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Pricing Supplement
Dated February 25, 2020

To the Prospectus Supplement and Prospectus Each Dated September 7, 2018

$1,494,000

Rules Based Investment Securities Linked to the RBC Large Cap US Tactical Equity Total Return Index, due February 28, 2025

Royal Bank of Canada

Royal Bank of Canada is offering the Rules Based Investment Securities (the "Notes") linked to the performance of the RBC Large Cap US Tactical Equity Total Return Index (the "Index").

The CUSIP number for the Notes is 78013GUP8. The Notes do not pay interest.

The Notes provide a return based upon the performance of Index, as reflected in the Indicative Note Value (as defined below). The Index is a proprietary index which is allocated on a monthly basis to either (a) a futures contract on the S&P 500® Index and the federal funds (effective) rate or (b) only the federal funds (effective) rate, as described in more detail below.

The Indicative Note Value, which will initially be $970 for each $1,000 in principal amount of the Notes, will be reduced on a daily basis based upon an Index Adjustment Factor based on a rate of 0.65% per annum. As a result, in order for you to receive a payment on the maturity date that is greater than or equal to the principal amount, the level of the Index must increase from the Trade Date to the Valuation Date by an amount that is sufficient to offset the impact of the initial Indicative Note Value being less than the principal amount and the Index Adjustment Factor. *You may lose all or a substantial portion of the principal amount.*

Any payments on the Notes are subject to our credit risk.

Issue Date: February 28, 2020 Maturity Date: February 28, 2025

The Notes will not be listed on any securities exchange.

Investing in the Notes involves a number of risks. Please see "Risk Factors" on page P-8 of this pricing supplement and on page S-1 of the prospectus supplement.

The Notes will not constitute deposits insured by the Canada Deposit Insurance Corporation, the U.S. Federal Deposit Insurance Corporation or any other Canadian or U.S. government agency or instrumentality. The Notes are not subject to conversion into our common shares under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined that this pricing supplement is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Note	Total
Price to public(1)(2)	100.00%	$1,494,000
Underwriting discounts and commissions(1)(2)	3.00%	$44,820
Proceeds to Royal Bank of Canada	97.00%	$1,449,180

(1) RBC Capital Markets, LLC ("RBCCM"), acting as our agent, will receive a commission on the issue date in connection with the sale of the Notes equal to 3.00% of the principal amount, and will use a portion of that commission to allow selling concessions to other dealers of up to that amount. In addition, RBCCM will receive from us the amounts generated from the deduction of the Index Adjustment Factor from the Indicative Note Value (as defined below) to cover ongoing payments as a structuring fee for developing the Notes. See "Supplemental Plan of Distribution (Conflicts of Interest)" below.

(2) Certain dealers who purchased the Notes for sale to certain fee-based advisory accounts may have foregone some or all of their underwriting discount or selling concessions. The public offering price for investors purchasing the Notes in these accounts was between $970 and $1,000 per $1,000 in principal amount.

The initial estimated value of the Notes as of the Trade Date is $970 per $1,000 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 in more detail below.

RBC Capital Markets, LLC

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Rules Based Investment
Securities Linked to the RBC
Large Cap US Tactical Equity
Total Return Index

SUMMARY

The information in this "Summary" section is qualified by the more detailed information set forth in this pricing supplement, the prospectus supplement and the prospectus.

Issuer:	Royal Bank of Canada ("Royal Bank")
Underwriter:	RBC Capital Markets, LLC ("RBCCM")
Index:	RBC Large Cap US Tactical Equity Total Return Index The Index is a proprietary index that is allocated on a monthly basis to either (a) a futures contract (the "Relevant Futures Contract") on the S&P 500® Index (the "SPX" or the "Underlying Index") and the Federal Funds (Effective) Rate or (b) only the Federal Funds (Effective) Rate, as described in more detail below. The Index will be allocated on a monthly basis, depending upon the "Tactical Trigger" that is included in the index methodology. The Tactical Trigger compares the current closing price of the SPDR® S&P 500® ETF (the "SPY"), which is an exchange traded fund ("ETF") linked to the Underlying Index, to the average of the ETF's closing price over a trading period of 200 days (the "Moving Average," as described below). If the current closing price is higher than the Moving Average, then the Index will be allocated to the Relevant Futures Contract and the Federal Funds (Effective) Rate. If the current closing price is lower than the Moving Average, then the Index will be allocated only to the Federal Funds (Effective) Rate. The Index was developed by RBC Capital Markets, and Solactive AG is the Index Calculation Agent. For more detailed information about the Index, please see the section below, "The RBC Large Cap US Tactical Equity Total Return Index."
Bloomberg Ticker:	RBCELTUT
Currency:	U.S. Dollars
Minimum Investment:	$5,000 and minimum denominations of $1,000 in excess thereof
Trade Date:	February 25, 2020
Issue Date:	February 28, 2020
Valuation Date:	February 25, 2025
Maturity Date:	February 28, 2025
Interest Payments:	None.
Payment at Maturity (if held to maturity):	On the maturity date, for each $1,000 in principal amount of the Notes that you hold, you will receive an amount equal to the Indicative Note Value (as defined below). *Due to the Index Adjustment Factor described below, and because the initial Indicative Note Value will be less than the principal amount, as described below, you will only receive a positive return on your investment if the level of the Index increases from the Trade Date to the Valuation Date by a percentage that is sufficient to offset the impact of the Index Adjustment Factor. Particularly if the level of the Index decreases, you may lose all or substantially all of the principal amount of the Notes.*

Rules Based Investment Securities Linked to the RBC Large Cap US Tactical Equity Total Return Index

Indicative Note Value:	For each $1,000 in principal amount of the Notes, the Indicative Note Value will be set on the Trade Date to an amount equal to $1,000 multiplied by the Participation Rate, which equals $970. Accordingly, the initial Indicative Note Value will be less than the principal amount. On each Index Trading Day (as defined below) thereafter on which a Market Disruption Event (as defined below) does not occur or is not continuing, the Indicative Note Value will equal: [Indicative Note Value on Prior Index Trading Day x (1 + Index Factor)] x (1 – Index Adjustment Factor)
Participation Rate:	97%
Index Factor:	On any Index Trading Day, the Index Factor will be equal to: $\frac{\text{Closing Level of Index} - \text{Closing Level of Index on Prior Index Trading Day}}{\text{Closing Level of Index on Prior Index Trading Day}}$
Index Adjustment Factor:	On any Index Trading Day after the Trade Date on which a Market Disruption Event does not occur or is not continuing, 0.65% multiplied by (a) the number of calendar days elapsed since the most recent Index Trading Day divided by (b) 365 (366 in a leap year).
Initial Level:	248.0695, which was the closing level of the Index on the Trade Date.
Final Level:	The closing level of the Index on the Valuation Date.
Early Redemption:	The Notes will not be redeemable at our option or your option, except under the limited circumstances described below under the caption “Additional Terms of the Notes—Unavailability of the Level of the Index” and “—Hedging Disruption Events.”
Principal at Risk:	**The Notes are *NOT* principal protected. You may lose all or a substantial portion of your principal amount at maturity.**
Calculation Agent:	RBCCM is the Calculation Agent for the Notes, and will make all determinations as to the Indicative Note Value and any payments on the Notes.
U.S. Tax Treatment:	By purchasing a Note, each holder agrees (in the absence of a change in law, an administrative determination or a judicial ruling to the contrary) to treat the Notes as pre-paid cash-settled derivative contracts for U.S. federal income tax purposes. However, the U.S. federal income tax consequences of your investment in the Notes are uncertain and the Internal Revenue Service could assert that the Notes should be taxed in a manner that is different from that described in the preceding sentence. Please see the section below, “Supplemental Discussion of U.S. Federal Income Tax Consequences.”
Secondary Market:	RBCCM (or one of its affiliates), though not obligated to do so, may maintain a secondary market in the Notes after the Issue Date. **The amount that you may receive upon sale of your Notes prior to maturity may be less than the principal amount and/or the Indicative Note Value of your Notes.**
Listing:	The Notes will not be listed on any securities exchange.
Clearance and Settlement:	DTC global (including through its indirect participants Euroclear and Clearstream, Luxembourg as described under “Description of Debt Securities—Ownership and Book-Entry Issuance” in the prospectus).
Terms Incorporated in the Master Note:	All of the terms appearing above the item captioned “Secondary Market” on the cover page and pages P-2 and P-3 of this pricing supplement.

Hypothetical Examples of the Payment at Maturity

The following examples illustrate how the Notes would perform in a variety of hypothetical circumstances. The payment on the Notes at maturity will depend upon the Indicative Note Value on the Valuation Date. However, the Indicative Note Value is expected to change on each Index Trading Day during the term of the Notes, due to changes in the level of the Index and the impact of the Index Adjustment Factor. The impact of the Index Adjustment Factor will be greater on any Index Trading Day on which the level of the Index is higher, and the impact of the Index Adjustment Factor will be lower on any Index Trading Day on which the level of the Index is lower. **Accordingly, the aggregate impact of the Index Adjustment Factor on the Notes over their term cannot be known until the maturity date.**

The figures set forth in the examples below are for purposes of illustration only (including as to the periods of time that will have elapsed after the Trade Date) and are not actual historical results. For information relating to the historical performance of the Index, please see the discussion below, in the section below, “The RBC Large Cap US Equity Total Return Index.”

The hypothetical Initial Level of 100.00 set forth below is not the actual Initial Level of the Index. The actual Initial Level of the Index is set forth in the “Summary” section above. In addition, each of these examples assumes that the Index will increase or decrease at a steady rate over each relevant year, which we do not expect to occur.

Example 1. This example assumes that the Index has increased steadily by 2% each year.

Year of Notes	Index Level	Percentage Change in Level of the Index	Indicative Note Value	Cumulative Amount Deducted per $1,000 in Principal Amount	Percentage Change in Indicative Note Value	Payment at Maturity
Trade Date	100.00	N/A	$970	N/A	N/A	
1	102.00	2.00%	$982.97	$37.03	1.34%	
2	104.04	2.00%	$996.11	$44.29	1.34%	
3	106.12	2.00%	$1,009.43	$51.78	1.34%	
4	108.24	2.00%	$1,022.93	$59.51	1.34%	
5	110.41	2.00%	$1,036.60	$67.48	1.34%	$1,036.60

In this example, the payment at maturity would be $1,036.60 per $1,000 in principal amount of the Notes, a return of 3.7%, even though the level of the Index has increased by 10.4% from the Initial Level to the Final Level.

Example 2. This example assumes that the Index has decreased steadily by 2% each year.

Year of Notes	Index Level	Percentage Change in Level of the Index	Indicative Note Value	Cumulative Amount Deducted per $1,000 in Principal Amount	Percentage Change in Indicative Note Value	Payment at Maturity
Trade Date	100.00	N/A	$970.00	N/A	N/A	
1	98.00	-2.00%	$944.42	$35.58	-2.64%	
2	96.04	-2.00%	$919.52	$40.88	-2.64%	
3	94.12	-2.00%	$895.27	$45.92	-2.64%	
4	92.24	-2.00%	$871.66	$50.71	-2.64%	
5	90.39	-2.00%	$848.68	$55.25	-2.64%	$848.68

In this example, the payment at maturity would be $848.68 per $1,000 in principal amount of the Notes, a return of -15.1%. This return is less than the decrease of -9.6% in the level of the Index from the Initial Level to the Final Level.

Example 3. This example assumes that the level of the Index is *unchanged* during the term of the Notes, and illustrates the cumulative impact of the Index Adjustment Factor.

