

ROYAL BANK OF CANADA  
Form 424B2  
September 01, 2017

RBC Capital Markets® Filed Pursuant to Rule 424(b)(2)  
Registration Statement No. 333-208507

Pricing Supplement

Dated August 29, 2017

To the Product

\$8,035,000

Prospectus Supplement

Contingent Coupon Buffer

ERN-EI-1 Dated January

Enhanced Return Notes

12, 2016, Prospectus

Linked to the S&P 500® Index,

Supplement Dated

Due December 2, 2022

January 8, 2016, and

Royal Bank of Canada

Prospectus Dated January

8, 2016

Royal Bank of Canada is offering the Contingent Coupon Buffer Enhanced Return Notes (the “Notes”) linked to the performance of the S&P 500® Index (the “Reference Asset”). The CUSIP number for the Notes is 78012K5B9. If a Knock-In Event (as defined below) occurs and the Final Level is less than the Knock-In Level, you will be exposed on a 1-to1 basis to the decline in the level of the Reference Asset and could lose up to your entire investment, excluding contingent coupon payments on the Notes, if any. If a Knock-In Event occurs and the Final Level is greater than the Knock-In Level, you will receive the principal amount of your investment at maturity plus a positive return. If a Knock-In Event has not occurred during the monthly Observation Period immediately preceding a Contingent Coupon Payment Date, we will pay the Contingent Coupon on the Contingent Coupon Payment Date. However, if a Knock-In Event occurs during any Observation Period, we will not pay a Contingent Coupon on the immediately following Contingent Coupon Payment Date or on any subsequent Contingent Coupon Payment Date. Therefore, if a Knock-In Event occurs during the first Observation Period, you would not receive any Contingent Coupons during the term of the Notes, in addition to the possibility of losing a substantial portion of the principal amount. Any payments on the Notes are subject to our credit risk.

Please see the discussion below for more details as to the payments to be made on the Notes.

Contingent Coupon: 4.25% per annum

Issue Date: September 1, 2017

Buffer Percentage: 20.00%

Maturity Date: December 2, 2022

Initial Level: 2,446.30, which was the closing level of the Reference Asset on the Pricing Date

Knock-In Level and Buffer Level: 1,957.04, which is 80.00% of the Initial Level

The Notes will not be listed on any securities exchange.

Investing in the Notes involves a number of risks. See “Risk Factors” beginning on page S-1 of the prospectus supplement dated January 8, 2016, “Additional Risk Factors Specific to the Notes” beginning on page PS-4 of the product prospectus supplement dated January 12, 2016, and “Selected Risk Considerations” beginning on page P-13 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.

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.

	<u>Per Note</u>	<u>Total</u>
Price to public	100.00%	\$8,035,000.00
Underwriting discounts and commissions	0.00%	\$0.00

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Proceeds to Royal Bank of Canada      100.00% \$8,035,000.00

The initial estimated value of the Notes as of the date of this pricing supplement is \$997.12 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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Contingent Coupon Buffer  
Enhanced Notes  
Linked to the S&P 500<sup>®</sup> Index,  
Due December 2, 2022

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.

Issuer: Royal Bank of Canada (“Royal Bank”)  
Issue: Senior Global Medium-Term Notes, Series G  
Underwriter: RBC Capital Markets, LLC (“RBCCM”)  
Reference Asset: S&P 500<sup>®</sup> Index  
Bloomberg Ticker: SPX  
Currency: U.S. Dollars  
Minimum Investment: \$1,000 and minimum denominations of \$1,000 in excess thereof  
Pricing Date: August 29, 2017  
Issue Date: September 1, 2017  
CUSIP: 78012K5B9  
Valuation Date: November 29, 2022  
Maturity Date: December 2, 2022. The maturity date will be subject to postponement for market and other disruptions, as described in the product prospectus supplement dated January 12, 2016.  
Term: Approximately 63 months

A Knock-In Event Does Not Occur:  
If a Knock-In Event does not occur, in addition to the final Contingent Coupon Payment, you will receive the principal amount of the Notes. In this case, the Redemption Amount will equal \$1,000 per \$1,000 principal amount of the Notes plus any contingent coupon payments.

A Knock-In Event Does Occur:  
If a Knock-In Event occurs, the Redemption Amount will be, for each \$1,000 in principal amount of the Notes, an amount equal to:  
Principal Amount x [1 + (Percentage Change + Buffer Percentage)]  
Accordingly, if a Knock-In Event occurs, the Redemption Amount may be more or less than the principal amount. However, please note that if, on the Valuation Date, the Percentage Change is negative, by more than the Buffer Percentage (that is, the Percentage Change is between -20% and -100%), then you will lose a portion of the principal amount of the Notes.

Redemption Amount (if held to maturity):

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Percentage Change: The Percentage Change, expressed as a percentage, is calculated using the following formula:

Initial Level: 2,446.30, which was the closing level of the Reference Asset on the Pricing Date.

Final Level: The closing level of the Reference Asset on the Valuation Date.

Knock-In Event: A Knock-In Event will occur if, on any trading day during any Observation Period, the closing level of the Reference Asset is less than the Buffer Level.

Knock-In Level and Buffer Level: 1,957.04, which is 80.00% of the Initial Level.

Buffer Percentage: 20.00%

Contingent Coupon: 4.25% of the principal amount per annum, corresponding to approximately 0.354167% of the principal amount per month in which it is payable.

