

ROYAL BANK OF CANADA  
Form 424B2  
February 11, 2019

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Registration Statement No. 333-227001

Pricing Supplement  
Dated February 8,  
2019

To the Product Prospectus Supplement No. CCBN-2, Dated September 10, 2018, the Prospectus Supplement Dated September 7, 2018, and the Prospectus Dated September 7, 2018

\$2,281,000  
Issuer Callable Contingent Coupon Barrier Notes with  
Memory Coupon Linked to the Lesser Performing of Three Equity Indices, Due February 25,  
2020  
Royal Bank of Canada

Royal Bank of Canada is offering Issuer Callable Contingent Coupon Barrier Notes (the “Notes”) linked to the lesser performing of three equity indices (each, a “Reference Index” and collectively, the “Reference Indices”). The Notes offered are senior unsecured obligations of Royal Bank of Canada, will pay a Contingent Coupon in the amounts and under the circumstances specified below, and will have the terms described in the documents described above, as supplemented or modified by this pricing supplement.

Reference Indices	Initial Levels	Trigger Levels	Coupon Barriers*
Russell 2000® Index (“RTY”)	1,506.394	1,129.796, which is 75% of its Initial Level*	1,129.796, which is 75% of its Initial Level
S&P 500® Index (“SPX”)	2,707.88	2,030.91, which is 75% of its Initial Level	2,030.91, which is 75% of its Initial Level
EURO STOXX 50® Index (“SX5E”)	3,135.62	2,351.72, which is 75% of its Initial Level*	2,351.72, which is 75% of its Initial Level

\*Rounded to two decimal places in the case of the SX5E, and three decimal places in the case of the RTY.

The Notes do not guarantee any return of principal at maturity. Any payments on the Notes are subject to our credit risk.

Investing in the Notes involves a number of risks. See “Risk Factors” beginning on page PS-5 of the product prospectus supplement dated September 10, 2018, on page S-1 of the prospectus supplement dated September 7, 2018, and “Selected Risk Considerations” beginning on page P-7 of this pricing 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 the Notes or determined that this pricing supplement is truthful or complete. Any representation to the contrary is a criminal offense.

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Issuer:	Royal Bank of Canada	Stock Exchange Listing:	None
Trade Date:	February 8, 2019	Principal Amount:	\$1,000 per Note
Issue Date:	February 13, 2019	Maturity Date:	February 25, 2020
Coupon Payment Dates:	Approximately quarterly, as set forth below	Observation Dates:	Approximately quarterly, as set forth below.
Valuation Dates:	February 13, 2020, February 14, 2020, February 18, 2020, February 19, 2020 and February 20, 2020	Contingent Coupon:	\$22.50 per \$1,000 in principal amount, if payable
Initial Level:	For each Reference Index, its closing level on the Trade Date, as set forth in the table above.		
Final Level:	For each Reference Index, the arithmetic average of its closing levels on each of the Valuation Dates.		
Contingent Coupon and Memory Feature:	<p>If the Notes have not been previously called, and if the closing level of each Reference Index is greater than or equal to its Coupon Barrier on the applicable Observation Date (or the Final Level, in the case of the final Coupon Payment Date), we will pay the Contingent Coupon on the applicable Coupon Payment Date. You may not receive any Contingent Coupons during the term of the Notes.</p> <p>If a Contingent Coupon is not payable on any Coupon Payment Date, it will be paid on any later Coupon Payment Date (or at maturity) on which the Contingent Coupon is then payable, together with the payment otherwise due on that later date.</p> <p>If the Notes are not previously called, we will pay you at maturity an amount based on the Final Level of the Lesser Performing Reference Index:</p> <p>For each \$1,000 in principal amount, \$1,000 plus the Contingent Coupon (together with any previously unpaid Contingent Coupons) at maturity, unless the Final Level of the Lesser Performing Reference Index is less than its Trigger Level.</p>		
Payment at Maturity (if held to maturity):	<p>If the Final Level of the Lesser Performing Reference Index is less than its Trigger Level, then the investor will receive at maturity, for each \$1,000 in principal amount, a cash payment equal to:</p> <p><math>\\$1,000 + (\\$1,000 \times \text{Underlying Return of the Lesser Performing Reference Index})</math></p> <p>Investors could lose some or all of the value of their initial investment if there has been a decline in the level of the Lesser Performing Reference Index.</p>		
Lesser Performing Reference Index:	The Reference Index with the lowest Underlying Return.		
Call Feature:	The Notes may be called at our discretion on any Coupon Payment Date (other than the final Coupon Payment Date), if we send prior written notice, as described below.		
CUSIP/ISIN:	78013XYS1/US78013XYS16		

	Per Note	Total
Price to public	100.00%	\$2,281,000
Underwriting discounts and commissions <sup>(1)</sup>	1.00%	\$22,810
Proceeds to Royal Bank of Canada	99.00%	\$2,258,190

<sup>(1)</sup> JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC and their affiliates will act as placement agents for the Notes and will receive a fee from the Issuer of \$10 per \$1,000 in principal amount of the Notes.