Year of Notes	Index Level	Percentage Change in Level of the Index	Indicative Note Value	Cumulative Amount Deducted per $1,000 in Principal Amount	Percentage Change in Indicative Note Value	Payment at Maturity
Trade Date	100.00	N/A	$970.00	N/A	N/A	
1	100.00	0.00%	$963.70	$36.30	-0.65%	
2	100.00	0.00%	$957.43	$42.57	-0.65%	
3	100.00	0.00%	$951.21	$48.79	-0.65%	
4	100.00	0.00%	$945.02	$54.98	-0.65%	
5	100.00	0.00%	$938.88	$61.12	-0.65%	$938.88

In this example, the payment at maturity would be $938.88 per $1,000 in principal amount of the Notes, a return of -6.1%. This return is negative, even though the level of the Index was unchanged during the term of the Notes.

Example 4. This example assumes that the Index has increased steadily by 2% each year during the first 2.5 years of the term of the Notes, prior to decreasing steadily by 2% each year during the final 2.5 years of the term of the Notes.

Year of Notes	Index Level	Percentage Change in Level of the Index	Indicative Note Value	Cumulative Amount Deducted per $1,000 in Principal Amount	Percentage Change in Indicative Note Value	Payment at Maturity
Trade Date	100.00	N/A	$970.00	N/A	N/A	
1	102.00	2.00%	$982.97	$37.03	1.34%	
2	104.04	2.00%	$996.11	$44.29	1.34%	
2 to 2.5	105.08	1.00%	$1,002.80	$48.00	0.67%	
2.5 to 3	104.03	-1.00%	$989.55	$50.75	-1.32%	
4	101.95	-2.00%	$963.45	$56.04	-2.64%	
5	99.91	-2.00%	$938.05	$61.05	-2.64%	$938.05

In this example, the payment at maturity would be $938.05 per $1,000 in principal amount of the Notes, a return of -6.2%.

Example 5. This example assumes that the Index has decreased steadily by 2% each year during the first 2.5 years of the term of the Notes, prior to increasing steadily by 2% each year during the final 2.5 years of the term of the Notes.

Year of Notes	Index Level	Percentage Change in Level of the Index	Indicative Note Value	Cumulative Amount Deducted per $1,000 in Principal Amount	Percentage Change in Indicative Note Value	Payment at Maturity
Trade Date	100.00	N/A	$970.00	N/A	N/A	
1	98.00	-2.00%	$944.42	$35.58	-2.64%	
2	96.04	-2.00%	$919.52	$40.88	-2.64%	
2 to 2.5	95.08	-1.00%	$907.36	$43.43	-1.32%	
2.5 to 3	96.03	1.00%	$913.46	$46.85	0.67%	
4	97.95	2.00%	$925.67	$53.84	1.34%	
5	99.91	2.00%	$938.05	$61.05	1.34%	$938.05

In this example, the payment at maturity would be $938.05 per $1,000 in principal amount of the Notes, a return of -6.2%.

RISK FACTORS

An investment in the Notes is subject to the risks described below, as well as the risks described under "Risk Factors" in the prospectus and the prospectus supplement. The Notes are not secured debt and are riskier than ordinary unsecured debt securities. Also, investing in the Notes is not equivalent to investing directly in the assets represented by the Index. You should carefully consider whether the Notes are suited to your particular circumstances. This pricing supplement should be read together with the prospectus and the prospectus supplement. ***This section describes the most significant risks relating to the terms of the Notes. We urge you to read the following information about these risks, together with the other information in this pricing supplement, the prospectus supplement and the prospectus, before investing in the Notes.***

General Risks Related to the Notes

You May Lose All or a Portion of the Principal Amount.

Investors in the Notes could lose all or a substantial portion of their principal amount. The Indicative Note Value was set on the Trade Date to only $970 per $1,000 in principal amount of the Notes. In order for you not to incur a loss on the Notes, the level of the Index must increase sufficiently to enable the Indicative Note Value to reach an amount greater than $1,000, as well as to offset the impact of the Index Adjustment Factor. The aggregate impact of the Index Adjustment Factor over the term of the Notes will depend upon the level of the Index on each Index Trading Day, and cannot be determined prior to the Valuation Date. There is no minimum amount payable on the Notes. Accordingly, your investment may result in a significant loss.

The Notes Do Not Pay Interest and Your Return May Be Lower Than the Return on a Conventional Debt Security of Comparable Maturity.

There will be no periodic interest payments on the Notes as there would be on a conventional fixed-rate or floating-rate debt security having the same maturity. The return that you will receive on the Notes, which could be negative, may be less than the return you could earn on other investments. Even if your return is positive, your return may be less than the return you would earn if you bought one of our conventional senior interest bearing debt securities.

Payments on the Notes Are Subject to Our Credit Risk, and Changes in Our Credit Ratings Are Expected to Affect the Market Value of the Notes.

The Notes are our senior unsecured debt securities. As a result, your receipt of any payment due on the Notes is dependent upon our ability to repay our obligations on the applicable payment date. This will be the case even if the level of the Index increases after the Trade Date. No assurance can be given as to what our financial condition will be at any time during the term of the Notes, including the maturity date.

There May Not Be an Active Trading Market for the Notes, and Sales in the Secondary Market May Result in Significant Losses.

There may be little or no secondary market for the Notes. The Notes will not be listed on any securities exchange. RBCCM and our other affiliates may make a market for the Notes; however, they are not required to do so. RBCCM or any other affiliate may stop any market-making activities at any time. Even if a secondary market for the Notes develops, it may not provide significant liquidity or trade at prices advantageous to you. We expect that transaction costs in any secondary market would be high. As a result, the difference between bid and asked prices for the Notes in any secondary market could be substantial.

The Initial Estimated Value of the Notes Is Less Than the Price to the Public.

The initial estimated value that is set forth on the cover page of this pricing supplement does not represent a minimum price at which we, RBCCM or any of our 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 level of the Index, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the estimated 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 the Notes prior to maturity may be less than your original purchase price, as any such sale price would not be expected to include the hedging costs relating to the Notes. In addition to bid-ask spreads, the value of the Notes determined for any secondary market price is expected to be based on the secondary rate rather than the internal funding rate used to price the Notes and determine the initial estimated value. As a result, the secondary price will be less than if the internal funding rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold the Notes to maturity.

The Initial Estimated Value of the Notes on the Cover Page of this Pricing Supplement 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 or derivatives 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, 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.

We May Redeem the Notes, or Reduce the Payments on the Notes, if a Hedging Disruption Event (as defined below) Occurs.

A variety of legal and regulatory regimes in the United States and, in some cases, in other countries, may change in ways that could adversely affect our ability to hedge our obligations under the Notes. These changes, including, for example, the adoption of, or a change in, laws, regulations, rules, or orders (including those relating to tax matters) that are applicable to us, our affiliates, or our counterparties, may cause us to be unable to effect transactions that are necessary or appropriate for us to hedge our obligations under the Notes. In such a case, we may, in our sole and absolute discretion, redeem the Notes as described in the section below, “Additional Terms of the Notes—Hedging Disruption Events.” In addition, and as described in that section, we may reduce the amounts that are payable on the Notes at maturity. If any of these events occur, you may incur losses on your investment, and/or may hold the Notes for a shorter period of time than you anticipated, which could result in adverse tax consequences for you. There can be no assurance that a Hedging Disruption Event will not occur during the term of the Notes.

The Amounts to Be Paid on the Notes Will Not Be Affected by All Developments Relating to the Index.

Changes in the level of the Index and the Indicative Note Value during the term of the Notes before the Valuation Date will not be reflected in the calculation of the payment due on the Notes. The Calculation Agent for the Notes will calculate this amount based on the Indicative Note Value as of the Valuation Date. No other Indicative Note Values will be taken into account. As a result, you may receive less than the principal amount of the Notes, even if the Indicative Note Value has increased at certain times during the term of the Notes before decreasing as of the Valuation Date.

The Payments on the Notes May Be Influenced by Many Unpredictable Factors.

The following factors, which are beyond our control, may influence the amounts of the payments on the Notes:

- the level of the Index;
- the volatility (i.e., the frequency and magnitude of changes) of the level of the Index, the Relevant Futures Contract and the Underlying Index;
- the dividend rate on the stocks represented by the Underlying Index;
- economic, financial, political, military, regulatory, legal and other events that affect the applicable securities markets generally, and which may affect the level of the Index;

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- interest and yield rates in the market; and
- the time remaining to maturity of the Notes.

These factors may influence the payments on the Notes and their value prior to maturity. Our creditworthiness, as represented by our credit ratings or as otherwise perceived in the market will also affect the market value of the Notes. The value of the Notes prior to maturity may be less than the principal amount.

There Are Potential Conflicts of Interest Between You and the Calculation Agent.

The Calculation Agent for the Notes will, among other things, determine the Indicative Note Value on each Index Trading Day, and the amount of your payment at maturity. Our wholly-owned subsidiary, RBCCM, will serve as the Calculation Agent. We may change the Calculation Agent during the term of the Notes without notice to you. The Calculation Agent will exercise its judgment when performing its functions. Since this determination by the Calculation Agent may affect the payment due on the Notes, the Calculation Agent may have a conflict of interest if it needs to make a determination of this kind.

Additional Risk Factors Related to the Index

The Index is exposed to the performance of the Relevant Futures Contract linked to the Underlying Index and, accordingly, the risks associated with those assets. You should read the information set forth below concerning these assets. Additionally, the Index has its own index methodology that will affect the return on the Notes. You should understand how the Index is calculated, including the risks in this section related to the Index.

The Index May Not Be Successful and May Underperform Alternative Investment Strategies.

There can be no assurance that the level of the Index will increase over the term of the Notes. The performance of the Index may be less favorable than alternative investment strategies that could be implemented relating to one or more of the markets that are represented by the Relevant Futures Contract and the Underlying Index.

The Index Has Limited History and May Perform in Unexpected Ways.

The Index was launched on February 18, 2019. Accordingly, the Index has only limited performance history. Because the Index was only recently developed, and has only limited performance history, an investment linked to the Index may involve a greater degree of risk than an investment linked to one or more indices with a more significant record of performance. A longer history of actual performance through various economic and market conditions may provide greater information and more reliable information based on which an investor could assess the validity of the Index's investment thesis and index methodology. A longer history of actual performance may also have made the Index more widely accepted in the market and, consequently, less likely for the Index Calculation Agent to make any changes to the Index in the future.

The Tactical Trigger Is Subject to Limitations.

The Index's methodology is based on the notion that, each month, the Tactical Trigger may provide an accurate indicator of the future performance of the Relevant Futures Contract. In other words, the methodology is based on the notion that the value of the Relevant Futures Contract is likely to appreciate if the Tactical Trigger indicates an allocation to the Relevant Futures Contract. However, there is no guarantee that this will be the case. It is possible that the Index will be allocated to the Relevant Futures Contract during one or more months in which that contract decreases in value, and/or that it will be allocated away from the Relevant Futures Contract during one or more months in which that contract increases in value.

In addition, the Tactical Trigger is subject to a number of important limitations, including the following:

- **Past performance may not predict future performance.** The fact that the price of the ETF is higher than its Moving Average as of the relevant monthly measurement date does not necessarily mean that the price of the Relevant Futures Contract will perform favorably in the future. Future market conditions may differ from prior

market conditions, and the conditions that may have caused the favorable performance of the ETF as compared to its Moving Average may no longer exist.