Monthly Observation Periods and Contingent Coupon Payment Dates: Unless a Knock-In Event occurs, Contingent Coupons will be determined and paid as per the table below, subject to postponement as set forth below.

There will be 63 monthly Observation Periods. The first Observation Period commenced on the Pricing Date. The final Observation Period will end on the Valuation Date.

Start Date of Each Observation Period	End Date of Each Observation Period	Contingent Coupon Payment Dates
August 29, 2017	September 29, 2017	October 4, 2017
October 2, 2017	October 30, 2017	November 2, 2017
October 31, 2017	November 29, 2017	December 4, 2017
November 30, 2017	December 29, 2017	January 4, 2018
January 2, 2018	January 29, 2018	February 1, 2018
January 30, 2018	February 28, 2018	March 5, 2018
March 1, 2018	March 29, 2018	April 4, 2018
March 30, 2018	April 30, 2018	May 3, 2018
May 1, 2018	May 29, 2018	June 1, 2018
May 30, 2018	June 29, 2018	July 5, 2018
July 2, 2018	July 30, 2018	August 2, 2018
July 31, 2018	August 29, 2018	September 4, 2018
August 30, 2018	September 28, 2018	October 3, 2018
October 1, 2018	October 29, 2018	November 1, 2018
October 30, 2018	November 29, 2018	December 4, 2018
November 30, 2018	December 31, 2018	January 4, 2019
January 2, 2019	January 29, 2019	February 1, 2019
January 30, 2019	February 28, 2019	March 5, 2019

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## Contingent Coupon Buffer

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March 1, 2019	March 29, 2019	April 3, 2019
April 1, 2019	April 29, 2019	May 2, 2019
April 30, 2019	May 29, 2019	June 3, 2019
May 30, 2019	June 28, 2019	July 3, 2019
July 1, 2019	July 29, 2019	August 1, 2019
July 30, 2019	August 29, 2019	September 4, 2019
August 30, 2019	September 30, 2019	October 3, 2019
October 1, 2019	October 29, 2019	November 1, 2019
October 31, 2019	November 29, 2019	December 4, 2019
December 2, 2019	December 30, 2019	January 3, 2020
December 31, 2019	January 29, 2020	February 3, 2020
January 30, 2020	February 28, 2020	March 4, 2020
March 2, 2020	March 30, 2020	April 2, 2020
March 31, 2020	April 29, 2020	May 4, 2020
April 30, 2020	May 29, 2020	June 3, 2020
June 1, 2020	June 29, 2020	July 2, 2020
June 30, 2020	July 29, 2020	August 3, 2020
July 30, 2020	August 31, 2020	September 3, 2020
September 1, 2020	September 29, 2020	October 2, 2020
September 30, 2020	October 29, 2020	November 3, 2020
October 30, 2020	November 30, 2020	December 3, 2020
December 1, 2020	December 29, 2020	January 4, 2021
December 30, 2020	January 29, 2021	February 3, 2021
February 1, 2021	February 26, 2021	March 3, 2021
March 1, 2021	March 29, 2021	April 1, 2021
March 30, 2021	April 29, 2021	May 4, 2021
April 30, 2021	May 28, 2021	June 3, 2021
June 1, 2021	June 29, 2021	July 2, 2021
June 30, 2021	July 29, 2021	August 3, 2021
July 30, 2021	August 30, 2021	September 2, 2021
August 31, 2021	September 29, 2021	October 4, 2021
September 30, 2021	October 29, 2021	November 3, 2021
November 1, 2021	November 29, 2021	December 2, 2021
November 30, 2021	December 29, 2021	January 3, 2022
December 30, 2021	January 31, 2022	February 3, 2022
February 1, 2022	February 28, 2022	March 3, 2022
March 1, 2022	March 29, 2022	April 1, 2022
March 30, 2022	April 29, 2022	May 4, 2022
May 2, 2022	May 31, 2022	June 3, 2022

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June 1, 2022	June 29, 2022	July 5, 2022
June 30, 2022	July 29, 2022	August 3, 2022
August 1, 2022	August 29, 2022	September 1, 2022
August 30, 2022	September 29, 2022	October 4, 2022
September 30, 2022	October 31, 2022	November 3, 2022
November 1, 2022	November 29, 2022	December 2, 2022

If any Contingent Coupon Payment Date is not a business day, the Contingent Coupon will be payable on the first following business day. The amount of any Contingent Coupon will not be adjusted in respect of any postponement of a Contingent Coupon Payment Date and no interest or other payment will be payable on the Notes as a result of any such postponement.

Contingent Coupon payments are not guaranteed. The issuer will not pay you the Contingent Coupon for any Observation Period, or for any Observation Period thereafter, if the closing level of the Reference Asset is less than its Knock-In Level on any trading day during that period.

**Principal at Risk:** The Notes are NOT principal protected. You may lose a portion of your principal amount at maturity if there is a percentage decrease from the Initial Level to the Final Level of more than 20%.

**Record Dates:** Contingent Coupons, if any, will be payable to the holders of record at the close of business on the business day immediately preceding the applicable Contingent Coupon Payment Date, provided that the Contingent Coupon payable on the maturity date (if payable) will be payable to the person to whom the Redemption Amount is payable.

**Calculation Agent:** RBCCM

**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 Note as a pre-paid cash-settled contingent income-bearing derivative contract 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 (the “IRS”) 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,” which applies to the Notes.

**Secondary Market:** RBCCM (or one of its affiliates), though not obligated to do so, plans to 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 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 dated January 8, 2016).