The initial estimated value of the Notes as of the date of this pricing supplement is \$978.96 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.

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Issuer Callable Contingent Coupon Barrier  
Notes with Memory Coupon Linked to the  
Lesser Performing of Three Equity Indices

SUMMARY

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

General: This pricing supplement relates to an offering of Issuer Callable Contingent Coupon Barrier Notes (the “Notes”) linked to the lesser performing of three equity indices (the “Reference Indices”).

Issuer: Royal Bank of Canada (“Royal Bank”)

Trade Date: February 8, 2019

Issue Date: February 13, 2019

Denominations: Minimum denomination of \$10,000, and integral multiples of \$1,000 thereafter.

Designated Currency: U.S. Dollars

We will pay you a Contingent Coupon during the term of the Notes, periodically in arrears on each Coupon Payment Date, under the conditions described below:

- If the closing level of each Reference Index is greater than or equal to its Coupon Barrier on the applicable Observation Date (or in the case of the final Contingent Coupon due on the Maturity Date, the Final Level of each Reference Index), we will pay the Contingent Coupon applicable to that Coupon Payment Date, together with any previously unpaid Contingent Coupons.
- If the closing level of any of the Reference Indices is less than its Coupon Barrier on the applicable Observation Date, we will not pay you the Contingent Coupon applicable to that Observation Date. You will not receive any Contingent Coupon on the Maturity Date if the Final Level of any Reference Index is less than its Coupon Barrier.

You may not receive a Contingent Coupon on one or more Coupon Payment Dates during the term of the Notes.

For the avoidance of doubt, once a previously unpaid Contingent Coupon has been paid on a later Coupon Payment Date, it will not be paid again on a subsequent date.

Contingent Coupon: \$22.50 per \$1,000 in principal amount of the Notes, if payable.

Observation Dates: May 20, 2019, August 20, 2019 and November 20, 2019.

Coupon Payment Dates: The Contingent Coupon, if applicable, will be paid on May 23, 2019, August 23, 2019, November 25, 2019 and the Maturity Date.

Record Dates: The record date for each Coupon Payment Date will be one business day prior to that scheduled Coupon Payment Date; provided, however, that any Contingent Coupons payable at maturity or upon a call will be payable to the person to whom the payment at maturity or upon the call, as the case may be, will be payable.

Call Feature: The Notes may be called at our discretion on any Coupon Payment Date (other than the final Coupon Payment Date), if we send written notice to the trustee at least three business days prior to that Coupon Payment Date.

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Payment if Called:	If the Notes are called, then, on the applicable Coupon Payment Date, for each \$1,000 principal amount, you will receive \$1,000 plus the Contingent Coupon otherwise due on that Coupon Payment Date (together with any previously unpaid Contingent Coupons).
Valuation Dates:	February 13, 2020, February 14, 2020, February 18, 2020, February 19, 2020 and February 20, 2020
Maturity Date:	February 25, 2020
Initial Level:	For each Reference Index, its closing level on the Trade Date, as set forth on the cover page of this document.
Final Level:	For each Reference Index, the arithmetic average of its closing levels on each of the Valuation Dates.
Trigger Level	For each Reference Index, 75% of its Initial Level, as set forth on the cover page of this document.
Coupon Barrier:	For each Reference Index, 75% of its Initial Level, as set forth on the cover page of this document.

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Issuer Callable Contingent Coupon Barrier  
Notes with Memory Coupon Linked to the  
Lesser Performing of Three Equity Indices