- **Time lag.** The Tactical Trigger measures the performance of the ETF over the past 200 trading days for that ETF, as discussed below. Accordingly, it is subject to a time lag, which may cause it to be late in indicating whether the Index should be allocated to the Relevant Futures Contract. If the trend in the performance of the applicable ETF changes, it may be a significant period of time before the Tactical Trigger reflects the change. As a result of this time lag, the Tactical Trigger may signal an allocation of the Index to the Relevant Futures Contract, or away from the Relevant Futures Contract, as applicable, long after the price of the ETF changes direction.
- **Differences between the Tactical Trigger and the Index.** The Tactical Trigger is determined on a monthly basis, depending upon recent prices for the ETF. In contrast, the level of the Index, if allocated to the Relevant Futures Contract, will depend upon the value of that futures contract. As discussed in more detail below, there can be no assurance that the value of the Relevant Futures Contract will increase or decrease at the same rate or at the same time as changes in the prices of the ETF.
- **Markets may be efficient, such that any relevant information upon which the Tactical Trigger is based may be reflected in current asset values.** Historical asset prices may not necessarily be an indicator of future asset prices, even if future market conditions do not differ to a significant extent from prior market conditions. The efficient market hypothesis, which is a theory in financial literature, posits that the investment markets are efficient and that current asset prices typically reflect all available relevant information. If true, the efficient market hypothesis implies that any perceived historical trend in the performance of the ETF may not be an accurate predictor of their future performance, or the future performance of the Relevant Futures Contract. If the relevant prior prices of the ETF are not an accurate indicator of the performance of the Relevant Futures Contract over the following month, then the Index's allocation methodology may perform poorly.
- **Whipsaws.** Trend-following methodologies may perform particularly poorly in "choppy" markets, where they may be subject to "whipsaws." Choppy markets are characterized by short-term volatility and the absence of consistent long-term performance trends. In choppy markets, whipsaws occur when the market reverses and does the opposite of what may be indicated by past performance. The Index may experience a significant decline in these market conditions because, for example, if the Index identifies the ETF as being valued at more than its Moving Average, the Index will be allocated to the Relevant Futures Contract, even if the price of the Relevant Futures Contract decreases in value thereafter.
- **Mean reversion.** The Tactical Trigger may be ineffective if the Relevant Futures Contract or the ETF exhibit mean reversion tendencies. Mean reversion is the theory that asset prices tend to fluctuate around, and revert to, a particular level (the "mean") over time. For example, if the ETF and Relevant Futures Contract exhibit a high degree of mean reversion, the prices of the ETF may increase for a sufficient period of time to cause the Tactical Trigger to allocate the Index to the Relevant Futures Contract; however, the value of the ETF and the Relevant Futures Contract may fall back toward its long-term mean shortly thereafter. Market conditions of this kind could cause decreases in the level of the Index.

Hypothetical Back-Tested Index Performance Information Is Subject to Significant Limitations.

All information regarding the performance of the Index prior to February 18, 2019 is hypothetical and back-tested, as the Index did not exist prior to that time. Hypothetical back-tested index performance information is subject to significant limitations, in addition to the fact that past performance is not a guarantee of future performance.

RBC Capital Markets developed the rules and methodology of the Index with the benefit of hindsight. In other words, the Index was developed with the benefit of being able to evaluate how the Index rules would have caused the Index to perform had it existed during the hypothetical back-tested period. The fact that the Index generally appreciated over the hypothetical back-tested period may not therefore be an accurate or reliable indication of any aspect of the Index methodology.

The hypothetical back-tested performance of the Index might look different if it covered a different historical period. The market conditions that existed during the historical period covered by the hypothetical back-tested Index performance information are not necessarily representative of the market conditions that will exist during the term of the Notes.

As set forth in more detail below, historical information for the Relevant Futures Contract is not available for all periods covered by the hypothetical back-tested information. For those periods, the back-tested information is based on the performance of related assets, as described below. Accordingly, the information for these periods may not reflect the performance of the Index had the Relevant Futures Contract been available at those times.

It is impossible to predict whether the Index will rise or fall. The actual future performance of the Index may bear no relation to the historical or hypothetical back-tested levels of the Index.

The Performance of the Index Is Expected to Be Reduced by an Implicit Financing Cost, and Any Increase in This Cost Will Adversely Affect the Performance of the Index.

The Index is linked to a Relevant Futures Contract that has an implicit financing cost associated with it. As a result, the Index is expected to reflect not only the performance of the Underlying Index, but also the implicit cost of a financed position in the Relevant Futures Contract. The cost of this financed position will adversely affect the level of the Index. Any increase in market interest rates will be expected to further increase this implicit financing cost and will increase the negative effect on the performance of the Index. Because of this implicit financing cost, the Index, to the extent it is allocated to the Relevant Futures Contract, is expected to underperform the total return performance of the Underlying Index.

The Index Is Exposed to Risks Related to the Underlying Index.

The performance of the Index will depend to a significant extent upon the performance of the Underlying Index. As a result, the Index's performance will be directly affected by the performance of the Relevant Futures Contract, which in turn will relate to the value of the Underlying Index and the related risks of the Underlying Index.

The Index May Have Significant Exposure to the Federal Funds (Effective) Rate, Which Has Limited Return Potential.

At any time when the Index is allocated to the Federal Funds (Effective) Rate, any positive return of the Index may be minimal. A significant hypothetical allocation to the Federal Funds (Effective) Rate will significantly reduce the Index's potential for gains. If interest rates are low during any period in which the Index is allocated to the Federal Funds Rate, the potential for the level of the Index to increase is minimal. Interest rates are subject to change due to a variety of factors, and the level of the Federal Funds Rate during the term of the Notes cannot be estimated with accuracy.

The Notes Do Not Offer Direct Exposure to the Underlying Index or the ETF.

The Index tracks futures contracts on the Underlying Index, and does not directly track that index or the ETF. The price of each such futures contract reflects the expected value of the Underlying Index in the future; in contrast, the level of the Underlying Index reflects the current value of its components.

A variety of factors can lead to a disparity between the expected future price of an underlying asset and the spot price or level at a given point in time. These factors include expectations concerning supply and demand for the underlying asset. The price movements of the Relevant Futures Contract are typically correlated with the movements of the spot price of the Underlying Index, but the correlation is generally imperfect and price movements in the underlying market may not be reflected in the futures market. In addition, the market on which the Relevant Futures Contract trades has trading hours that differ from the trading hours of the securities markets represented by the Underlying Index; as a result, material economic or company news may not be reflected at the same times or days in the prices of the Relevant Futures Contract as levels of the Underlying Index. Accordingly, the Notes may underperform a similar investment linked to the current levels of the Underlying Index represented by the Index, or the ETF.

Higher Future Prices of the Relevant Futures Contract Relative to Its Current Prices, or "Contango," May Lead to a Decrease in the Levels of the Index and the Amount Payable on the Notes.

The Index is linked to the Relevant Futures Contract. As this futures contract approaches its expiration date, it is replaced by a contract that have a later expiration. For example, a contract purchased and held in June may specify September expiration. As time passes, the contract expiring in September is replaced by a contract for delivery in a future month, for example, December. This is accomplished by selling the September contract and purchasing the December contract. This process is referred to as "rolling." If all other factors are unchanged, if the market for these contracts is in "contango," where the prices are higher in the distant delivery months than in the nearer delivery months, the sale of the September contract would take place at a price that is lower than the price of the December contract, thereby creating a negative "carry" or "roll yield." By contrast, if the market for these contracts is in "backwardation," where the prices are lower in the distant delivery months than in the nearer delivery months, the sale of the September contract would take place at a price that is higher than the price of the December contract, thereby creating a positive "carry" or "roll yield." It is also possible that some futures contracts may be in contango, while other futures contracts may be in backwardation. Any of these circumstances could cause a decline in the level of the Index and, therefore the value of and return on the Notes.

Because "carry" and "roll yields" are considered in the calculation of the level of the Index, the presence of contango in the futures markets could result in negative "carry" or "roll yields," which could adversely affect its level and the amounts payable on the Notes.

You Will Not Have Any Rights in Any Futures Contract Tracked by the Index.

As an owner of the Notes, you will not have rights that holders of any futures contract tracked by the Index may have. Payments on the Notes will be paid in cash, and you will have no right to receive any payment or delivery in respect of any futures contract.

Owning the Notes Is Not the Same as Directly Owning the Securities or Futures Contract Directly or Indirectly Tracked by the Index.

Your return on the Notes will not reflect the return you would have realized on a direct investment in the Relevant Futures Contract or any of the securities that it represents. For example, as an investor in the Notes, you will not have rights to receive dividends or other distributions or any other rights, including voting rights, with respect to any stocks included in the Underlying Index. The Calculation Agent for the Notes will calculate the amount payable to you at maturity by reference to the level of the Index on the Valuation Date, and will not include the amount of any of those dividend payments or other distributions. Therefore, the return on your investment will not be the same as the return based on the purchase of any stocks or futures contracts that are tracked directly or indirectly by the Index.

Suspension or Disruptions of Market Trading in Stocks or Futures Contracts May Adversely Affect the Value of the Notes.

Securities markets and futures markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators, and government regulation and intervention. In addition, futures markets typically have regulations that limit the amount of fluctuation in some futures contract prices that may occur during a single business day. These limits are generally referred to as "daily price fluctuation limits," and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a "limit price." Once the limit price has been reached in a particular contract, no trades may be made at a price beyond the limit, or trading may be limited for a specified period of time. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at potentially disadvantageous times or prices. These circumstances could affect the level of the Index and, therefore, could adversely affect the payments on the Notes.

Adjustments to the Index Could Adversely Affect the Notes.

Solactive AG, as Index Calculation Agent, is responsible for calculating and maintaining the Index. The Index Calculation Agent can make methodological changes that could change the levels of the Index at any time. Any of these actions could adversely affect the amounts payable on the Notes or their market value.

The Index Will Be Calculated According to Fixed Rules and Will Not Be Actively Managed. If It Performs Poorly, the Index Rules Will Not Be Changed in an Attempt to Improve Performance.

The Index will not be actively managed. If the Index performs poorly, we do not expect that the index rules will be modified in order to improve that performance. Unlike, for example, a mutual fund, which could be actively managed by the fund manager in an attempt to maximize returns in changing market conditions, the rules of the Index will remain unchanged, even if those rules might result in decreasing levels of the Index under future market conditions.

Trading and Other Transactions by Us or Our Affiliates in the Index or Its Components, Futures, Options, ETFs or Other Derivative Products May Adversely Affect the Value of the Notes.

We or one or more of our affiliates may hedge our obligations under the Notes by purchasing or selling the assets related to the Index. These assets may include securities, futures, options, ETFs and other derivative instruments with returns linked or related to changes in the performance of the Index. We or our affiliates may adjust these hedges by, among other things, purchasing or selling those assets at any time. Although they are not expected to, any of these hedging activities may adversely affect the level of the Index and, therefore, the payments on the Notes. It is possible that we or one or more of our affiliates could receive substantial returns from these hedging activities while the value of or payments on the Notes decreases.

We or one or more of our affiliates may also engage in trading in the Index and other investments relating to those assets on a regular basis as part of our general broker-dealer and other businesses, for proprietary accounts, for other accounts under management or to facilitate transactions for customers, including block transactions. Any of these activities could adversely affect the level of the Index and, therefore, the market value of the Notes. We or one or more of our affiliates may also issue or underwrite other securities or financial or derivative instruments with returns linked or related to changes in the performance of the Index. By introducing competing products into the marketplace in this manner, we or one or more of our affiliates could adversely affect the market value of the Notes.

Our Business Activities May Create Conflicts of Interest.

We and our affiliates may presently or from time to time engage in business with one or more of the issuers of the securities included in the Underlying Index. This business may include extending loans to, or making equity investments in, such companies or providing advisory services to such companies, including merger and acquisition advisory services. In the course of business, we and our affiliates may acquire non-public information relating to these companies, which we have no obligation to disclose to you, and, in addition, one or more of our affiliates may publish research reports about these companies. Neither we nor RBCCM have made any independent investigation regarding any matters whatsoever relating to the issuers of those securities.