**Terms Incorporated in the Master Note:** All of the terms appearing above the item captioned “Secondary Market” on pages P-2 to P-5 of this pricing supplement and the terms appearing under the caption “General Terms of the Notes” in the product prospectus supplement dated January 12, 2016, as modified by this pricing supplement.

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**ADDITIONAL TERMS OF YOUR NOTES**

You should read this pricing supplement together with the prospectus dated January 8, 2016, as supplemented by the prospectus supplement dated January 8, 2016 and the product prospectus supplement dated January 12, 2016, relating to our Senior Global Medium-Term Notes, Series G, 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 January 8, 2016 and “Additional Risk Factors Specific to the Notes” in the product prospectus supplement dated January 12, 2016, 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 January 8, 2016:

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

Prospectus Supplement dated January 8, 2016:

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

Product Prospectus Supplement ERN-EI-1 dated January 12, 2016:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036116047560/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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## Contingent Coupon Buffer

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## HYPOTHETICAL RETURNS

The tables and examples set out below are included for illustration purposes only. The hypothetical Percentage Changes of the Reference Asset used to illustrate the calculation of the Redemption Amount (rounded to two decimal places) are not estimates or forecasts of the Final Level or the level of the Reference Asset on any trading day prior to the Maturity Date. All tables and examples assume that a holder purchased Notes with an aggregate principal amount of \$1,000, and are based on the Contingent Coupon rate of 4.25% of the principal amount per annum (approximately 0.354167% per month), the Knock-In Level of 80% of the Initial Level, the Buffer Percentage of 20% (the Buffer Level is 80% of the Initial Level), and assume that no market disruption event occurs on the Valuation Date.

Table 1 — A Knock-In Event DOES NOT occur:

Percentage Change from Initial Level	Redemption Amount (excluding contingent coupon payments)	Total Contingent Coupon Payments	Total Payment
100.00%	\$1,000.00	\$223.125	\$1,223.125
90.00%	\$1,000.00	\$223.125	\$1,223.125
80.00%	\$1,000.00	\$223.125	\$1,223.125
70.00%	\$1,000.00	\$223.125	\$1,223.125
60.00%	\$1,000.00	\$223.125	\$1,223.125
50.00%	\$1,000.00	\$223.125	\$1,223.125
40.00%	\$1,000.00	\$223.125	\$1,223.125
30.00%	\$1,000.00	\$223.125	\$1,223.125
20.00%	\$1,000.00	\$223.125	\$1,223.125
10.00%	\$1,000.00	\$223.125	\$1,223.125
0.00%	\$1,000.00	\$223.125	\$1,223.125
-10.00%	\$1,000.00	\$223.125	\$1,223.125
-20.00%	\$1,000.00	\$223.125	\$1,223.125

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Table 2 — A Knock-In Event OCCURS

Percentage Change from the Initial Level	Redemption Amount (excluding contingent coupon payments)	Total Contingent Coupon Payments
100.00%	\$2,200.00	
90.00%	\$2,100.00	
80.00%	\$2,000.00	
70.00%	\$1,900.00	
60.00%	\$1,800.00	
50.00%	\$1,700.00	
40.00%	\$1,600.00	
30.00%	\$1,500.00	
20.00%	\$1,400.00	
10.00%	\$1,300.00	
0.00%	\$1,200.00	
-10.00%	\$1,100.00	
-20.00%	\$1,000.00	
-21.00%	\$990.00	
-30.00%	\$900.00	
-40.00%	\$800.00	
-50.00%	\$700.00	
-60.00%	\$600.00	
-70.00%	\$500.00	
-80.00%	\$400.00	(See Table 3 below)
-90.00%	\$300.00	
-100.00%	\$200.00	

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## Contingent Coupon Buffer

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Table 3 — The expected total contingent coupon payments will depend on when a Knock-In Event occurs, if any.

When the Knock-In Event Occurs	Total Contingent Coupon Payments
During the 1 <sup>st</sup> Observation Period	\$0.000
During the 4 <sup>th</sup> Observation Period	\$10.625
During the 7 <sup>th</sup> Observation Period	\$21.250
During the 10 <sup>th</sup> Observation Period	\$31.875
During the 13 <sup>th</sup> Observation Period	\$42.500
During the 16 <sup>th</sup> Observation Period	\$53.125
During the 19 <sup>th</sup> Observation Period	\$63.750
During the 22 <sup>nd</sup> Observation Period	\$74.375
During the 25 <sup>th</sup> Observation Period	\$85.000
During the 28 <sup>th</sup> Observation Period	\$95.625
During the 31 <sup>st</sup> Observation Period	\$106.250
During the 34 <sup>th</sup> Observation Period	\$116.875
During the 37 <sup>th</sup> Observation Period	\$127.500
During the 40 <sup>th</sup> Observation Period	\$138.125
During the 43 <sup>rd</sup> Observation Period	\$148.750
During the 46 <sup>th</sup> Observation Period	\$159.375
During the 49 <sup>th</sup> Observation Period	\$170.000
During the 52 <sup>nd</sup> Observation Period	\$180.625
During the 55 <sup>th</sup> Observation Period	\$191.250
During the 58 <sup>th</sup> Observation Period	\$201.875
During the 61 <sup>st</sup> Observation Period	\$212.500
During the 63 <sup>rd</sup> Observation Period	\$219.583

The total payment on the Notes will be equal to the applicable Redemption Amount plus the total contingent coupon payments on the Notes.

