BANK OF MONTREAL /CAN/ Form 424B2 October 01, 2018

#### Registration Statement No. 333-217200

Filed Pursuant to Rule 424(b)(2)

Pricing Supplement dated September 27, 2018 to the Prospectus dated April 27, 2017, the Prospectus Supplement dated September 23, 2018, and the Product Supplement dated May 1, 2017

US\$1,686,000

#### Senior Medium-Term Notes, Series E

Autocallable Cash-Settled Notes with Contingent Interest Payments due January 2, 2020

#### Linked to the Lesser Performing of the EURO STOXX 50<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index,

#### the VanEck Vectors® Gold Miners ETF and the iShares® MSCI Emerging Markets ETF

This pricing supplement relates an offering of Autocallable Cash-Settled Notes with Contingent Interest Payments ·linked to the Lesser Performing of the EURO STOXX 50<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index, the VanEck Vectors<sup>®</sup> Gold Miners ETF and the iShares<sup>®</sup> MSCI Emerging Markets ETF (the "Underlying Assets").

The notes are designed for investors who are seeking conditional interest payments equal to 0.76667% (or 9.20% per annum) of the principal amount per month, as well as a return of principal if the Closing Level of **each** Underlying · Asset on any Call Date beginning on March 28, 2019 is greater than or equal to 100% of its Initial Level (the "Call Level"). Investors should be willing to have their notes automatically redeemed prior to maturity and be willing to lose some or all of their principal at maturity.

The notes will bear interest at a rate equal to 0.76667% of the principal amount per month (\$7.67 per \$1,000 in principal amount) if the value of each Underlying Asset is greater than or equal to its Coupon Barrier Level as of the ·applicable monthly Observation Date. Any interest will be payable on the 2<sup>nd</sup> day of each month or the next business day (if not a business day), beginning on November 2, 2018, until January 2, 2020, subject to the automatic redemption feature.

If on any Call Date beginning on March 28, 2019, the Closing Level of **each** Underlying Asset is greater than its Call ·Level, the notes will be automatically called. On the applicable Call Settlement Date, for each \$1,000 principal amount, investors will receive the principal amount plus the applicable interest payment.

•The notes do not guarantee any return of principal at maturity. Instead, if the notes are not automatically called, the payment at maturity will be based on the Final Level of each Underlying Asset and whether the Closing Level of any

Underlying Asset has declined from its Initial Level below its Trigger Level during the Monitoring Period (a "Trigger Event"), as described below.

If the notes are not automatically redeemed, and a Trigger Event occurs with respect to **any** Underlying Asset **and** the Final Level of **any** Underlying Asset is less than its Initial Level, investors will be subject to one-for-one loss of •the principal amount of the notes for any percentage decrease in the Lesser Performing Underlying Asset from its Initial Level to its Final Level. In such a case, you will receive a cash amount at maturity that is less than the principal amount.

The notes will not be listed on any securities exchange.

All payments on the notes are subject to the credit risk of Bank of Montreal.

The offering priced on September 27, 2018, and the notes will settle through the facilities of The Depository Trust Company on October 2, 2018.

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The notes are scheduled to mature on January 2, 2020.

The notes will be issued in minimum denominations of \$1,000 and integral multiples of \$1,000.

Our subsidiary, BMO Capital Markets Corp. ("BMOCM"), is the agent for this offering. See "Supplemental Plan of Distribution (Conflicts of Interest)" below.

The notes *will not be* subject to conversion into our common shares or the common shares of any of our affiliates under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act (the "CDIC Act").

Autocallabl Note Number	<sup>e</sup> Underlyin Assets	gTicker Symbols	Initial Levels	Coupon Barrier and Trigger Levels (% of the Initial Levels)		Principal Amount		Agent's Commission <sup>(1)</sup>	Proceeds to Bank of Montreal
ARC440	EURO STOXX 50 <sup>®</sup> Index Russell 2000 <sup>®</sup> Index VanEck	SX5E RTY GDX	3,449.79 1,690.526 \$18.34	60.00% 60.00% 60.00%	06367WCU5	5\$1,686,000	)100.00%	0.25% US\$4,215	99.75% US\$1,681,785
	Vectors® Gold Miners ETF	EEM	\$43.21	60.00%					

iShares<sup>®</sup> MSCI Emerging Markets ETF

<sup>(1)</sup> Certain dealers who purchase the notes for sale to certain fee-based advisory accounts may forego some or all of their selling concessions, fees or commissions. The public offering price for investors purchasing the notes in these accounts may be between \$997.50 and \$1,000 per \$1,000 in principal amount.