Moreover, we and our affiliates may have published, and in the future expect to publish, research reports with respect to the Underlying Index and the ETF. This research is modified from time to time without notice and may express opinions or provide recommendations that are inconsistent with purchasing or holding the Notes. Any of these activities undertaken by us or one or more of our affiliates may affect the level of the Index and, therefore, the payments on the Notes. You must rely on your own evaluation of the merits of an investment linked to the Index.

Additional Risk Factors Relating to the Underlying Index and the ETF

We Have No Affiliation with the Index Sponsor or the Advisor or Sponsor of the ETF, and Will Not Be Responsible for Any Actions Taken by any Such Party.

The sponsor of the Underlying Index, and the sponsor and investment advisor of the ETF, are not our affiliates and will not be involved in the offering of the Notes in any way. Consequently, we have no control over the actions of these entities, including any methodological or other changes to the Underlying Index or the ETF that could affect the level of the Index. None of these entities have any obligation of any sort with respect to the Notes.

We Do Not Control Any Company Included in the Underlying Index or Held by the ETF, and Are Not Responsible for Any Disclosure Made by Any Other Company.

Neither we nor any of our affiliates have the ability to control the actions of any of the companies represented by the Underlying Index and the ETF. We do not assume any responsibility for the adequacy or accuracy of any publicly available information about any of these companies, unless (and only to the extent that) our securities or the securities of our affiliates are represented by that index or ETF.

Rules Based Investment Securities Linked to the RBC Large Cap US Tactical Equity Total Return Index

ADDITIONAL TERMS OF 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. Capitalized terms used but not defined in this pricing supplement will have the meanings given to them in the prospectus supplement. In the event of any conflict, this pricing supplement will control. ***The Notes vary from the terms described in the prospectus supplement in several important ways. You should read this pricing supplement carefully.***

This pricing supplement, together with the documents listed below, contains the terms of the Notes and supersedes all 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, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in "Risk Factors" in the prospectus supplement dated September 7, 2018, as the Notes involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisors before you invest in the Notes. You may access these documents on the Securities and Exchange Commission (the "SEC") website at www.sec.gov as follows (or if that address has changed, by reviewing our filings for the relevant date on the SEC website):

Prospectus dated September 7, 2018:

https://www.sec.gov/Archives/edgar/data/1000275/000121465918005973/l96181424b3.htm

Prospectus Supplement dated September 7, 2018:

https://www.sec.gov/Archives/edgar/data/1000275/000121465918005975/f97180424b3.htm

Our Central Index Key, or CIK, on the SEC website is 1000275. As used in this pricing supplement, "we," "us," or "our" refers to Royal Bank of Canada.

Maturity Date

The maturity date of the Notes will be the date specified above, unless that date is not a business day (as defined in the prospectus supplement), in which case the maturity date will be the next following business day. The maturity date will be postponed by the same number of Index Trading Days as the Valuation Date if a Market Disruption Event occurs or is continuing on the scheduled Valuation Date as described below. No interest will accrue on the Notes if the maturity date is so postponed.

Unavailability of the Level of the Index

If the Index Calculation Agent discontinues publication of the Index and the Index Calculation Agent or another entity (which may be us or one of our affiliates) publishes a successor or substitute index that the Calculation Agent determines, in its sole discretion, to be comparable to the discontinued index (such successor or substitute index being referred to in this section as a "successor index"), then any subsequent index closing level will be determined by reference to the published level of that successor index on the applicable Index Trading Day.

Upon any selection by the Calculation Agent of a successor index, the Calculation Agent will provide written notice to the trustee of the selection, and the trustee will furnish written notice thereof, to the extent the trustee is required to under the senior debt indenture, to holders of the Notes.

If a successor index is selected by the Calculation Agent, that successor index will be used as a substitute for the Index for all purposes, including for purposes of determining whether a Market Disruption Event exists with respect to that index.

If the publication of the Index is discontinued by the Index Calculation Agent, and the Calculation Agent does not identify a successor index, we will have the option to redeem the Notes on a date within 30 calendar days of that determination, based upon the most recently available Indicative Note Value, as reasonably determined by the Calculation Agent.

If at any time the method of calculating the level of the Index is changed in a material respect, or if the Index is in any other way modified so that the Index does not, in the opinion of the Calculation Agent, fairly represent the level of the Index had those changes or modifications not been made, then, from and after that time, (a) the Calculation Agent may at the close of business in New York City on the applicable Index Trading Day, make such calculations and adjustments as, in the good faith judgment of the Calculation Agent, may be necessary in order to arrive at a level of an index comparable to the Index as if those changes or modifications had not been made or (b) we may redeem the Notes as provided in the preceding paragraph. For example, if the method of calculating the Index is modified so that the level of the Index is a fraction of what it would have been if it had not been modified (e.g., due to a split in the Index), then the Calculation Agent will adjust the index in order to arrive at a value of the Index as if it had not been modified (e.g., as if such split had not occurred).

Market Disruption Events

If the Calculation Agent determines that a Market Disruption Event occurs on any Index Trading Day, the Calculation Agent may, in its discretion, postpone the determination of the Indicative Note Value to the next Index Trading Day upon which a Market Disruption Event does not occur or continue. If a Market Disruption Event occurs or is continuing on the Valuation Date and each Index Trading Day to and including the tenth scheduled Index Trading Day following the Valuation Date, the Indicative Note Value on that day and the payment on the Notes will be determined (or, if not determinable, estimated by the Calculation Agent in a manner which is considered commercially reasonable under the circumstances) by the Calculation Agent on that tenth day, regardless of the occurrence of a Market Disruption Day on that day. In such an event, the Calculation Agent will make a good faith estimate in its sole discretion of the level of the Index that would have prevailed in the absence of that Market Disruption Event.

A “Market Disruption Event” means, as to the Underlying Index or the Relevant Futures Contract, any event, circumstance or cause which the Calculation Agent determines may have a material adverse effect on our ability to perform our obligations under the Notes or to determine the level of the Index or to hedge our position in respect of the Notes, and more specifically includes the following events:

- a suspension, absence or limitation of trading in index components constituting 20% or more, by weight, of the Underlying Index;
- a suspension, absence or limitation of trading in futures or options contracts relating to that index on their respective markets;
- any event that disrupts or impairs, as determined by the Calculation Agent, the ability of market participants to (i) effect transactions in, or obtain market values for, index components constituting 20% or more, by weight, of that index, or (ii) effect transactions in, or obtain market values for, futures or options contracts relating to that index on their respective markets;
- the closure on any day of the primary market for futures or options contracts relating to that index or index components constituting 20% or more, by weight, of that index on a scheduled trading day prior to the scheduled weekday closing time of that market (without regard to after hours or any other trading outside of the regular trading session hours) unless such earlier closing time is announced by the primary market at least one hour prior to the earlier of (i) the actual closing time for the regular trading session on such primary market on such scheduled trading day for such primary market and (ii) the submission deadline for orders to be entered into the relevant exchange system for execution at the close of trading on such scheduled trading day for such primary market;
- any scheduled trading day on which (i) the primary markets for index components constituting 20% or more, by weight, of that index or (ii) the exchanges or quotation systems, if any, on which futures or options contracts on that index are traded, fails to open for trading during its regular trading session; or
- any other event, if the Calculation Agent determines that the event interferes with our ability or the ability of any of our affiliates to unwind all or a portion of a hedge with respect to the Notes that we or our affiliates have effected or may effect as described below under “Use of Proceeds and Hedging” in this document.

Hedging Disruption Events

A "Hedging Disruption Event" will occur if the Calculation Agent determines that any of the following events occurs:

(i) due to: (a) the adoption of, or any change in, any applicable law, regulation or rule; or (b) the promulgation of, or any change in, the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law, rule, regulation or order (including in each case as to tax matters), and in each case occurring on or after the Trade Date (each, an "Applicable Event"), the Calculation Agent determines in good faith and in a commercially reasonable manner that it is contrary to such law, rule, regulation or order to purchase, sell, enter into, maintain, hold, acquire or dispose of our or our affiliates' (A) positions or contracts in securities, options, futures, derivatives or foreign exchange or (B) other instruments or arrangements, in each case, in order to hedge individually or in the aggregate on a portfolio basis our obligations under the Notes (clauses (A) and (B) together, "Hedge Positions"), including, without limitation, if such Hedge Positions are (or, but for the consequent disposal thereof, would otherwise be) in excess of any allowable position limit(s) in relation to any asset traded on any exchange(s) or other trading facility (the Calculation Agent will determine in good faith and in a commercially reasonable manner which of the hedge positions are counted towards such limit); or

(ii) after using commercially reasonable efforts to identify alternative means of hedging following the occurrence of an Applicable Event, our or our affiliates' costs relating to the Hedge Positions (individually or in the aggregate on a portfolio basis) would increase from the amount of such costs existing or expected as of the Trade Date. For purposes of the foregoing sentence, our or our affiliates' costs will be deemed to include, but not be limited to, tax, duties, expenses and fees incurred in connection with acquiring, establishing, re-establishing, substituting, maintaining, unwinding or disposing of Hedge Positions.

Redemption at Our Option. If a Hedging Disruption Event occurs, we will have the right, but not the obligation, to redeem the Notes (in whole, and not in part) by providing written notice of our election to redeem the Notes to the trustee under the Notes, reasonably promptly after the Calculation Agent has determined that the Hedging Disruption Event has occurred. The date of such redemption, which will be determined by the Calculation Agent in consultation with us, is referred to herein as the "Hedging Disruption Redemption Date." If we redeem the Notes in this manner, we will pay the holders of the Notes, for each $1,000 in principal amount, the Indicative Note Value on the third Index Trading Day prior to the Hedging Disruption Redemption Date.

Reduction of Payments on the Notes. As an alternative to redeeming the Notes as described in this section, we may elect to:

- request that the Calculation Agent for the Notes determine or estimate the aggregate financial impact upon us and our affiliates of the applicable Hedging Disruption Event (the "Hedging Disruption Cost") relating to the Notes; and

- reduce the amount payable on the Notes at maturity by the pro rata portion of the aggregate Hedging Disruption Cost of the Notes that are maturing.

For the avoidance of doubt, in determining the amount of Hedging Disruption Cost, the Calculation Agent may take into account any and all direct or indirect costs that we or our affiliates incur, including, but not limited to, the costs and expenses incurred in unwinding or adjusting any related hedging transactions, any professional fees occurred in connection with such transactions, and any impact upon our funding expenses arising from these costs through the maturity date. The Calculation Agent's determination of the Hedging Disruption Cost will be binding upon us and upon all holders of the Notes, in the absence of a final judicial determination of a manifest error in its determination.

We intend to notify holders of the Notes reasonably promptly after we determine that a Hedging Disruption Event has occurred if we intend to, or are likely to, reduce any payments on the Notes in this manner; the Calculation Agent will determine the form and substance of that notice. If we reduce any payment on the Notes in the manner described in this subsection, upon the written request of any holder impacted thereby, the Calculation Agent will furnish a summary of the calculation of the relevant reduction; such notice will contain such details and descriptions as the Calculation Agent

determines to be appropriate under the circumstances. Any failure to deliver such a notice will not affect the validity of any action that we elect to take.

No Waiver of Rights. If we elect not to take any of the actions set forth in this section upon the occurrence of a Hedging Disruption Event, we will not be deemed to waive any right to take such an action in connection with any subsequent Hedging Disruption Event.

