization Size Segments for Each Market. Once a market investable equity universe is defined, it is segmented into the following size-based indices:

- Investable Market Index (Large + Mid + Small);
- Standard Index (Large + Mid);
- Large Cap Index;
- Mid Cap Index; or
- Small Cap Index.

Creating the size segment indices in each market involves the following steps:

- defining the market coverage target range for each size segment;
- determining the global minimum size range for each size segment;
- determining the market size segment cutoffs and associated segment number of companies;
- assigning companies to the size segments; and
- applying final size-segment investability requirements.

Index Continuity Rules for the Standard Indices. In order to achieve index continuity, as well as to provide some basic level of diversification within a market index, and notwithstanding the effect of other index construction rules described in this section, a minimum number of five constituents will be maintained for a DM Standard Index and a minimum number of three constituents will be maintained for an EM Standard Index.

Creating Style Indices within Each Size Segment. All securities in the investable equity universe are classified into value or growth segments using the MSCI Global Value and Growth methodology.

Classifying Securities under the Global Industry Classification Standard. All securities in the global investable equity universe are assigned to the industry that best describes their business activities. To this end, MSCI has designed, in conjunction with S&P Dow Jones Indexes, the GICS. Under the GICS, each company is assigned to one sub-industry according to its principal business activity. Therefore, a company can belong to only one industry grouping at each of the four levels of the GICS.

Index Maintenance

The MSCI Global Investable Market Indices are maintained with the objective of reflecting the evolution of the underlying equity markets and segments on a timely basis, while seeking to achieve index continuity, continuous investability of constituents and replicability of the indices, index stability and low index turnover. In particular, index maintenance involves:

- (i) Semi-Annual Index Reviews (“SAIRs”) in May and November of the Size Segment and Global Value and Growth Indices which include:
 - updating the indices on the basis of a fully refreshed equity universe;
 - taking buffer rules into consideration for migration of securities across size and style segments; and
 - updating FIFs and Number of Shares (“NOS”).
- (ii) Quarterly Index Reviews in February and August of the Size Segment Indices aimed at:
 - including significant new eligible securities (such as IPOs that were not eligible for earlier inclusion) in the index;
 - allowing for significant moves of companies within the Size Segment Indices, using wider buffers than in the SAIR;
 - and
 - reflecting the impact of significant market events on FIFs and updating NOS.
- (iii) Ongoing Event-Related Changes: changes of this type are generally implemented in the indices as they occur. Significantly large IPOs are included in the indices after the close of the company’s tenth day of trading. None of us, the dealer or any of our other affiliates accepts any responsibility for the calculation, maintenance, or publication of, or for any error, omission, or disruption in, the index or any successor to the index.

Historical Information

The graph below illustrates the performance of the EFA from January 1, 2009 to March 22, 2019, based on its Initial Underlying Price of \$64.31, which was its closing price on March 22, 2019. The solid line represents its Downside Threshold of \$45.02, which is equal to 70% of its closing price on March 22, 2019, rounded to two decimal places.

HISTORICAL 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.

The iShares® Russell 2000 ETF

The IWM seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of the Russell 2000® Index. The shares of this underlying trade on the NYSE Arca, Inc. under the symbol “IWM.”

Russell 2000® Index

The Russell 2000® Index (Bloomberg L.P. index symbol “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 on January 1, 1984. FTSE Russell calculates and publishes the RTY. The RTY was set to 135 as of the close of business on December 31, 1986. 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 FTSE Russell without regard to the Notes.

Selection of Stocks Comprising 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 to determine total shares outstanding. 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 ineligible for inclusion. 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, the index sponsor 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.

Historical Information

The graph below illustrates the performance of the IWM from January 1, 2009 to March 22, 2019, based on its Initial Underlying Price of \$149.62, which was its closing price on March 22, 2019. The solid line represents its Downside Threshold of \$104.73, which is equal to 70% of its closing price on March 22, 2019, rounded to two decimal places.

HISTORICAL 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.