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The following examples illustrate how the Redemption Amount is calculated. These examples do not include the payment of any Contingent Coupons.

Example 1— Calculation of the Redemption Amount where a Knock-In Event occurs because on a trading day during an Observation Period, the closing level of the Reference Asset is less than the Knock-In Level; the Final Level is equal to or greater than the Knock-In Level.

Lowest closing level of the Reference Asset during any Observation Period:	50% of Initial Level
Final Level:	150% of Initial Level
Percentage Change:	50%
	= \$1,000 x [1 + (Percentage Change + Buffer Percentage)]
Redemption Amount:	= \$1,000 x [1 + (50% + 20%)]
	= \$1,000 x [1 + 70%]
	= \$1,000 x 1.70
	= \$1,700.00

In this example, on a \$1,000 investment, a 50% Percentage Change results in a Redemption Amount of \$1,700.00, a 70.00% return on the Notes. In addition, you will receive contingent coupon payments for all Observation Periods occurring before the Knock-In Event.

Example 2— Calculation of the Redemption Amount where a Knock-In Event occurs because on a trading day during an Observation Period, the closing level of the Reference Asset is less than the Knock-In Level; the Final Level is equal to or greater than the Knock-In Level.

Lowest closing level of the Reference Asset during any Observation Period:	60% of Initial Level
Final Level:	90% of Initial Level
Percentage Change:	-10%
	= \$1,000 x [1 + (Percentage Change + Buffer Percentage)]
Redemption Amount:	= \$1,000 x [1 + (-10% + 20%)]
	= \$1,000 x [1 + 10%]
	= \$1,000 x 1.10
	= \$1,100.00

In this example, on a \$1,000 investment, a -10% Percentage Change results in a Redemption Amount of \$1,100.00, a 10.00% return on the Notes. In addition, you will receive contingent coupon payments for all Observation Periods occurring before the Knock-In Event.

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Example 3— Calculation of the Redemption Amount where a Knock-In Event occurs because on a trading day during an Observation Period, the closing level of the Reference Asset is less than the Knock-In Level; the Final Level is less than the Knock-In Level.

Lowest closing level of the Reference Asset during any Observation Period:	40% of Initial Level
Final Level:	50% of Initial Level
Percentage Change:	-50%
	= \$1,000 x [1 + (Percentage Change + Buffer Percentage)]
	= \$1,000 x [1 + (-50% + 20%)]
Redemption Amount:	= \$1,000 x [1 + -30%]
	= \$1,000 x 0.70
	= \$700.00

In this example, on a \$1,000 investment, a -50% Percentage Change results in a Redemption Amount of \$700.00, a -30.00% return on the Notes.

In addition, you will receive contingent coupon payments for all Observation Periods occurring before the Knock-In Event.

Example 4— Calculation of the Redemption Amount where a Knock-In Event does not occur because on every trading day during every Observation Period, the closing level of the Reference Asset is equal to or greater than the Knock-In Level; the Final Level is greater than the Initial Level.

Final Level:	120% of Initial Level
Percentage Change:	20%
Redemption Amount:	At maturity, if no Knock-In Event has occurred, the Redemption Amount will equal the principal amount.

In this example, on a \$1,000 investment, a 20% Percentage Change results in a Redemption Amount of \$1,000, a 0% return on the Notes.

In addition, because a Knock-In Event did not occur during any Observation Period, if you hold the Notes to maturity, you will receive total contingent coupon payments of \$223.125.

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Example 5— Calculation of the Redemption Amount where a Knock-In Event does not occur because on every trading day during every Observation Period, the closing level of the Reference Asset is equal to or greater than the Knock-In Level; the Final Level is less than the Initial Level.

Final Level: 90% of Initial Level

Percentage Change: -10%

Redemption Amount: At maturity, if no Knock-In Event has occurred, the Redemption Amount will equal the principal amount.

In this example, on a \$1,000 investment, a -10% Percentage Change results in a Redemption Amount of \$1,000, a 0% return on the Notes.

In addition, because a Knock-In Event did not occur during any Observation Period, if you hold the Notes to maturity, you will receive total contingent coupon payments of \$223.125.

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#### SELECTED RISK CONSIDERATIONS

An investment in the Notes involves significant risks. Investing in the Notes is not equivalent to investing directly in the Reference Asset. These risks are explained in more detail in the section “Additional Risk Factors Specific to the Notes,” beginning on page PS-4 of 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 a substantial portion of their principal amount if a Knock-In Event occurs and the level of the Reference Asset declines by more than the Buffer Percentage as of the Valuation Date. In such case, you will lose 1% of the principal amount of your Notes for each 1% that the Final Level is less than the Initial Level if the Final Level is less than 80% of the Initial Level.**

**Your Return on the Notes May Be Lower than the Return on a Conventional Debt Security of Comparable Maturity – There may or may not be contingent coupon payments on the Notes. 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 debt security of Royal Bank with guaranteed interest payments.**

**The Contingent Coupon, if Any, Is Based Solely on the Performance of the Reference Asset and When a Knock-In Event Occurs, if Any – The number of contingent coupon payments you receive over the term of the Notes, if any, will depend on the performance of the Reference Asset during the term of the Notes and when a Knock-In Event occurs, if any. If a Knock-In Event occurs during any Observation Period, you will not receive a contingent coupon payment on the immediately following Contingent Coupon Payment Date nor any subsequent Contingent Coupon Payment Date. Accordingly, if a Knock-In Event occurs during the first Observation Period, you will not receive any contingent coupon payments during the term of the Notes.**