Payment of Additional Amounts

We will pay any amounts to be paid by us on the Notes without deduction or withholding for, or on account of, any and all present or future income, stamp and other taxes, levies, imposts, duties, charges, fees, deductions or withholdings ("taxes") now or hereafter imposed, levied, collected, withheld or assessed by or on behalf of Canada or any Canadian political subdivision or authority that has the power to tax, unless the deduction or withholding is required by law or by the interpretation or administration thereof by the relevant governmental authority. At any time a Canadian taxing jurisdiction requires us to deduct or withhold for or on account of taxes from any payment made under or in respect of the Notes, we will pay such additional amounts ("Additional Amounts") as may be necessary so that the net amounts received by each holder (including Additional Amounts), after such deduction or withholding, shall not be less than the amount the holder would have received had no such deduction or withholding been required.

However, no Additional Amounts will be payable with respect to a payment made to a holder of a Note or of a right to receive payments in respect thereto (a "Payment Recipient"), which we refer to as an "Excluded Holder," in respect of a beneficial owner or Payment Recipient:

(i) with whom we do not deal at arm's length (within the meaning of the Income Tax Act (Canada)) at the time of making such payment;

(ii) who is subject to such taxes by reason of its being connected presently or formerly with Canada or any province or territory thereof otherwise than by reason of the holder's activity in connection with purchasing the Notes, the holding of the Notes or the receipt of payments thereunder;

(iii) who is, or who does not deal at arm's length with a person who is, a "specified shareholder" (within the meaning of subsection 18(5) of the Income Tax Act (Canada)) of Royal Bank of Canada (generally a person will be a "specified shareholder" for this purpose if that person, either alone or together with persons with whom the person does not deal at arm's length, owns 25% or more of (a) our voting shares, or (b) the fair market value of all of our issued and outstanding shares);

(iv) who presents such Note for payment (where presentation is required) more than 30 days after the relevant date (except to the extent that the holder thereof would have been entitled to such Additional Amounts on presenting a Note for payment on the last day of such 30 day period); for this purpose, the "relevant date" in relation to any payments on any Note means:

a. the due date for payment thereof, or

b. if the full amount of the monies payable on such date has not been received by the trustee on or prior to such due date, the date on which the full amount of such monies has been received and notice to that effect is given to holders of the Notes in accordance with the Indenture;

(v) who could lawfully avoid (but has not so avoided) such withholding or deduction by complying, or procuring that any third party comply, with any statutory requirements necessary to establish qualification for an exemption from withholding or by making, or procuring that any third party make, a declaration of non-residence or other similar claim for exemption to any relevant tax authority; or

(vi) who is subject to deduction or withholding on account of any tax, assessment, or other governmental charge that is imposed or withheld by reason of the application of Section 1471 through 1474 of the United States Internal Revenue Code of 1986, as amended (the "Code") (or any successor provisions), any regulation, pronouncement, or agreement thereunder, official interpretations thereof, or any law implementing an intergovernmental approach thereto, whether currently in effect or as published and amended from time to time.

For the avoidance of doubt, we will not have any obligation to pay any holders Additional Amounts on any tax which is payable otherwise than by deduction or withholding from payments made under or in respect of the Notes at maturity.

We will also make such withholding or deduction and remit the full amount deducted or withheld to the relevant authority in accordance with applicable law. We will furnish to the trustee, within 30 days after the date the payment of any taxes is due pursuant to applicable law, certified copies of tax receipts evidencing that such payment has been made or other evidence of such payment satisfactory to the trustee. We will indemnify and hold harmless each holder of the Notes (other than an Excluded Holder) and upon written request reimburse each such holder for the amount of (x) any taxes so levied or imposed and paid by such holder as a result of payments made under or with respect to the Notes, and (y) any taxes levied or imposed and paid by such holder with respect to any reimbursement under (x) above, but excluding any such taxes on such holder's net income or capital.

For additional information, see the section of the prospectus supplement entitled "Certain Income Tax Consequences—Canadian Taxation."

Default Amount on Acceleration

In case an event of default with respect to the Notes shall have occurred and be continuing, the amount declared due and payable on the Notes upon any acceleration of the Notes will be determined by the Calculation Agent and will be an amount in cash per $1,000 in principal amount of the Notes equal to the Indicative Note Value, calculated as if the date of acceleration were the Valuation Date.

If the maturity of the Notes is accelerated because of an event of default, we will, or will cause the Calculation Agent to, provide written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, and to the depositary, of the cash amount due with respect to the Notes as promptly as possible.

Role of Calculation Agent

The Calculation Agent will make all determinations regarding the Notes, including the level of the Index, the Indicative Note Value on each Index Trading Day, business days, Market Disruption Events, Hedging Disruption Events, the default amount, and the amounts payable on the Notes. Absent manifest error, all determinations of the Calculation Agent will be final and binding on you and us, without any liability on the part of the Calculation Agent. You will not be entitled to any compensation from us for any loss suffered as a result of any of the above determinations or confirmations by the Calculation Agent.

Our subsidiary, RBC Capital Markets, LLC, is currently serving as the Calculation Agent for the Notes. We may change the Calculation Agent for the Notes at any time without notice and the Calculation Agent may resign as Calculation Agent at any time.

Rules Based Investment Securities Linked to the RBC Large Cap US Tactical Equity Total Return Index

THE RBC LARGE CAP US TACTICAL EQUITY TOTAL RETURN INDEX

Introduction

RBC Capital Markets designed the Index, and Solactive AG acts as Index Calculation Agent. The level of the Index is calculated and disseminated once per Index Trading Day (as defined below) through Reuters under the symbol .RBCELTUT, and through Bloomberg under the symbol RBCELTUT.

The full methodology of the Index may be found at the following website: www.solactive.com. Information on that website is not included or incorporated by reference in this document. The Index Calculation Agent may change the methodology of the Index at any time.

Index Summary

The Index, subject to the operation of the "Tactical Trigger" described below, is designed to provide exposure to large capitalization U.S. stocks. The Index obtains exposure to those stocks by tracking the performance of the Relevant Futures Contract set forth in the table below. The Relevant Futures Contract is linked to the Underlying Index.

To attempt to mitigate the impact of market downturns in the relevant U.S. market, a tactical shift is provided in relation to the Index. That is, the Index may or may not be allocated to the Relevant Futures Contract for a particular month, depending on the "Tactical Trigger" that is described below, and which relates to the performance of the ETF. Depending upon the Tactical Trigger, the Index is allocated in its entirety each month to either:

a) both the front-month (as discussed in the section below, "—Futures Contracts Generally") Relevant Futures Contract and the U.S. Federal Funds (Effective) Rate (the "Federal Funds (Effective) Rate"); or
b) only the Federal Funds (Effective) Rate.

The Index will remain so allocated until the following month.

The Index is intended to help improve asset allocation among (a) the relevant U.S. market versus (b) cash, as represented by the Federal Funds (Effective) Rate. The Tactical Trigger is designed to allocate the Index (a) to the Relevant Futures Contract when the monthly Tactical Trigger indicates increasing levels of the relevant U.S. market, or (b) to the Federal Funds (Effective) Rate when the monthly Tactical Trigger indicates decreasing levels of that market.

In summary, the Index links, subject to the operation of the Tactical Trigger, to the indicated Relevant Futures Contract in the table below.

Index	Reuters Symbol	Relevant Futures Contract	Trading Market for Futures Contract	Underlying Index	ETF
RBC Large Cap US Tactical Equity Total Return Index	.RBCELTUT	E-mini S&P 500 Index Future	Chicago Mercantile Exchange ("CME")	S&P 500® Index	SPDR® S&P 500® ETF (ticker: SPY)

Subject to the operation of the Tactical Trigger, the Index is linked to the front-month futures contract on the Underlying Index. When the Index is allocated to its front-month futures contract, that futures contract is rolled into the next relevant futures contract two Index Trading Days prior to the applicable expiration date. On that expiration date, the next-month futures contract becomes the new front-month futures contract until its eventual expiration. Each Relevant Futures

Contract is currently scheduled to expire on a quarterly basis (as discussed in the section below, "—Futures Contracts Generally").

The Tactical Trigger

The monthly allocation of the Index is based on the Tactical Trigger. The Index Calculation Agent determines the applicability of the Tactical Trigger on the fourth (4^{th}) scheduled Index Trading Day before the third (3^{rd}) Friday of the relevant month (the "Index Allocation Determination Day"). The Tactical Trigger compares the closing price of the ETF on that day to the average of its closing prices over the immediately preceding 200 trading days including the relevant Index Allocation Determination Day. If, on such Index Allocation Determination Day, the closing price of the ETF was greater than or equal to its Moving Average, then two (2) Index Trading Days after such Index Allocation Determination Day (the "Index Allocation Day"), the Index is allocated in its entirety to both the Relevant Futures Contract and the Federal Funds (Effective) Rate. Otherwise, Index will be allocated solely to the Federal Funds (Effective) Rate until the next Index Allocation Day.

For purposes of this paragraph and the determination of the closing prices of the ETF, "trading day" refers to a day on which the ETF is scheduled to trade on its primary U.S. securities exchange.

In the section below, "Information Regarding the ETF and Underlying Index," we have provided a summary description of the ETF and that index.

Calculation of the Index Level

The level of the Index was set to 100 as of December 16, 2009. The level of the Index is calculated on each day when the Relevant Futures Contract is scheduled to trade (an "Index Trading Day").

On each Index Trading Day, subject to the "Index Market Disruption Events" as described further below, the level of the Index is equal to the sum of:

- the closing level of the Index on the preceding Index Trading Day; and
- the product of:
  - the closing level of the Index on the most recent Index Allocation Day; and
  - the sum of:
    - the product of:
      - the Index Allocation (as defined below);
      - subject to the discussion under "—Front-Month Expiration" below, the percentage change in the settlement price of the front-month Relevant Futures Contract price on such Index Trading Day from the immediately preceding Index Trading Day; and
      - the product of the Federal Funds (Effective) Rate on the immediately preceding relevant Index Trading Day, and the ratio of the number of calendar days that elapsed since that Index Trading Day and the most recent Index Trading Day, divided by 360.

The "Index Allocation" is, (i) if the relevant Index Trading Day is not an Index Allocation Day, the Index Allocation on the immediately preceding Index Allocation Day, or (ii) if the relevant Index Trading Day is an Index Allocation Day, then if the closing price of the ETF is greater than or equal to its Moving Average, one (1), otherwise zero (0).

Front-Month Expiration

Whenever an Index Trading Day is either (i) the Index Trading Day immediately before the expiration date for the front-month Relevant Futures Contract, or (ii) the expiration date for the front-month Relevant Futures Contract itself, and only

on those two days each month, the level of the Index is determined with respect to the prices of the next-month Relevant Futures Contract rather than the front-month Relevant Futures Contract prices. On the Index Trading Day immediately following the expiration date of the most recently expired front-month Relevant Futures Contract, the futures contract that was the next-month Relevant Futures Contract will automatically become the new front-month Relevant Futures Contract, until its own expiration. For additional information about the expiration of futures contracts, please see the section below, "—Futures Contracts Generally."

The Federal Funds (Effective) Rate

The Federal Funds (Effective) Rate is the rate at which U.S. banks lend reserve balances to other banks on an overnight basis. On each Index Trading Day, the Index Calculation Agent will determine the Federal Funds (Effective) Rate as it is published in H.15(519) under the heading "Federal Funds (effective)", as that rate is displayed on Reuters page FEDFUNDS1 under the heading "EFFECT" (or any successor page).

Index Market Disruption Events

From time to time, market disruption events may occur that will result in the postponement of the determination of the level of the Index, and/or the adjustment of the roll period for the Relevant Futures Contract. A "Market Disruption Day" will be deemed to have occurred if any of the following events occur:

- the settlement price of a Relevant Futures Contract is not published by the relevant exchange on a scheduled Index Trading Day; or
- the settlement price of an applicable futures contract is a "limit price" (as defined by the rules of the applicable exchange).