Correlation of the Underlyings

The graph below illustrates the daily performance of the Underlyings from March 22, 2009 through March 22, 2019. For comparison purposes, each Underlying has been normalized to have a closing price of \$100.00 on March 22, 2009 by dividing the closing price of that Underlying on each day by the closing price of that Underlying on March 22, 2009 and multiplying by \$100.00. We obtained the closing prices used to determine the normalized closing prices set forth below from Bloomberg L.P., without independent verification.

Past performance of the Underlyings is not indicative of their future performance.

The correlation of a pair of assets represents a statistical measurement of the degree to which the returns of those assets were similar to each other over a given period in terms of timing and direction (i.e., positive or negative). The closer the relationship of the daily returns of the Underlyings over a given period, the more positively correlated those Underlyings are. The graph above illustrates the historical performance of the assets relative to one another over the time period shown and provides an indication of how close the relative performance of the daily returns of one Underlying has historically been to the other. The lower (or more negative) the correlation between two Underlyings, the less likely it is that those assets will move in the same direction and, therefore, the greater the potential for one of those assets to close below its Initial Underlying Price or Downside Threshold on any Observation Date, as applicable. This is because the less positively correlated a pair of Underlyings are, the greater the likelihood that at least one of those assets will decrease in value. This results in a greater potential for the Notes not to be called and for a loss of principal at maturity. However, even if the two Underlyings have a higher positive correlation, one or both of those assets might close below its Initial Underlying Price or Downside Threshold on an Observation Date, as both of those Underlyings may decrease in value together.

The lower the correlation between two Underlyings, the greater the potential for one of those assets to close below its Initial Underlying Price or its Downside Threshold on any Observation Date, respectively. Therefore, the greater the number of Underlyings, the greater the potential for the Notes not to be called and for a loss of principal at maturity. We determined the Call Return Rate for the Notes based, in part, on the correlation among the Underlyings, calculated using internal models at the time the terms of the Notes were set. As discussed above, increased risk resulting from lower correlation or from a greater number of Underlyings are reflected in a higher Call Return Rate than would be payable on securities linked to fewer Underlyings or that have a higher degree of correlation.

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 Notes will be made to fee-based advisory accounts for which UBS is an investment advisor and UBS will act as placement agent. The purchase price will be \$10.00 per Note and UBS will forgo any commissions related to these sales. Investors that purchase and hold the Notes in fee-based advisory accounts will pay advisory fees to UBS based on the amount of assets held in those accounts.

We expect to deliver the Notes on a date that is greater than two business days following the Trade Date. Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the Notes more than two business days prior to the original issue date will be required to specify alternative settlement arrangements to prevent a failed settlement.

Subject to regulatory constraints and market conditions, RBCCM intends to offer to purchase the Notes 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 Notes 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 TAS-2.

The value of the Notes shown on your account statement may be based on RBCCM’s estimate of the value of the Notes if RBCCM or another of our affiliates were to make a market in the Notes (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Notes in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately 1 month after the issue date of the Notes, the value of the Notes that may be shown on your account statement may be higher than RBCCM’s estimated value of the Notes at that time. This is because the estimated value of the Notes will not include our hedging costs and profits; however, the value of the Notes 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 Notes. Any such excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Notes, 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 Notes 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 Notes

The Notes are our debt securities, the return on which is linked to the performance of the Underlyings. As is the case for all of our debt securities, including our structured notes, the economic terms of the Notes 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 Notes 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 Notes 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 Notes 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 Notes than if our initial internal borrowing rate were used.

In order to satisfy our payment obligations under the Notes, 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 Underlying, and the tenor of the Notes. The economic terms of the Notes 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 Notes to you. The initial offering price of the Notes also reflects our estimated hedging costs. These factors resulted in the initial estimated value for the Notes on the Trade Date being less than their public offering price. See “Key Risks—The Initial Estimated Value of the Notes 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 Notes” and the provisions in the accompanying product prospectus supplement TAS-2 dated September 7, 2019 under the caption “General Terms of the Securities” are incorporated into the master note issued to DTC, the registered holder of the Notes.

Validity of the Notes

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Notes has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Notes have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Notes will be validly issued and, to the extent validity of the Notes 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 Notes 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 Notes have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Notes 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.