**If a Knock-In Event Does Not Occur during Any Observation Period, the Notes Will Not Pay More Than the Principal Amount, Plus Any Unpaid Coupons at Maturity – If a Knock-In Event does not occur, the Notes will not pay more than the principal amount, plus any unpaid contingent coupons at maturity. In this case, even if the Final Level is greater than the Initial Level, you will not participate in the appreciation of the Reference Asset, which may be significant.**

**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 Royal Bank’s senior unsecured debt securities. As a result, your receipt of the amount due on the maturity date is dependent upon Royal Bank’s ability to repay its obligations at that time. This will be the case even if the level of the Reference Asset increases after the Pricing Date. No assurance can be given as to what our financial condition will be at the maturity 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 other affiliates of Royal Bank may make a market for the Notes; however, they are not required to do so. RBCCM or any other affiliate of Royal Bank 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 your Notes in any secondary market could be substantial.**

**You Will Not Have Any Rights to the Securities Included in the Reference Asset – As a holder of the Notes, you will not have voting rights or rights to receive cash dividends or other distributions or other rights that holders of securities included in the Reference Asset would have. The Final Level will not reflect any dividends paid on the securities included in the Reference Asset, and accordingly, any positive return on the Notes may be less than the potential positive return on the securities included in the Reference Asset.**

**The Initial Estimated Value of the Notes Is Less Than the Price to the Public – The initial estimated value set forth on the cover page of this pricing supplement does not represent a minimum price at which we, RBCCM or**



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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 Reference Asset, 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 your 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 your Notes to maturity.

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

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

Market Disruption Events and Adjustments – The payment at maturity and the Valuation Date are subject to adjustment as described in the product prospectus supplement. For a description of what constitutes a market disruption event as well as the consequences of that market disruption event, see “General Terms of the Notes—Market Disruption Events” in the product prospectus supplement.

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#### INFORMATION REGARDING THE REFERENCE ASSET

All disclosures contained in this pricing supplement regarding the Reference Asset, including, without limitation, its make up, method of calculation, and changes in its components, have been derived from publicly available sources. The information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“S&P”). S&P, which owns the copyright and all other rights to the Reference Asset, has no obligation to continue to publish, and may discontinue publication of, the Reference Asset. The consequences of S&P discontinuing publication of the Reference Asset are discussed in the section of the product prospectus supplement entitled “General Terms of the Notes—Unavailability of the Level of the Reference Asset on a Valuation Date.” Neither we nor RBCCM accepts any responsibility for the calculation, maintenance or publication of the Reference Asset or any successor index. The Reference Asset is intended to provide an indication of the pattern of common stock price movement. The calculation of the level of the Reference Asset 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 chooses companies for inclusion in the Reference Asset with the aim of achieving a distribution by broad industry groupings that approximates the distribution of these groupings in the common stock population of its Stock Guide Database of over 10,000 companies, which S&P uses as an assumed model for the composition of the total market. Relevant criteria employed by S&P include the viability of the particular company, the extent to which that company represents the industry group to which it is assigned, the extent to which the market price of that company’s common stock generally is responsive to changes in the affairs of the respective industry, and the market value and trading activity of the common stock of that company. S&P from time to time, in its sole discretion, may add companies to, or delete companies from, the Reference Asset to achieve the objectives stated above.

S&P calculates the Reference Asset by reference to the prices of the constituent stocks of the Reference Asset 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 Reference Asset 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 Reference Asset. 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 Reference Asset while a second listed share class line of the same company is excluded.

#### Computation of the Reference Asset

While S&P currently employs the following methodology to calculate the Reference Asset, 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 Reference Asset 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 Reference Asset halfway from a market capitalization weighted formula to a float-adjusted formula, before moving the Reference Asset to full float adjustment on September 16, 2005. S&P’s criteria for selecting stocks for the Reference Asset did not change with the shift to float adjustment. However, the adjustment affects each company’s weight in the Reference Asset.

Under float adjustment, the share counts used in calculating the Reference Asset 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 Reference Asset. 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

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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 depository 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 depository shares and Canadian exchangeable shares are normally part of the float unless those shares form a control block. If a company has multiple classes of stock outstanding, shares in an unlisted or non-traded class are treated as a control block.

For each stock, an investable weight factor (“IWF”) is calculated by dividing the available float shares by the total shares outstanding. As of September 21, 2012, 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. For companies with multiple classes of stock, S&P calculates the weighted average IWF for each stock using the proportion of the total company market capitalization of each share class as weights.

The Reference Asset is calculated using a base-weighted aggregate methodology. The level of the Reference Asset 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 Reference Asset 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 Reference Asset, it serves as a link to the original base period level of the Reference Asset. The index divisor keeps the Reference Asset comparable over time and is the manipulation point for all adjustments to the Reference Asset, 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 Reference Asset, and do not require index divisor adjustments.

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

Changes in a company’s shares outstanding of 5.00% or more due to mergers, acquisitions, public offerings, tender offers, Dutch auctions, or exchange offers are made as soon as reasonably possible. Share changes due to mergers or acquisitions of publicly held companies that trade on a major exchange are implemented when the transaction occurs even if both of the companies are not in the same headline index, and regardless of the size of the change. All other changes of 5.00% or more (due to, for example, company stock repurchases, private placements, redemptions,

exercise of options, warrants, conversion of preferred stock, notes, debt, equity participation units, at the market offerings, or other recapitalizations) are made weekly and are announced on Fridays for implementation after the close of trading on the following Friday. Changes of less than 5.00% are accumulated and made quarterly on the third Friday of March, June, September, and December, and are usually announced two to five days prior.