If any of these events occur, no immediate action will be taken, and that day will remain an Index Trading Day; however, if a settlement price is not published, and if the applicable exchange publishes a settlement price subsequently, the level of the Index will be restated for that particular day.

If any of these events occur on an Index Allocation Determination Day, the Tactical Trigger will compare the closing price of the ETF on the immediately preceding Index Trading Day that is not a Market Disruption Day to the relevant Moving Average.

If any of these events occur on an Index Allocation Day, any change to the Index Allocation will be postponed to the next Index Trading Day that is not a Market Disruption Day.

If a Market Disruption Day continues over a period of eight Index Trading Days, then the Index Committee (as defined below) will determine the appropriate action to take (including but not limited to taking into account the market conditions prevailing at the applicable points in time, the last quoted prices for the Relevant Futures Contract, as well as any other conditions that it deems relevant for calculating the level of the Index.

Oversight of the Index

A committee composed of personnel selected by Solactive AG (the "Index Committee") is responsible for decisions regarding the composition of the Index, as well as any amendments to the methodology of the Index. Members of the Index Committee may recommend any such amendments, and submit them to the Index Committee for approval.

The Futures Contract

Subject to the operation of the Tactical Trigger, the Index provides exposure to the Relevant Futures Contract as well as the Federal Funds (Effective) Rate. The Relevant Futures Contract trades on the CME. The CME trades futures contracts

based on the Underlying Index with expiration dates in March, June, September and December of each year. Each of these futures contracts has a notional value of $50, multiplied by the value of the Underlying Index.

Futures Contracts Generally

This section provides a brief description of futures contracts generally.

Generally speaking, a futures contract is an agreement to buy or sell an underlying asset on a future expiration date at a price that is agreed upon today. If the underlying asset is worth more on the expiration date than the price specified in the futures contract, then the purchaser of that contract will achieve a gain on that contract, and if it is worth less, the purchaser will incur a loss.

For example, suppose that a futures contract entered into in January calls for the purchaser to buy the underlying asset in March at a price of $1,000. If the underlying asset is worth $1,200 in March, then upon settlement of the futures contract in March, the purchaser will buy for $1,000 an underlying asset worth $1,200, achieving a $200 gain. Conversely, if the underlying asset is worth $800 in March, then upon settlement of the futures contract in March the purchaser will buy for $1,000 an underlying asset worth only $800, incurring a $200 loss.

The gain or loss to the purchaser of this futures contract is different from the gain or loss that could have been achieved by the direct purchase of the underlying asset in January and the sale of that underlying asset in March. This is because a futures contract is a “leveraged” way to invest in the underlying asset. In other words, purchasing a futures contract is similar to borrowing money to buy the underlying asset, in that (i) it enables an investor to gain exposure to the underlying asset without having to pay the full cost of it up front and (ii) it entails a financing cost.

This financing cost is implicit in the difference between the spot price of the underlying asset and the futures price. A “futures price” is the price at which market participants may agree today to buy or sell the underlying asset in the future, and the “spot price” is the current price of the underlying asset for immediate delivery. The futures price is determined by market supply and demand and is independent of the spot price, but it is nevertheless generally expected that the futures price will be related to the spot price in a way that reflects a financing cost (because if it did not do so there would be an opportunity for traders to make sure profits, known as “arbitrage”). For example, if January’s futures price is $1,000, January’s spot price may be $975. If the underlying asset is worth $1,200 in April, the gain on the futures contract would be $200 ($1,200 minus $1,000), while the gain on a direct investment made at the January spot price would have been $225 ($1,200 minus $975). The lower return on the futures contract as compared to the direct investment reflects this implicit financing cost. Because of this implicit financing cost, it is possible for a purchaser to incur a loss on a futures contract even if the spot price of the underlying asset increases over the term of the futures contract. The amount of this implicit financing cost is expected to increase as general market interest rates increase.

Futures Markets

Futures contracts are standardized instruments that are traded on regulated futures exchanges, known as “contract markets” in the United States, through the facilities of a centralized clearing house and a brokerage firm which is a member of the clearing house. The clearing house stands between the two parties to the futures contract, in effect taking the opposite side of each party’s transaction. As a result, each party faces the clearinghouse and not the other party.

An exchange-traded futures contract provides for the purchase and sale of a specified type and quantity of an underlying asset or financial instrument during a stated delivery month for a fixed price. A futures contract provides for a specified settlement month in which the underlying asset or financial instrument is to be delivered by the seller (whose position is described as “short”) and acquired by the purchaser (whose position is described as “long”) or in which the related cash settlement amount is to be paid.

The amount paid upon the purchase or sale of a futures contract does not correspond to a purchase price for the underlying asset. Instead, an amount of cash or cash equivalents must be deposited with the broker as “initial margin.”

This amount varies based on the requirements imposed by the exchange clearing houses. This margin deposit provides collateral for the obligations of the parties to the futures contract.

On each day that a futures contract is traded, the exchange determines a settlement price (which may also be referred to as a closing price) for the futures contract based on the prices at which market participants entered into that futures contract on that day. Open positions in futures contracts are "marked to market," and a transfer of margin, or of a settlement payment, is required to be made on each trading day. This means that, on each trading day, the current settlement price for a futures contract is compared to the futures price at which the purchaser entered into that futures contract. If the current settlement price has decreased from the initial futures price, then the purchaser will be required to provide cash (or assets with a cash value) corresponding to the decrease in value of that futures contract. Conversely, if the current settlement price has increased, the purchaser will be credited with cash (or assets with a cash value) corresponding to such increase. Accordingly, gains or losses on a futures contract are effectively realized on a daily basis up until the point when the position in that futures contract is closed out.

Unlike equity securities, futures contracts, by their terms, have stated expirations and, at a specified point in time prior to expiration, trading in a futures contract for the current delivery month will cease. As a result, a market participant wishing to maintain its exposure to a futures contract on a particular asset or financial instrument with the nearest expiration (often referred to as a "front-month contract") must close out its position in the expiring contract and establish a new position in the contract for the next delivery month (often referred to as a "next-month contract"), a process referred to as "rolling." The market participant will establish the new position in the next-month contract at a price that is based on the then prevailing futures price. For example, a market participant with a long position in a December futures contract that wishes to maintain a position in the nearest delivery month will, as the December futures contract nears expiration, sell the December futures contract, which serves to close out the existing long position, and purchase a March futures contract. These transactions will "roll" the December position into a March position, and, when the December futures contract expires, the market participant will continue to have a long position in the nearest delivery month.

At any time prior to the expiration of a futures contract, subject to the availability of a liquid secondary market, a trader may elect to close out its position by taking an opposite position on the exchange on which the trader obtained the position. Doing so operates to terminate the position and fix the trader's profit or loss.

U.S. futures contract markets, as well as brokers and market participants, are subject to regulation by the CFTC.

THE CME DOES NOT GUARANTEE THE ACCURACY AND/OR THE COMPLETENESS OF THE PRICES OF ANY FUTURES CONTRACT, AND SHALL HAVE NO LIABILITY FOR ANY ERRORS, OMISSIONS OR INTERRUPTIONS THEREOF. THE CME MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO RESULTS TO BE OBTAINED BY US OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE PRICES OF THE RELEVANT FUTURES CONTRACT. THE CME MAKES NO EXPRESS OR IMPLIED WARRANTIES, AND EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE PRICES OF THE RELEVANT FUTURES CONTRACT. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL THE CME HAVE ANY LIABILITY FOR ANY SPECIAL, PUNITIVE, INDIRECT, OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS), EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

Hypothetical Back-Tested and Historical Index Performance Information

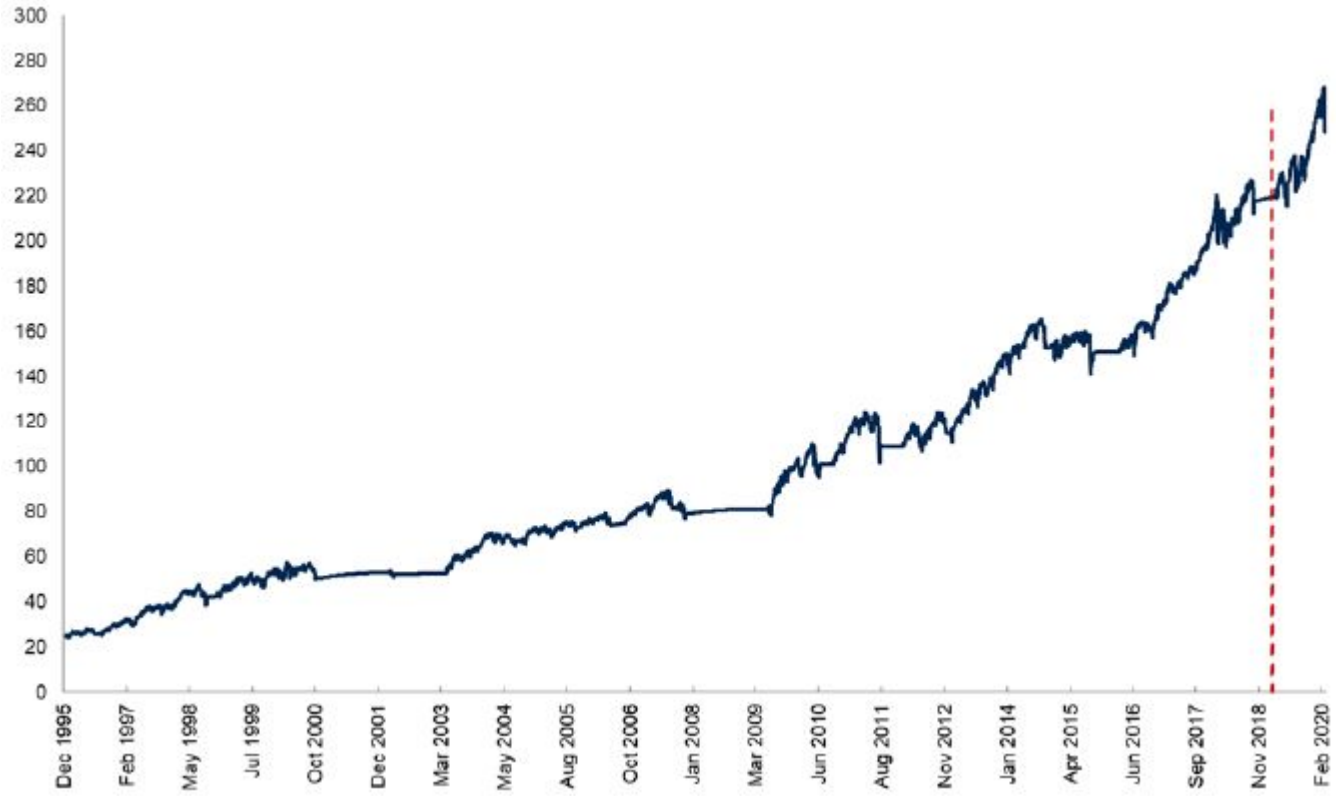
This section contains hypothetical back-tested performance information about the Index. All Index performance information prior to February 18, 2019 is hypothetical and back-tested, as the Index did not exist prior to that date.

Hypothetical back-tested Index performance information is subject to significant limitations. RBC Capital Markets and Solactive AG developed the methodology of the Index with the benefit of hindsight—that is, with the benefit of being able to evaluate how the methodology rules would have caused the Index to perform had it existed during the hypothetical back-tested period. As a result, the fact that the Index generally appreciated over the hypothetical back-tested period may not be an accurate or reliable indication of any aspect of the Index methodology, or the future performance of the Index. Furthermore, the hypothetical back-tested performance of the Index might have been different if it covered a different historical period. The market conditions that existed during the hypothetical back-tested period may not be representative of market conditions that will exist in the future. In addition, please see the discussion following the graph as to the periods in which the Relevant Futures Contract did not yet exist.