Payment at Maturity (if not previously called and held to maturity):	<p>If the Notes are not previously called, we will pay you at maturity an amount based on the Final Level of the Lesser Performing Reference Index:</p> <ul style="list-style-type: none"> <li>· If the Final Level of the Lesser Performing Reference Index is greater than or equal to its Trigger Level, we will pay you a cash payment equal to the principal amount plus the Contingent Coupon otherwise due on the Maturity Date, together with any previously unpaid Contingent Coupons.</li> <li>· If the Final Level of the Lesser Performing Reference Index is less than its Trigger Level, you will receive at maturity, for each \$1,000 in principal amount, a cash payment equal to: <ul style="list-style-type: none"> <li>\$1,000 + (\$1,000 x Underlying Return of the Lesser Performing Reference Index)</li> </ul> </li> </ul> <p>The amount of cash that you receive will be less than your principal amount, if anything, resulting in a loss that is proportionate to the decline of the Lesser Performing Reference Index from its Initial Level to its Final Level. Investors in the Notes could lose some or all of their investment if there has been a decline in the level of the Lesser Performing Reference Index below its Trigger Level.</p>
Underlying Return:	<p>With respect to each Reference Index:</p> <p><u>Final Level – Initial Level</u> Initial Level</p>
Lesser Performing Reference Index:	<p>The Reference Index with the lowest Underlying Return.</p>
Market Disruption Events:	<p>The occurrence of a market disruption event (or a non-trading day) as to any of the Reference Indices will result in the postponement of an Observation Date or a Valuation Date as to that Reference Index, as described in the product prospectus supplement, but not to any non-affected Reference Index. If a market disruption event occurs or is continuing on any scheduled Valuation Date other than the final Valuation Date, the closing level of the applicable Reference Index for that Valuation Date will equal its closing level on the next scheduled Valuation Date. For example, if a market disruption event occurs or is continuing on the first and second scheduled Valuation Dates, but not on the third scheduled Valuation Date, then the closing level of the applicable Reference Index will also be deemed to be its closing level on the first and second scheduled Valuation Dates. If no further scheduled Valuation Dates occur after a Valuation Date on which a market disruption event occurs or is continuing or if a market disruption event occurs or is continuing on the final Valuation Date, then the applicable closing level for that Valuation Date will be determined (or, if not determinable, estimated by the calculation agent in a manner which is considered to be commercially reasonable under the circumstances) by the calculation agent on that final Valuation Date, regardless of the occurrence or continuation of a market disruption event on that day. In such an event, the calculation agent will make a good faith estimate in its sole discretion of the closing level of the applicable Reference Index that would have prevailed in the absence of the market disruption event.</p>
Calculation Agent:	<p>RBC Capital Markets, LLC (“RBCCM”)</p>
U.S. Tax Treatment:	<p>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 a callable pre-paid cash-settled contingent income-bearing derivative contract linked to the Reference Indices for U.S. federal income tax purposes. However, the U.S. federal income tax consequences of your investment in the Notes are</p>

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,” and the discussion (including the opinion of our counsel Morrison & Foerster LLP) in the product prospectus supplement dated September 10, 2018 under “Supplemental Discussion of U.S. Federal Income Tax Consequences,” which apply to the Notes.

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.

Listing: The Notes will not be listed on any securities exchange.

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Issuer Callable Contingent Coupon Barrier  
Notes with Memory Coupon Linked to the  
Lesser Performing of Three Equity Indices

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 dated September 7, 2018).

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 and the terms appearing under the caption “General Terms of the Notes” in the product prospectus supplement dated September 10, 2018, as modified by this pricing supplement.

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Issuer Callable Contingent Coupon Barrier  
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ADDITIONAL TERMS OF YOUR 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 and the product prospectus supplement dated September 10, 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 product prospectus supplement. In the event of any conflict, this pricing supplement will control. The Notes vary from the terms described in the product 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 and in the product prospectus supplement dated September 10, 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](http://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/1000275/000121465918005973/196181424b3.htm>

Prospectus Supplement dated September 7, 2018:

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

Product Prospectus Supplement dated September 10, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036118038089/form424b5.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.

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Issuer Callable Contingent Coupon Barrier  
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#### HYPOTHETICAL EXAMPLES

The table set out below is included for illustration purposes only. The table illustrates the Payment at Maturity of the Notes (excluding the final Contingent Coupon(s), if payable) for a hypothetical range of performance for the Lesser Performing Reference Index, assuming the following terms and that the Notes are not called prior to maturity:

Hypothetical Initial Level (for each Reference Index):	100.00*
Hypothetical Trigger Level (for each Reference Index):	75.00, which is 75% of the hypothetical Initial Level
Hypothetical Coupon Barrier (for each Reference Index):	75.00, which is 75% of the hypothetical Initial Level
Contingent Coupon:	\$22.50 per \$1,000 in principal amount

\* The hypothetical Initial Level of 100.00 used in the examples below has been chosen for illustrative purposes only and does not represent the actual Initial Level of any Reference Index. The actual Initial Levels for each Reference Index is set forth on the cover page of this pricing supplement. We make no representation or warranty as to which of the Reference Indices will be the Lesser Performing Reference Index. It is possible that the Final Level of each Reference Index will be less than its Initial Level.