Investing in the notes involves risks, including those described in the "Selected Risk Considerations" section beginning on page P-5 of this pricing supplement, the "Additional Risk Factors Relating to the Notes" section beginning on page PS-6 of the product supplement, and the "Risk Factors" sections beginning on page S-1 of the prospectus supplement and on page 8 of the prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or passed upon the accuracy of this pricing supplement, the product supplement, the prospectus supplement or the prospectus. Any representation to the contrary is a criminal offense.

The notes will be our unsecured obligations and will not be savings accounts or deposits that are insured by the United States Federal Deposit Insurance Corporation, the Deposit Insurance Fund, the Canada Deposit Insurance Corporation or any other governmental agency or instrumentality or other entity.

On the date of this pricing supplement, based on the terms set forth above, the estimated initial value of the notes is \$969.60 per \$1,000 in principal amount. As discussed in more detail in this pricing supplement, the actual value of the notes at any time will reflect many factors and cannot be predicted with accuracy.

# **BMO CAPITAL MARKETS**

# Key Terms of the Notes:

Underlying Assets:	The EURO STOXX 50 <sup>®</sup> Index (ticker symbol: SX5E), the Russell 2000 <sup>®</sup> Index (ticker symbol: RTY), the VanEck Vectors <sup>®</sup> Gold Miners ETF (ticker symbol: GDX) and the iShares <sup>®</sup> MSCI Emerging Markets ETF (ticker symbol: EEM). See the section below entitled "The Underlying Assets" for additional information about the Underlying Assets.
Conditional Coupon:	If the Closing Level of each Underlying Asset is greater than or equal to its respective Coupon Barrier Level as of the applicable monthly Observation Date, investors will receive an interest payment for that month. Holders of the notes may not receive any interest payments during the term of the notes.
Interest Rate:	0.76667% of the principal amount per month, if payable, unless earlier redeemed. Accordingly, each interest payment, if payable, will equal \$7.67 for each \$1,000 in principal amount per month.
Observation Dates:	The third scheduled trading day prior to the applicable interest payment date. Each Observation Date is subject to postponement, as set forth in the product supplement in the section "General Terms of the Notes—Market Disruption Events."
Interest Payment Dates:	Interest, if payable, will be paid on the 2 <sup>nd</sup> day of each month or the next business day (if not a business day), beginning on November 2, 2018 until January 2, 2020, subject to the automatic redemption feature.
Automatic Redemption:	If, on any Call Date beginning on March 28, 2019, the Closing Level of <b>each</b> Underlying Asset is greater than or equal to its Call Level, the notes will be automatically redeemed.
Payment upon Automatic Redemption:	If the notes are automatically redeemed, then, on the applicable Call Settlement Date, for each \$1,000 principal amount, investors will receive the principal amount plus the applicable interest payment.
Call Dates:	The 3 <sup>rd</sup> business day prior to a Call Settlement Date, beginning on March 28, 2019. Each Call Date is subject to postponement, as set forth in the product supplement in the section "General Terms of the Notes—Market Disruption Events."
Call Settlement Dates:	The 2 <sup>nd</sup> day of each month, or the next business day (if not a business day), beginning on April 2, 2019. The Call Settlement Date for the final Call Date will be the maturity date.
Payment at Maturity:	If the notes are not automatically redeemed, the payment at maturity for the notes is based on the performance of the Underlying Assets. You will receive \$1,000 for each \$1,000 in principal amount of the note, unless (a) a Trigger Event has occurred with respect to <b>any</b> Underlying Asset <b>and</b> (b) the Final Level of <b>any</b> Underlying Asset is less than its Initial Level.
	However, holders of the notes are subject to potential loss of principal at maturity. If a Trigger Event

However, holders of the notes are subject to potential loss of principal at maturity. If a Trigger Event has occurred with respect to **any** Underlying Asset, and if the Final Level of **any** Underlying Asset is

less than its Initial Level, you will receive at maturity, for each \$1,000 in principal amount of your notes, a cash amount equal to:

\$1,000 + [\$1,000 x (Percentage Change of the Lesser Performing Underlying Asset)]

#### This amount will be less than the principal amount of your notes, and may be zero.

You will also receive the final interest payment at maturity, if payable.