It is impossible to predict whether the level of the Index will increase or decrease during the term of the Notes. By providing the hypothetical back-tested and historical performance information below, none of RBC, RBCCM or their respective affiliates are making any representation that the Index is likely to perform as it has in the past. In fact, there are often significant differences between hypothetical performance results and the actual results subsequently achieved by any particular investment. Among the limitations of hypothetical performance information is that it does not involve financial risk and cannot account for all factors that would affect actual performance. The actual future performance of the Index may bear no relation to the hypothetical back-tested or historical performance of the Index. Please see the section above, “Risk Factors—Additional Risks Relating to the Index— Hypothetical Back-Tested Index Performance Information Is Subject to Significant Limitations.”

The graph below depicts the hypothetical back-tested performance of the Index for the period from December 29, 1995 to February 15, 2019 (the portion of the graph to the left of the dotted vertical line on the right side of the graph), and

historical Index performance for the period from February 18, 2019 to February 25, 2020 (the portion to the right of that line).



The Relevant Futures Contract did not exist for all periods set forth in the graph above. Accordingly, to construct the graph above, we applied the Index methodology to the changes in the prices or levels of the following assets, for the periods specified below. We believe that movements in the prices or levels of these assets approximate, but do not necessarily reflect completely, movements in the prices or levels of the Relevant Futures Contract, as applicable, during the indicated periods. Accordingly, the hypothetical back-tested Index performance information may not reflect how the Index would have performed had the Relevant Futures Contract existed during the relevant time period.

Relevant Futures Contract	Relevant Period	Substitute Measure
E-mini S&P 500® Index Future	12.29.95 to 9.9.97	CME S&P 500® Index Futures Contract

Additional Information Relating to Solactive AG

The Notes are not sponsored, promoted, sold or supported in any other manner by Solactive AG, nor does Solactive AG offer any express or implicit guarantee or assurance either with regard to the results of using the Index and/or Index trademark or its levels at any time or in any other respect. The Index is calculated and published by Solactive AG. Solactive AG uses its best efforts to ensure that the Index is calculated correctly. Irrespective of its obligations towards the Issuer of the Notes, Solactive AG has no obligation to point out errors in the Index to third parties including but not limited to investors and/or financial intermediaries as to the Notes. Neither the publication of the Index by Solactive AG nor the use of the Index or Index trademark in connection with the Notes constitutes a recommendation by Solactive AG to invest capital in the Notes nor does it in any way represent an assurance or opinion of Solactive AG with regard to any investment in the Notes.

INFORMATION REGARDING THE ETF AND UNDERLYING INDEX

We have derived the following information regarding each of the Underlying Index and the ETF from publicly available documents. We have not independently verified the accuracy or completeness of the following information. Neither we nor our affiliates have made any due diligence inquiry with respect to any of the Underlying Index and the ETF in connection with the offering of the Notes.

The selection of the Underlying Index and the ETF is not a recommendation to invest in any of these assets. Neither we nor any of our affiliates make any representation to you as to the performance of that index or the ETF. Information provided to or filed with the SEC under the Securities Exchange Act of 1934 and the Investment Company Act of 1940 relating to the ETF may be obtained through the SEC's website at http://www.sec.gov.

SPDR® S&P® 500 ETF Trust (the "SPY")

The shares of the SPDR® S&P 500® ETF trade on the NYSE Arca under the symbol "SPY." The SPY's investment adviser is State Street Global Advisors.

The SPY seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the S&P 500® Index (the "SPX Index"). To maintain the correspondence between the composition and weightings of stocks held by the SPY and component stocks of the SPX Index, the SPY adjusts its holdings from time to time to conform to periodic changes in the identity and/or relative weightings of the index securities.

The SPY utilizes a "passive" or "indexing" investment approach in attempting to track the performance of the SPX Index. The SPY seeks to invest in substantially all of the securities that comprise the SPX Index. The SPY typically earns income from dividends from securities that it holds. These amounts, net of expenses and taxes (if applicable), are passed along to the SPY's shareholders as "ordinary income." In addition, the SPY realizes capital gains or losses whenever it sells securities. Net long-term capital gains are distributed to shareholders as "capital gain distributions."

The S&P 500® Index ("SPX Index")

The SPX Index is intended to provide an indication of the pattern of common stock price movement. The calculation of the level of the SPX Index is based on the relative value of the aggregate market value of the common stocks of 500 companies as of a particular time compared to the aggregate average market value of the common stocks of 500 similar companies during the base period of the years 1941 through 1943.

S&P calculates the SPX Index by reference to the prices of the constituent stocks of the SPX Index without taking account of the value of dividends paid on those stocks. As a result, the return on the Notes will not reflect the return you would realize if you actually owned the SPX Index constituent stocks and received the dividends paid on those stocks.

Effective with the September 2015 rebalance, consolidated share class lines will no longer be included in the SPX Index. Each share class line will be subject to public float and liquidity criteria individually, but the company's total market capitalization will be used to evaluate each share class line. This may result in one listed share class line of a company being included in the SPX Index while a second listed share class line of the same company is excluded.

Computation of the SPX Index

While S&P currently employs the following methodology to calculate the SPX Index, no assurance can be given that S&P will not modify or change this methodology in a manner that may affect the Payment at Maturity.

Historically, the market value of any component stock of the SPX Index was calculated as the product of the market price per share and the number of then outstanding shares of such component stock. In March 2005, S&P began shifting the SPX Index halfway from a market capitalization weighted formula to a float-adjusted formula, before moving the SPX Index to full float adjustment on September 16, 2005. S&P's criteria for selecting stocks for the SPX Index did not change with the shift to float adjustment. However, the adjustment affects each company's weight in the SPX Index.

Under float adjustment, the share counts used in calculating the SPX Index reflect only those shares that are available to investors, not all of a company's outstanding shares. Float adjustment excludes shares that are closely held by control groups, other publicly traded companies or government agencies.

In September 2012, all shareholdings representing more than 5% of a stock's outstanding shares, other than holdings by "block owners," were removed from the float for purposes of calculating the SPX Index. Generally, these "control holders"

will include officers and directors, private equity, venture capital and special equity firms, other publicly traded companies that hold shares for control, strategic partners, holders of restricted shares, ESOPs, employee and family trusts, foundations associated with the company, holders of unlisted share classes of stock, government entities at all levels (other than government retirement/pension funds) and any individual person who controls a 5% or greater stake in a company as reported in regulatory filings. However, holdings by block owners, such as depositary banks, pension funds, mutual funds and ETF providers, 401(k) plans of the company, government retirement/pension funds, investment funds of insurance companies, asset managers and investment funds, independent foundations and savings and investment plans, will ordinarily be considered part of the float.

Treasury stock, stock options, equity participation units, warrants, preferred stock, convertible stock, and rights are not part of the float. Shares held in a trust to allow investors in countries outside the country of domicile, such as depositary shares and Canadian exchangeable shares are normally part of the float unless those shares form a control block.

For each stock, an investable weight factor ("IWF") is calculated by dividing the available float shares by the total shares outstanding. Available float shares are defined as the total shares outstanding less shares held by control holders. This calculation is subject to a 5% minimum threshold for control blocks. For example, if a company's officers and directors hold 3% of the company's shares, and no other control group holds 5% of the company's shares, S&P would assign that company an IWF of 1.00, as no control group meets the 5% threshold. However, if a company's officers and directors hold 3% of the company's shares and another control group holds 20% of the company's shares, S&P would assign an IWF of 0.77, reflecting the fact that 23% of the company's outstanding shares are considered to be held for control. As of July 31, 2017, companies with multiple share class lines are no longer eligible for inclusion in the SPX Index. Constituents of the SPX Index prior to July 31, 2017 with multiple share class lines will be grandfathered in and continue to be included in the SPX Index. If a constituent company of the SPX Index reorganizes into a multiple share class line structure, that company will remain in the SPX Index at the discretion of the S&P Index Committee in order to minimize turnover.

The SPX Index is calculated using a base-weighted aggregate methodology. The level of the SPX Index reflects the total market value of all 500 component stocks relative to the base period of the years 1941 through 1943. An indexed number is used to represent the results of this calculation in order to make the level easier to use and track over time. The actual total market value of the component stocks during the base period of the years 1941 through 1943 has been set to an indexed level of 10. This is often indicated by the notation 1941-43 = 10. In practice, the daily calculation of the SPX Index is computed by dividing the total market value of the component stocks by the "index divisor." By itself, the index divisor is an arbitrary number. However, in the context of the calculation of the SPX Index, it serves as a link to the original base period level of the SPX Index. The index divisor keeps the SPX Index comparable over time and is the manipulation point for all adjustments to the SPX Index, which is index maintenance.

Index Maintenance

Index maintenance includes monitoring and completing the adjustments for company additions and deletions, share changes, stock splits, stock dividends, and stock price adjustments due to company restructuring or spinoffs. Some corporate actions, such as stock splits and stock dividends, require changes in the common shares outstanding and the stock prices of the companies in the SPX Index, and do not require index divisor adjustments.

To prevent the level of the SPX Index from changing due to corporate actions, corporate actions which affect the total market value of the SPX Index require an index divisor adjustment. By adjusting the index divisor for the change in market value, the level of the SPX Index remains constant and does not reflect the corporate actions of individual companies in the SPX Index. Index divisor adjustments are made after the close of trading and after the calculation of the SPX Index closing level.

Changes in a company's total shares outstanding of 5% or more due to public offerings are made as soon as reasonably possible. Other changes of 5% or more (for example, due to tender offers, Dutch auctions, voluntary exchange offers, company stock repurchases, private placements, acquisitions of private companies or non-index companies that do not trade on a major exchange, redemptions, exercise of options, warrants, conversion of preferred stock, notes, debt, equity participations, at-the-market stock offerings or other recapitalizations) are made weekly, and are generally announced on Fridays for implementation after the close of trading the following Friday (one week later). If a 5% or more share change causes a company's IWF to change by five percentage points or more, the IWF is updated at the same time as the share change. IWF changes resulting from partial tender offers are considered on a case-by-case basis.

USE OF PROCEEDS AND HEDGING

We will use the net proceeds we receive from the sale of the Notes for the purposes we describe in the prospectus supplement under “Use of Proceeds.” We or our affiliates may also use those proceeds in transactions intended to hedge our obligations under the Notes as described below.

In anticipation of the sale of the Notes, we or our affiliates expect to enter into hedging transactions involving purchases of securities or other assets relating to the Index and/or listed and/or over-the-counter derivative instruments relating to the Index prior to or on the issue date. From time to time, we or our affiliates may enter into additional hedging transactions or unwind those we have entered into. In this regard, we or our affiliates may:

- acquire or dispose of assets relating to the Index or its components;
- acquire or dispose of long or short positions in listed or over-the-counter derivative instruments based on the level of the Index or its components; or
- any combination of the above two.

We or our affiliates may acquire a long or short position in the Notes or securities similar to the Notes from time to time. We may, in our or their sole discretion, hold or resell those similar securities.

We or our affiliates may close out our or their hedge on or before the Valuation Date. That step may involve sales or purchases of the Index or its components or over-the-counter derivative instruments linked to those assets.