Hypothetical Final Levels of the Lesser Performing Reference Index are shown in the first column on the left. The second column shows the Payment at Maturity for a range of Final Levels. The third column shows the amount of cash to be paid on the Notes per \$1,000 in principal amount. If the Notes are called prior to maturity, the hypothetical examples below will not be relevant, and you will receive on the applicable Coupon Payment Date, for each \$1,000 principal amount, \$1,000 plus the Contingent Coupons otherwise due on the Notes (if payable).

Hypothetical Final Level of the Lesser Performing Reference Index	Payment at Maturity as Percentage of Principal Amount	Cash Payment Amount per \$1,000 in Principal Amount
130.00	100.00%	\$1,000.00*
120.00	100.00%	\$1,000.00*
110.00	100.00%	\$1,000.00*
100.00	100.00%	\$1,000.00*
90.00	100.00%	\$1,000.00*
80.00	100.00%	\$1,000.00*
75.00	75.00%	\$1,000.00*
74.99	74.99%	\$749.90
70.00	70.00%	\$700.00
60.00	60.00%	\$600.00
50.00	50.00%	\$500.00
40.00	40.00%	\$400.00
25.00	25.00%	\$250.00
0.00	0.00%	\$0.00

\*Excluding the final Contingent Coupon (and any previously unpaid Contingent Coupons), if payable.

Issuer Callable Contingent Coupon Barrier  
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Hypothetical Examples of Amounts Payable at Maturity

The following hypothetical examples illustrate how the payments at maturity set forth in the table above are calculated, assuming the Notes have not been called.

Example 1: The level of the Lesser Performing Reference Index increases by 25% from the Initial Level to a Final Level of 125.00. Because the Final Level of the Lesser Performing Reference Index is greater than its Trigger Level and Coupon Barrier, the investor receives at maturity, in addition to the final Contingent Coupon (and any previously unpaid Contingent Coupons) otherwise due on the Notes, a cash payment of \$1,000 per Note, despite the 25% appreciation in the level of the Lesser Performing Reference Index.

Example 2: The level of the Lesser Performing Reference Index decreases by 15% from the Initial Level to a Final Level of 85.00. Because the Final Level of the Lesser Performing Reference Index is greater than its Trigger Level and Coupon Barrier, the investor receives at maturity, in addition to the final Contingent Coupon (and any previously unpaid Contingent Coupons) otherwise due on the Notes, a cash payment of \$1,000 per Note, despite the 15% decline in the level of the Lesser Performing Reference Index.

Example 3: The level of the Lesser Performing Reference Index decreases by 50% from the Initial Level to a Final Level of 50.00, which is less than its Trigger Level. Because the Final Level of the Lesser Performing Reference Index is less than its Trigger Level and Coupon Barrier, the final Contingent Coupon will not be payable on the Maturity Date, and we will pay only \$500.00 for each \$1,000 in the principal amount of the Notes, calculated as follows:

Principal Amount + (Principal Amount x Underlying Return of the Lesser Performing Reference Index)  
= \$1,000 + (\$1,000 x -50.00%) = \$1,000 - \$500.00 = \$500.00

\* \* \*

The Payments at Maturity shown above are entirely hypothetical; they are based on levels of the Reference Indices that may not be achieved on the Valuation Dates and on assumptions that may prove to be erroneous. The actual market value of your Notes on the Maturity Date or at any other time, including any time you may wish to sell your Notes, may bear little relation to the hypothetical Payments at Maturity shown above, and those amounts should not be viewed as an indication of the financial return on an investment in the Notes or on an investment in the securities included in any Reference Index.

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Issuer Callable Contingent Coupon Barrier  
Notes with Memory Coupon Linked to the  
Lesser Performing of Three Equity Indices

SELECTED RISK CONSIDERATIONS

An investment in the Notes involves significant risks. Investing in the Notes is not equivalent to investing directly in the Reference Indices. These risks are explained in more detail in the section “Risk Factors” in the product prospectus supplement. In addition to the risks described in the prospectus supplement and the product prospectus supplement, you should consider the following:

**Principal at Risk** — Investors in the Notes could lose all or a substantial portion of their principal amount if there is a decline in the level of the Lesser Performing Reference Index between the Trade Date and the Valuation Dates. If the Notes are not called and the Final Level of the Lesser Performing Reference Index is less than its Trigger Level, the amount of cash that you receive at maturity will represent a loss of your principal that is proportionate to the decline in the closing level of the Lesser Performing Reference Index from the Trade Date to the Valuation Dates. Any Contingent Coupons received on the Notes prior to the Maturity Date may not be sufficient to compensate for any such loss.