A Trigger Event will be deemed to occur with respect to an Underlying Asset if its Closing Level is less than its Trigger Level on any trading day during the Monitoring Period.

Monitoring Period:	The period from the Pricing Date to and including the Valuation Date.
Lesser Performing Underlying Asset:	The Underlying Asset that has the lowest Percentage Change.
Percentage Changes:	With respect to each Underlying Asset,

Final Level - Initial Level , expressed as a percentage

Initial Levels:	3,449.79 with respect to the SX5E, 1,690.526 with respect to the RTY, \$18.34 with respect to the GDX and \$43.21 with respect to the EEM, each of which was its Closing Level on the Pricing Date. The Initial Levels for the GDX and EEM are subject to adjustments in certain circumstances. See "General Terms of the Notes — Anti-Dilution Adjustments to an Underlying Asset that Is an ETF" in the product supplement for additional information about these adjustments.
Call Levels:	With respect to each Underlying Asset, 100% of its Initial Level.
Final Levels	: With respect to each Underlying Asset, its Closing Level on the Valuation Date.
Coupon Barrier Levels:	2,069.87 with respect to the SX5E, 1,014.316 with respect to the RTY, \$11.00 with respect to the GDX and \$25.93 with respect to the EEM, each of which is 60% of its Initial Level.
Trigger Levels:	2,069.87 with respect to the SX5E, 1,014.316 with respect to the RTY, \$11.00 with respect to the GDX and \$25.93 with respect to the EEM, each of which is 60% of its Initial Level.
Pricing Date	e: September 27, 2018
Settlement Date:	October 2, 2018
Valuation Date:	December 27, 2019
Maturity Date:	January 2, 2020
Calculation Agent:	BMOCM
Selling Agent:	BMOCM

Agent:

#### **Additional Terms of the Notes**

You should read this pricing supplement together with the product supplement dated May 1, 2017, the prospectus supplement dated September 23, 2018 and the prospectus dated April 27, 2017. This pricing supplement, together with the documents listed below, contains the terms of the notes and supersedes all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours or the agent. You should carefully consider, among other things, the matters set forth in "Additional Risk Factors Relating to the Notes" in the product supplement, as the notes involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisers before you invest in the notes.

You may access these documents on the SEC website at www.sec.gov as follows (or if such address has changed, by reviewing our filings for the relevant date on the SEC website):

Product supplement dated May 1, 2017: https://www.sec.gov/Archives/edgar/data/927971/000121465917002863/p427170424b5.htm

Prospectus supplement dated September 23, 2018: https://www.sec.gov/Archives/edgar/data/927971/000119312518280416/d624491d424b5.htm

Prospectus dated April 27, 2017: https://www.sec.gov/Archives/edgar/data/927971/000119312517142728/d254784d424b2.htm

Our Central Index Key, or CIK, on the SEC website is 927971. As used in this pricing supplement, "we," "us" or "our" refers to Bank of Montreal.

Please note that references in the product supplement to the prospectus supplement will be deemed to refer to the prospectus supplement dated September 23, 2018.

#### **Selected Risk Considerations**

An investment in the notes involves significant risks. Investing in the notes is not equivalent to investing directly in the Underlying Assets or their components. These risks are explained in more detail in the "Additional Risk Factors Relating to the Notes" section of the product supplement.