Rules Based Investment Securities Linked to the RBC Large Cap US Tactical Equity Total Return Index

SUPPLEMENTAL DISCUSSION OF U.S. FEDERAL INCOME TAX CONSEQUENCES

The following, together with the discussion of U.S. federal income taxation in the accompanying prospectus and prospectus supplement, is a general description of the material U.S. federal income tax considerations relating to the Notes. It does not purport to be a complete analysis of all tax considerations relating to the Notes. Prospective purchasers of the Notes should consult their tax advisors as to the consequences under the tax laws of the country of which they are resident for tax purposes and the tax laws of the U.S. of acquiring, holding and disposing of the Notes and receiving payments under the Notes. This summary is based upon the law as in effect on the date of this pricing supplement and is subject to any change in law that may take effect after such date, including changes that may be retroactive in effect.

The following section supplements the discussion of U.S. federal income taxation in the accompanying prospectus under "Tax Consequences – United States Taxation" and prospectus supplement under "Certain Income Tax Consequences – United States Taxation" with respect to U.S. holders (as defined in the accompanying prospectus). It applies only to those initial holders who are not excluded from the discussion of U.S. federal income taxation in the accompanying prospectus. It does not apply to holders subject to special rules, including holders subject to Section 451(b) of the Code. In addition, the discussion below assumes there is a significant risk that an investor will lose a significant portion of its investment in the Notes. You should consult with your own tax advisor concerning the consequences of investing in and holding the Notes.

NO STATUTORY, JUDICIAL OR ADMINISTRATIVE AUTHORITY DIRECTLY DISCUSSES HOW THE NOTES SHOULD BE TREATED FOR U.S. FEDERAL INCOME TAX PURPOSES. AS A RESULT, THE U.S. FEDERAL INCOME TAX CONSEQUENCES OF AN INVESTMENT IN THE NOTES ARE UNCERTAIN. BECAUSE OF THE UNCERTAINTY, YOU SHOULD CONSULT YOUR TAX ADVISOR IN DETERMINING THE U.S. FEDERAL INCOME AND OTHER TAX CONSEQUENCES OF YOUR INVESTMENT IN THE NOTES, INCLUDING THE APPLICATION OF STATE, LOCAL OR OTHER TAX LAWS AND THE POSSIBLE EFFECTS OF CHANGES IN FEDERAL OR OTHER TAX LAWS.

In the opinion of our counsel, Morrison & Foerster LLP, it would be reasonable to treat the Notes as pre-paid cash-settled derivative contracts in respect of the Index 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 generally should recognize capital gain or loss upon the sale, exchange 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. In general, a U.S. holder's tax basis in the Notes will equal the price the holder paid for the Notes. Capital gain recognized by an individual U.S. holder generally is taxed at preferential rates if the property is held for more than one year and at ordinary income rates if the property is held for one year or less. The deductibility of capital losses is subject to limitations.

By purchasing the Notes, a holder represents that it does not own an equity interest in the Index Calculation Agent, does not hold the Notes as part of a "straddle" and that such holder's purchase of the Notes is not part of a strategy of holding property and entering into a contract to sell such property (or substantially identical property).

We will not attempt to ascertain whether the issuer of any of the component stocks included in the Underlying Index would be treated as a "passive foreign investment company" within the meaning of Section 1297 of the Code, or a "United States real property holding corporation" within the meaning of Section 897 of the Code. If the issuer of one or more of such stocks were so treated, certain adverse U.S. federal income tax consequences could apply. You should refer to any available information filed with the SEC by the issuers of the component stocks included in the Underlying Index and consult your tax advisor regarding the possible consequences to you in this regard.

Alternative Treatments. Alternative tax treatments of the Notes also are possible and the Internal Revenue Service might assert that a treatment other than that described above is more appropriate. For example, it would be possible to treat a Note, and the Internal Revenue Service might assert that a Note should be treated, as a single debt instrument. Pursuant to such characterization, since the Notes have a term that exceeds one year, such a debt instrument would be subject to the special tax rules governing contingent payment debt instruments. If the Notes are so treated, a holder generally would be required to accrue interest currently over the term of the Notes even though that holder will not receive any payments from us prior to maturity. In addition, any gain a holder might recognize upon the sale, exchange or maturity of the Notes

would be ordinary income, and any loss recognized by a holder at such time would be ordinary loss to the extent of interest included in income in the current or previous taxable years in respect of the Notes, and thereafter, would be capital loss.

Because of the absence of authority regarding the appropriate tax characterization of the Notes, it is also possible that the Internal Revenue Service could seek to characterize the Notes in a manner that results in tax consequences that are different from those described above. For example, the Internal Revenue Service could assert that any gain or loss that a holder may recognize upon the sale, exchange or maturity of the Notes should be treated as ordinary gain or loss. In addition, it is possible that the Internal Revenue Service could require a holder to include amounts attributable to the Federal Funds (Effective) Rate as ordinary income, or as current income over the life of the Notes, or both.

The Internal Revenue Service has released a notice that may affect the taxation of holders of the Notes. According to the notice, the Internal Revenue Service and the U.S. Treasury Department are actively considering whether the holder of an instrument such as the 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. However, it is possible that, under such guidance, holders of the Notes would be required to accrue income currently and this could be applied on a retroactive basis. The Internal Revenue Service and the U.S. Treasury Department also are 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, which very generally can operate to recharacterize certain long-term capital gains as ordinary income and impose an interest charge, 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. We intend to treat the Notes for U.S. federal income tax purposes in accordance with the treatment described in this document unless and until such time as the U.S. Treasury Department and Internal Revenue Service determine that some other treatment is more appropriate.

Backup Withholding and Information Reporting. Please see the discussion under "Tax Consequences — United States Taxation — Information Reporting and Backup Withholding" in the accompanying prospectus for a description of the applicability of the backup withholding and information reporting rules to payments made on the Notes.

Non-U.S. Holders. The following discussion applies to non-U.S. holders of the Notes. A non-U.S. holder is a beneficial owner of a Note that, for U.S. federal income tax purposes, is a non-resident alien individual, a foreign corporation, or a foreign estate or trust.

Except as described below, a non-U.S. holder generally will not be subject to U.S. federal income or withholding tax for amounts paid in respect of the Notes, provided that (i) the holder complies with any applicable certification requirements, (ii) the payment is not effectively connected with the conduct by the holder of a U.S. trade or business, and (iii) if the holder is a non-resident alien individual, such holder is not present in the United States for 183 days or more during the taxable year of the sale, exchange or maturity of the Notes. In the case of (ii) above, the holder generally would be subject to U.S. federal income tax with respect to any income or gain in the same manner as if the holder were a U.S. holder, and, in the case of a holder that is a corporation, the holder also may be subject to a branch profits tax equal to 30% (or such lower rate provided by an applicable U.S. income tax treaty) of a portion of its earnings and profits for the taxable year that are effectively connected with its conduct of a trade or business in the U.S., subject to certain adjustments. Payments made to a non-U.S. holder may be subject to information reporting and to backup withholding unless the holder complies with applicable certification and identification requirements as to its foreign status.

Under Section 871(m) of the Code, a "dividend equivalent" payment is treated as a dividend from sources within the United States. Such a payment 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 generally is 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. Although the Internal Revenue Service has issued guidance that states that the U.S. Treasury Department and the Internal Revenue Service 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, 2023, we have determined that the Notes could be considered delta-one instruments. However, U.S. Treasury Department regulations provide that a "qualified index" (as defined in the applicable U.S. Treasury Department

regulations) constitutes a single security that is not an "underlying security" for these purposes. Based, in part, on our determination that each Underlying Index is a qualified index, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Notes because the Notes should not be treated as referencing an underlying security. Non-U.S. holders that enter, or have entered, into other transactions in respect of the Index or the constituents thereof 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 equivalent payments 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.

As discussed above, alternative characterizations of the Notes for U.S. federal income tax purposes are possible. Should an alternative characterization, by reason of change or clarification of the law, by regulation or otherwise, cause payments on the Notes to become subject to withholding tax, we will withhold tax at the applicable statutory rate. The Internal Revenue Service also has indicated that it is considering whether income in respect of instruments such as the Notes should be subject to withholding tax. We will not be required to pay any additional amounts in respect of such withholding. Prospective investors should consult their own tax advisors in this regard.

Foreign Account Tax Compliance Act. The Foreign Account Tax Compliance Act (FATCA) imposes a 30% U.S. withholding tax on certain U.S.–source payments, including interest (and original issue discount), dividends, and other fixed or determinable annual or periodical gain, profits, and income (Withholdable Payments), if paid to a foreign financial institution (including amounts paid to a foreign financial institution on behalf of a holder), unless such institution enters into an agreement with the U.S. Treasury Department to collect and provide to the U.S. Treasury Department certain information regarding U.S. financial account holders, including certain account holders that are foreign entities with U.S. owners, or otherwise complies with FATCA. In addition, the Notes may constitute a "financial account" for these purposes and thus be subject to information reporting requirements pursuant to FATCA. FATCA also generally imposes a withholding tax of 30% on Withholdable Payments made to a non-financial foreign entity unless such entity provides the withholding agent with a certification that it does not have any substantial U.S. owners or a certification identifying the direct and indirect substantial U.S. owners of the entity. Proposed Treasury regulations, on which taxpayers generally may rely pending finalization, eliminate the requirement of withholding on the gross proceeds from a sale or other disposition of financial instruments. However, if we determine withholding is appropriate with respect to the Notes under FATCA, we will withhold tax at the applicable rate and we will not pay any additional amounts in respect of any such FATCA withholding. Therefore, if such withholding applies, any payments on the Notes will be significantly less than what you would have otherwise received. Under certain circumstances, a holder may be eligible for refunds or credits of any such taxes. Foreign financial institutions and non-financial foreign entities located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules. Prospective investors are urged to consult with their own tax advisors regarding the possible implications of FATCA on their investment in the Notes.

SUPPLEMENTAL PLAN OF DISTRIBUTION (CONFLICTS OF INTEREST)

Delivery of the Notes will be made against payment for the Notes on February 28, 2020, which is the third (3rd) business day following the Trade Date (this settlement cycle being referred to as "T+3"). See "Plan of Distribution" in the prospectus dated September 7, 2018. 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.

We will 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 arrangements to prevent a failed settlement.

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 12 months 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 initially be a higher amount, reflecting the addition of our estimated costs and profits from hedging the Notes. This 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.

We may use this pricing supplement in the initial sale of the Notes. In addition, RBCCM or another of our affiliates may use this pricing supplement in a market-making transaction in the Notes after their initial sale. ***Unless we or our agent informs the purchaser otherwise in the confirmation of sale, this pricing supplement is being used in a market-making transaction.***

Each of RBCCM and any other broker-dealer offering the Notes have not offered, sold or otherwise made available and will not offer, sell or otherwise make available any of the Notes to, any retail investor in the European Economic Area ("EEA") or in the United Kingdom. For these purposes, the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe the Notes, and a "retail investor" means a person who is one (or more) of: (a) a retail client, as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); or (b) a customer, within the meaning of Directive (EU) 2016/97, as amended, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (c) not a qualified investor as defined in Regulation (EU) 2017/1129 (the "Prospectus Regulation"). Consequently, no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the EEA or the United Kingdom has been prepared, and therefore, offering or selling the Notes or otherwise making them available to any retail investor in the EEA or the United Kingdom may be unlawful under the PRIIPs Regulation.

STRUCTURING THE NOTES

The Notes are our debt securities, the return on which is linked to the performance of the Reference Asset. 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 reduced the initial estimated value of the Notes at the time their terms were set. Unlike the estimated value that is included on the cover page of this pricing supplement, any value of the Notes determined for purposes of a secondary market transaction may be based on a different funding rate, which may result in a lower value for the Notes than if our initial internal funding 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 the Reference Asset, 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 reduced 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 “Selected Risk Considerations—The Initial Estimated Value of the Notes Is Less than the Price to the Public” above.

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.