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If a change in a company's shares outstanding of 5.00% or more 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.

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The Notes are not sponsored, endorsed, sold or promoted by S&P Dow Jones Indices LLC, Standard & Poor's Financial Services LLC or any of their respective affiliates (collectively, "S&P Dow Jones Indices"). S&P Dow Jones Indices make no representation or warranty, express or implied, to the holders of the Notes or any member of the public regarding the advisability of investing in securities generally or in the Notes particularly or the ability of the Reference Asset to track general market performance. S&P Dow Jones Indices' only relationship to us with respect to the Reference Asset is the licensing of the Reference Asset and certain trademarks, service marks and/or trade names of S&P Dow Jones Indices and/or its third party licensors. The Reference Asset is determined, composed and calculated by S&P Dow Jones Indices without regard to us or the Notes. S&P Dow Jones Indices have no obligation to take our needs or the needs of holders of the Notes into consideration in determining, composing or calculating the Reference Asset. S&P Dow Jones Indices are not responsible for and have not participated in the determination of the prices, and amount of the Notes or the timing of the issuance or sale of the Notes or in the determination or calculation of the equation by which the Notes are to be converted into cash. S&P Dow Jones Indices have no obligation or liability in connection with the administration, marketing or trading of the Notes. There is no assurance that investment products based on the Reference Asset will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC and its subsidiaries are not investment advisors. Inclusion of a security or futures contract within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security or futures contract, nor is it considered to be investment advice. Notwithstanding the foregoing, CME Group Inc. and its affiliates may independently issue and/or sponsor financial products unrelated to the Notes currently being issued by us, but which may be similar to and competitive with the Notes. In addition, CME Group Inc. and its affiliates may trade financial products which are linked to the performance of the Reference Asset. It is possible that this trading activity will affect the value of the Notes.

S&P DOW JONES INDICES DO NOT GUARANTEE THE ADEQUACY, ACCURACY, TIMELINESS AND/OR THE COMPLETENESS OF THE REFERENCE ASSET OR ANY DATA RELATED THERETO OR ANY COMMUNICATION, INCLUDING BUT NOT LIMITED TO, ORAL OR WRITTEN COMMUNICATION (INCLUDING ELECTRONIC COMMUNICATIONS) WITH RESPECT THERETO. S&P DOW JONES INDICES SHALL NOT BE SUBJECT TO ANY DAMAGES OR LIABILITY FOR ANY ERRORS, OMISSIONS, OR DELAYS THEREIN. S&P DOW JONES INDICES MAKE NO EXPRESS OR IMPLIED WARRANTIES, AND EXPRESSLY DISCLAIMS ALL WARRANTIES, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE OR AS TO RESULTS TO BE OBTAINED BY US, HOLDERS OF THE NOTES, OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE REFERENCE ASSET OR WITH RESPECT TO ANY DATA RELATED THERETO. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT WHATSOEVER SHALL S&P DOW JONES INDICES BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS, TRADING LOSSES, LOST TIME OR GOODWILL, EVEN IF THEY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE. THERE ARE NO THIRD PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS BETWEEN S&P DOW JONES INDICES AND US, OTHER THAN THE LICENSORS OF

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Historical Information

The graph below sets forth the information relating to the historical performance of the S&P 500<sup>®</sup> Index. In addition, below the graph is a table setting forth the intra-day high, intra-day low and period-end closing levels of the S&P 500<sup>®</sup> Index. The information provided in this table is for the four calendar quarters of 2012, 2013, 2014, 2015 and 2016, the first and second calendar quarters of 2017, and the period from July 1, 2017 to August 29, 2017.

We obtained the information regarding the historical performance of the S&P 500<sup>®</sup> Index in the chart below from Bloomberg Financial Markets.

We have not independently verified the accuracy or completeness of the information obtained from Bloomberg Financial Markets. The historical performance of the S&P 500<sup>®</sup> Index should not be taken as an indication of its future performance, and no assurance can be given as to the Final Level of the S&P 500<sup>®</sup> Index. We cannot give you assurance that the performance of the S&P 500<sup>®</sup> Index will result in any positive return on your initial investment. S&P 500<sup>®</sup> Index (SPX)

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Period Start Date	Period End Date	High Intra-Day Level	Low Intra-Day Level	Period-End Closing Level
1/1/2012	3/31/2012	1,419.15	1,258.86	1,408.47
4/1/2012	6/30/2012	1,422.38	1,266.74	1,362.16
7/1/2012	9/30/2012	1,474.51	1,325.41	1,440.67
10/1/2012	12/31/2012	1,470.96	1,343.35	1,426.19
1/1/2013	3/31/2013	1,570.28	1,426.19	1,569.19
4/1/2013	6/30/2013	1,687.18	1,536.03	1,606.28
7/1/2013	9/30/2013	1,729.86	1,604.57	1,681.55
10/1/2013	12/31/2013	1,849.44	1,646.47	1,848.36
1/1/2014	3/31/2014	1,883.97	1,737.92	1,872.34
4/1/2014	6/30/2014	1,968.17	1,814.36	1,960.23
7/1/2014	9/30/2014	2,019.26	1,904.78	1,972.29
10/1/2014	12/31/2014	2,093.55	1,820.66	2,058.90
1/1/2015	3/31/2015	2,119.59	1,980.90	2,067.89
4/1/2015	6/30/2015	2,134.72	2,048.38	2,063.11
7/1/2015	9/30/2015	2,132.82	1,867.01	1,920.03
10/1/2015	12/31/2015	2,116.48	1,893.70	2,043.94
1/1/2016	3/31/2016	2,072.21	1,810.10	2,059.74
4/1/2016	6/30/2016	2,120.55	1,991.68	2,036.09
7/1/2016	9/30/2016	2,193.81	2,074.02	2,168.27
10/1/2016	12/31/2016	2,277.53	2,083.79	2,238.83
1/1/2017	3/31/2017	2,400.98	2,245.13	2,362.72
4/1/2017	6/30/2017	2,453.82	2,328.95	2,423.41
7/1/2017	8/29/2017	2,490.87	2,407.70	2,446.30