**Your investment in the notes may result in a loss.** — The notes do not guarantee any return of principal. If the notes are not automatically redeemed, the payment at maturity will be based on whether a Trigger Event has occurred with respect to **any** Underlying Asset, and whether the Final Level of **any** Underlying Asset is less than its Initial Level. If a Trigger Event has occurred with respect to **any** Underlying Asset, and if the Final Level of **any** Underlying Asset is less than its Initial Level, you will be subject to a one-for-one loss of the principal amount of the notes for any Percentage Change of the Lesser Performing Underlying Asset from its Initial Level. In such a case, you will receive at maturity a cash payment that is less than the principal amount of the notes and may be zero. **Accordingly, you could lose up to the entire principal amount of your notes.** 

**You may not receive any conditional interest payments with respect to your notes.** — If the Closing Level of any Underlying Asset is less than or equal to its respective Coupon Barrier Level as of the applicable monthly Observation Date, you will not receive a monthly interest payment on the applicable interest payment date. You may not receive any interest payments during the term of the notes.

The protection provided by the Trigger Level of an Underlying Asset may terminate on any day during the Monitoring Period. — If the Closing Level of any Underlying Asset on any trading day during the Monitoring Period is less than its Trigger Level and the Final Level of any Underlying Asset is less than its Initial Level, you will be fully exposed at maturity to any decrease in the value of the Lesser Performing Underlying Asset. Under these · circumstances, if the Percentage Change of the Lesser Performing Underlying Asset on the Valuation Date is less than zero, you will lose 1% (or a fraction thereof) of the principal amount of your investment for every 1% (or a fraction thereof) that the Final Level of the Lesser Performing Underlying Asset is less than its Initial Level. You will be subject to this potential loss of principal even if, after the Trigger Event occurs with respect to any Underlying Asset, the value of each Underlying Asset increases above its Trigger Level.

**Your notes are subject to automatic early redemption.** — We will redeem the notes if the Closing Level of **each** Underlying Asset on any Call Date specified above is greater than its Call Level. Following an automatic redemption, you will not receive any additional conditional interest payments on the notes, and you may not be able to reinvest your proceeds in an investment with returns that are comparable to the notes.

•Your return on the notes is limited to the conditional interest payments, regardless of any appreciation in the value of any Underlying Asset. — You will not receive a payment at maturity with a value greater than your principal amount plus the final interest payment, if payable. In addition, if the notes are automatically called, you will not receive a payment greater than the principal amount plus the applicable conditional interest payment, even if the Final Level of an Underlying Asset exceeds its Call Level by a substantial amount. Accordingly, your maximum

return for each \$1,000 in principal amount of the notes is equal to the 15 monthly payments of \$7.67, or approximately \$115.05, a return of 11.505% over the term of the notes.

**Your investment is subject to the credit risk of Bank of Montreal.** — Our credit ratings and credit spreads may adversely affect the market value of the notes. Investors are dependent on our ability to pay all amounts due on the notes, and therefore investors are subject to our credit risk and to changes in the market's view of our creditworthiness. Any decline in our credit ratings or increase in the credit spreads charged by the market for taking our credit risk is likely to adversely affect the value of the notes.

Whether interest is payable on the notes, and your payment at maturity may be determined solely by reference to the Lesser Performing Underlying Asset, even if the other Underlying Assets perform better. — We will only make each interest payment on the notes if the Closing Level of each of the Underlying Assets on the applicable Observation Date exceeds the applicable Coupon Barrier, even if the values of the other Underlying Assets have increased significantly. Similarly, if a Trigger Event occurs with respect to any Underlying Asset and the Final Level of any Underlying Asset is less than its Initial Level, your payment at maturity will be determined by reference to the performance of the Lesser Performing Underlying Asset. Even if the other Underlying Assets have appreciated in value compared to its Initial Level, or has experienced a decline that is less than that of the Lesser Performing Underlying Asset, your return at maturity will only be determined by reference to the performance of the Lesser Performing Underlying Asset if a Trigger Event occurs.

The payments on the notes will be determined by reference to each Underlying Asset individually, not to a basket, and the payments on the notes will be based on the performance of the Lesser Performing Underlying Asset. — Whether each interest payment is payable, and the payment at maturity if a Trigger Event occurs, will be determined only by reference to the performance of the Lesser Performing Underlying Asset, regardless of the performance of the other Underlying Assets. 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 Underlying Asset would not be combined, and the depreciation of one Underlying Asset would not be mitigated by any appreciation of the other Underlying Assets. Instead, your receipt of interest payments on the notes will depend on the value of each Underlying Asset on each Observation Date, and your return at maturity will depend solely on the Final Level of the Lesser Performing Underlying Asset if a Trigger Event occurs.