**The Notes Are Subject to an Issuer Call** — We may call the Notes at our discretion on any Coupon Payment Date beginning in May 2019. If the Notes are called, then, on the applicable Coupon Payment Date, for each \$1,000 in principal amount, you will receive \$1,000 plus the Contingent Coupon otherwise due on the applicable Coupon Payment Date (together with any previously unpaid Contingent Coupons, if payable). You will not receive any Contingent Coupons after that payment. You may be unable to reinvest your proceeds from the call in an investment with a return that is as high as the return on the Notes would have been if they had not been called. We are more likely to call the Notes if we anticipate that the yield on the Notes will exceed that payable on our conventional debt securities.

**You May Not Receive Any Contingent Coupons** — We will not necessarily make any coupon payments on the Notes. If the closing level of any of the Reference Indices on an Observation Date (or in the case of the final Contingent Coupon, the Final Level of any of the Reference Indices) is less than its Coupon Barrier, we will not pay you the Contingent Coupon applicable to that Observation Date. If the closing level of any of the Reference Indices is less than its Coupon Barrier on each of the Observation Dates, and if the Final Level of any Reference Index is less than its Coupon Barrier, we will not pay you any Contingent Coupons during the term of, and you will not receive a positive return on your Notes. Generally, this non-payment of the Contingent Coupon coincides with a period of greater risk of principal loss on your Notes. Accordingly, if we do not pay the Contingent Coupon on the Maturity Date, you will also incur a loss of principal, because the Final Level of the Lesser Performing Reference Index will be less than its Trigger Level.

**The Notes Are Linked to the Lesser Performing Reference Index, Even if the Other Reference Index Performs Better** — If any of the Reference Indices has a Final Level that is less than its Trigger Level, your return will be linked to the lesser performing of the three Reference Indices. Even if the Final Levels of the other Reference Indices have increased compared to their respective Initial Levels, or have experienced a decrease that is less than that of the Lesser Performing Reference Index, your return will only be determined by reference to the performance of the Lesser Performing Reference Index, regardless of the performance of the other Reference Indices.

**Your Payment on the Notes Will Be Determined by Reference to Each Reference Index Individually, Not to a Basket, and the Payment at Maturity Will Be Based on the Performance of the Lesser Performing Reference Index** — The Payment at Maturity will be determined only by reference to the performance of the Lesser Performing Reference Index, regardless of the performance of the other Reference Indices. The Notes are not linked to a weighted basket, in which the risk may be mitigated and diversified among each of the basket components. For example, in the case of notes linked to a weighted basket, the return would depend on the weighted aggregate performance of the basket components reflected as the basket return. As a result, the depreciation of one basket component could be mitigated by the appreciation of the other basket

components, as scaled by the weighting of that basket component. However, in the case of the Notes, the individual performance of each of the Reference Indices would not be combined, and the depreciation of one Reference Index would not be mitigated by any appreciation of the other Reference Indices. Instead, your return will depend solely on the Final Level of the Lesser Performing Reference Index.

**The Call Feature and the Contingent Coupon Feature Limit Your Potential Return** — The return potential of the Notes is limited to the pre-specified Contingent Coupons, regardless of the appreciation of the Reference Indices. In addition, the total return on the Notes will vary based on the number of Observation Dates on which the Contingent Coupon becomes payable prior to maturity or an issuer call. Further, if the Notes are called due to the Call Feature, you will not receive any Contingent Coupons or any other payment in respect of any Observation Dates after the applicable Coupon Payment Date. Since the Notes could be called as early as May 2019, the total return on the Notes could be minimal. If the Notes are not called, you may be subject to the full downside performance of the Lesser Performing Reference Index even though your potential return is limited to the Contingent Coupons that you may receive during the term of the Notes. As a result, the return on an investment in the Notes could be less than the return on a direct investment in securities included in the Reference Indices.

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Issuer Callable Contingent Coupon Barrier  
Notes with Memory Coupon Linked to the  
Lesser Performing of Three Equity Indices

**Your Return May Be Lower than the Return on a Conventional Debt Security of Comparable 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 a conventional senior interest bearing debt security of Royal Bank.

**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 Contingent Coupons, if payable, and the amount due on any relevant payment date is dependent upon our ability to repay its obligations on the applicable payment dates. This will be the case even if the levels of the Reference Indices increase 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.

**There May Not Be an Active Trading Market for the Notes-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 of ours 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 b