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS.

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#### SUPPLEMENTAL DISCUSSION OF U.S. FEDERAL INCOME TAX CONSEQUENCES

The following is a general description of the material U.S. 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 a 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 document and is subject to any change in law that may take effect after such date.

The following section supplements the discussion of U.S. federal income taxation in the accompanying prospectus and prospectus supplement and it supersedes the discussion of U.S. federal income taxation in the accompanying product prospectus supplement. It applies only to those holders who are not excluded from the discussion of U.S. federal income taxation in the accompanying prospectus. This discussion applies only to U.S. holders and non-U.S. holders that will purchase the Notes upon original issuance and will hold the Notes as capital assets for U.S. federal income tax purposes. In addition, the discussion below assumes that an investor in the Notes will be subject to a significant risk that it will lose a significant amount of its investment in the Notes.

You should consult your tax advisor concerning the U.S. federal income tax and other tax consequences of your investment in the Notes in your particular circumstances, including the application of state, local or other tax laws and the possible effects of changes in federal or other tax laws.

**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 TAX 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.**

We will not attempt to ascertain whether any of the entities whose stock is included in the Reference Asset would be treated as a “passive foreign investment company” within the meaning of Section 1297 of the Internal Revenue Code (the “Code”), or a “U.S. real property holding corporation,” within the meaning of Section 897 of the Code. If any of the entities whose stock is included in the Reference Asset were so treated, certain adverse U.S. federal income tax consequences could possibly apply to a holder. You should refer to any available information filed with the SEC and other authorities by the entities whose stock is included in the Reference Asset and consult your tax advisor regarding the possible consequences to you in this regard, if any.

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat a note with terms described in this document as a pre-paid cash-settled contingent income-bearing derivative contract linked to the Reference Asset 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. In addition, we intend to treat the contingent coupons as U.S. source income for U.S. federal income tax purposes. The following discussion assumes that the treatment described in this paragraph is proper and will be respected.

Although the U.S. federal income tax treatment of the contingent monthly coupon is uncertain, we intend to take the position, and the following discussion assumes, that such contingent monthly coupon (including any contingent monthly coupon paid on or with respect to the maturity date) constitutes taxable ordinary income to a U.S. holder at the time received or accrued in accordance with the holder’s regular method of tax accounting. If the Notes are so treated, a U.S. holder should generally recognize capital gain or loss upon the sale or maturity of the Notes in an amount equal to the difference between the cash amount a holder receives at such time (other than amounts properly attributable to any contingent monthly coupon, which would be taxed, as described above, as ordinary income) and the holder’s tax basis in the Notes. In general, a U.S. holder’s tax basis in the Notes will be equal to the price the holder

paid for the Notes. Capital gain recognized by an individual U.S. holder is generally taxed at preferential rates where the property is held for more than one year and is generally taxed at ordinary income rates where the property is held for one year or less. The

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ordinary income treatment of the contingent monthly coupons, in conjunction with the capital loss treatment of any loss recognized upon the sale, exchange or maturity of the Notes, could result in adverse tax consequences to a holder because the deductibility of capital losses is subject to limitations.

**Alternative Treatments.** Alternative tax treatments of the Notes are also possible and the Internal Revenue Service might assert that a treatment other than that described above is more appropriate. For example, it is possible to treat the Notes, and the Internal Revenue Service might assert that the Notes should be treated, as a single debt instrument. Because 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 would generally be required to accrue interest income over the term of the securities based upon the yield at which we would issue a non-contingent fixed-rate debt instrument with other terms and conditions similar to the Notes. In addition, any gain a holder might recognize upon the sale or maturity of the Notes would be ordinary income and any loss recognized by a holder at such time would generally be ordinary loss to the extent of interest that same holder 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 other tax consequences that are different from those described above. For example, the Internal Revenue Service could possibly assert that any gain or loss that a holder may recognize upon the sale or maturity of the Notes should be treated as ordinary gain or loss.

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 irrespective of any contingent monthly coupons. It is not possible to determine what guidance they will ultimately issue, if any. It is possible, however, that under such guidance, holders of the Notes will ultimately be required to accrue income currently irrespective of any contingent monthly coupons and this could be applied on a retroactive basis. The Internal Revenue Service and the U.S. Treasury Department are also considering other relevant issues, including whether additional gain or loss from such instruments should be treated as ordinary or capital and whether the special “constructive ownership rules” of Section 1260 of the 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.** Payments made with respect to the Notes and proceeds from the sale or exchange of the Notes may be subject to a backup withholding tax unless, in general, the holder complies with certain procedures or is an exempt recipient. Any amounts so withheld generally will be refunded by the Internal Revenue Service or allowed as a credit against the holder's U.S. federal income tax liability, provided the holder makes a timely filing of an appropriate tax return or refund claim to the Internal Revenue Service.

Reports will be made to the Internal Revenue Service and to holders that are not exempted from the reporting requirements.

**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.

While the U.S. federal income tax treatment of the Notes (including proper characterization of the contingent monthly coupons for U.S. federal income tax purposes) is uncertain, U.S. federal income tax at a 30% rate (or at a lower rate under an applicable income tax treaty) will be withheld in respect of the contingent monthly coupons paid to a non-U.S. holder unless such payments are effectively connected with the conduct by the non-U.S. holder of a trade or

business in the U.S. (in which case, to avoid withholding, the non-U.S. holder will be required to provide a Form W-8ECI). We will not pay any additional amounts in respect of such withholding. To claim benefits under an income tax treaty, a non-U.S.

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holder must obtain a taxpayer identification number and certify as to its eligibility under the appropriate treaty's limitations on benefits article, if applicable (which certification may generally be made on a Form W-8BEN or W-8BEN-E, or a substitute or successor form). In addition, special rules may apply to claims for treaty benefits made by corporate non-U.S. holders. A non-U.S. holder that is eligible for a reduced rate of U.S. federal withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the Internal Revenue Service. The availability of a lower rate of withholding or an exemption from withholding under an applicable income tax treaty will depend on the proper characterization of the contingent monthly coupons under U.S. federal income tax laws and whether such treaty rate or exemption applies to such contingent monthly coupon payments. No assurance can be provided on the proper characterization of the contingent monthly coupons for U.S. federal income tax purposes and, accordingly, no assurance can be provided on the availability of benefits under any income tax treaty. Non-U.S. holders should consult their tax advisors in this regard. Except as discussed below, a non-U.S. holder will generally not be subject to U.S. federal income or withholding tax on any gain (not including, for the avoidance of doubt, any amounts properly attributable to any contingent monthly coupon which would be subject to the rules discussed in the previous paragraph) upon the sale or maturity of the Notes, provided that (i) the holder complies with any applicable certification requirements (which certification may generally be made on a Form W-8BEN or W-8BEN-E, or a substitute or successor form), (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 U.S. for 183 days or more during the taxable year of the sale 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 may also 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 payments generally would be subject to a 30% U.S. withholding tax if paid to a non-U.S. holder. Under U.S. Treasury Department regulations, payments (including deemed payments) with respect to equity-linked instruments ("ELIs") that are "specified ELIs" may be treated as dividend equivalents if such specified ELIs reference an interest in an "underlying security," which is generally any interest in an entity taxable as a corporation for U.S. federal income tax purposes if a payment with respect to such interest could give rise to a U.S. source dividend. However, the IRS has issued guidance that states that the U.S. Treasury Department and the IRS intend to amend the effective dates of the U.S. Treasury Department regulations to provide that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2019. Based on our determination that the Notes are not delta-one instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Notes. However, it is possible that the Notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events affecting the Reference Asset or the Notes (for example, upon a Reference Asset rebalancing), and following such occurrence the Notes could be treated as subject to withholding on dividend equivalent payments. Non-U.S. holders that enter, or have entered, into other transactions in respect of the Reference Asset or the Notes should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the Notes and their other transactions. If any payments are treated as dividend equivalents subject to withholding, we (or the applicable withholding agent) would be entitled to withhold taxes without being required to pay any additional amounts with respect to amounts so withheld.

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 as to the Notes to become subject to withholding tax in addition to the withholding tax described above, we will withhold tax at the applicable statutory rate. The Internal Revenue Service has also 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 of interest (and OID), dividends, or other fixed or determinable annual or periodical gain, profits, and income, and on the gross proceeds from a disposition of property (including payments at maturity, or upon a redemption or sale) of a type which can produce U.S. source interest or dividends (“withholdable payments”), if paid to a foreign financial institution (including amounts paid to a foreign financial institution on your behalf)

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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. account holders, including certain account holders that are foreign entities with U.S. owners, with such institution 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. The legislation also generally imposes a withholding tax of 30% on withholdable payments made to a non-financial foreign entity, unless that 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.

The U.S. Treasury Department and the IRS have announced that withholding on payments of gross proceeds from a sale or redemption of the Notes will only apply to payments made after December 31, 2018. We will not pay additional amounts with respect to any FATCA withholding. Therefore, if such withholding applies, any payments on the Notes will be significantly less than what you would have otherwise received. Depending on your circumstances, these amounts withheld may be creditable or refundable to you. 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. You are urged to consult with your own tax advisor regarding the possible implications of FATCA on your investment in the Notes.

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#### SUPPLEMENTAL PLAN OF DISTRIBUTION (CONFLICTS OF INTEREST)

Delivery of the Notes will be made against payment for the Notes on September 1, 2017, which is the third (3<sup>rd</sup>) business day following the Pricing Date (this settlement cycle being referred to as “T+3”). See “Plan of Distribution” in the prospectus dated January 8, 2016. For additional information as to the relationship between us and RBCCM, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated January 8, 2016.

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 three 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 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.

#### 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 included in 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 Pricing 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.

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**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 January 8, 2016, which has been filed as Exhibit 5.1 to Royal Bank's Form 6-K filed with the SEC dated January 8, 2016.

In the opinion of Morrison & Foerster LLP, when the 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 January 8, 2016, which has been filed as Exhibit 5.2 to the Bank's Form 6-K dated January 8, 2016.

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