**Potential conflicts.** — We and our affiliates play a variety of roles in connection with the issuance of the notes, including acting as calculation agent. In performing these duties, the economic interests of the calculation agent and other affiliates of ours are potentially adverse to your interests as an investor in the notes. We or one or more of our affiliates may also engage in trading of shares of the Underlying Assets that are ETFs or the securities represented or held by the Underlying Assets on a regular basis as part of our general broker-dealer and other businesses, for proprietary accounts, for other accounts under management or to facilitate transactions for our customers. Any of these activities could adversely affect the value of an Underlying Asset and, therefore, the market value of the notes. We or one or more of our affiliates may also issue or underwrite other securities or financial or derivative instruments with returns linked or related to changes in the performance of the Underlying Assets. By introducing competing products into the marketplace in this manner, we or one or more of our affiliates could adversely affect the market value of the notes.

**Our initial estimated value of the notes is lower than the price to public.** — Our initial estimated value of the notes is only an estimate, and is based on a number of factors. The price to public of the notes exceeds our initial estimated value, because costs associated with offering, structuring and hedging the notes are included in the price to public, but are not included in the estimated value. These costs include the underwriting discount and selling concessions, the profits that we and our affiliates expect to realize for assuming the risks in hedging our obligations under the notes and the estimated cost of hedging these obligations.

•Our initial estimated value does not represent any future value of the notes, and may also differ from the estimated value of any other party. — Our initial estimated value of the notes as of the date of this pricing supplement is derived using our internal pricing models. This value is based on market conditions and other relevant factors, which include volatility of the Underlying Assets, dividend rates and interest rates. Different pricing models and assumptions could provide values for the notes that are greater than or less than our initial estimated value. In addition, market conditions and other relevant factors after the Pricing Date are expected to change, possibly rapidly, and our assumptions may prove to be incorrect. After the Pricing Date, the value of the notes could change dramatically due to changes in market conditions, our creditworthiness, and the other factors set forth in this pricing supplement and the product supplement. These changes are likely to impact the price, if any, at which we or BMOCM would be willing to purchase the notes from you in any secondary market transactions. Our initial

estimated value does not represent a minimum price at which we or our affiliates would be willing to buy your notes in any secondary market at any time.

The terms of the notes were not determined by reference to the credit spreads for our conventional fixed-rate **debt.** — To determine the terms of the notes, we used an internal funding rate that represents a discount from the credit spreads for our conventional fixed-rate debt. As a result, the terms of the notes are less favorable to you than if we had used a higher funding rate.

**Certain costs are likely to adversely affect the value of the notes.** — Absent any changes in market conditions, any secondary market prices of the notes will likely be lower than the price to public. This is because any secondary market prices will likely take into account our then-current market credit spreads, and because any secondary market prices are likely to exclude all or a portion of the agent's commission and the hedging profits and estimated hedging costs that are included in the price to public of the notes and that may be reflected on your account statements. In addition, any such price is also likely to reflect a discount to account for costs associated with establishing or unwinding any related hedge transaction, such as dealer discounts, mark-ups and other transaction costs. As a result, the price, if any, at which BMOCM or any other party may be willing to purchase the notes from you in secondary market transactions, if at all, will likely be lower than the price to public. Any sale that you make prior to the maturity date could result in a substantial loss to you.

Owning the notes is not the same as owning the Underlying Assets or their components or a security directly linked to the performance of the Underlying Assets or their components. — The return on your notes will not reflect the return you would realize if you actually owned the Underlying Assets or their components or a security directly linked to the performance of the Underlying Assets or their components and held that investment for a • similar period. Your notes may trade quite differently from the Underlying Assets. Changes in the value of an Underlying Asset may not result in comparable changes in the market value of your notes. Even if the value of an Underlying Asset increases from its Initial Level during the term of the notes, the market value of the notes prior to maturity may not increase to the same extent. It is also possible for the market value of the notes prior to maturity to decrease while the value of an Underlying Asset increases.

You will not have any shareholder rights and will have no right to receive any securities represented by the Underlying Assets at maturity. — Investing in your notes will not make you a holder of any securities represented by the Underlying Assets. Neither you nor any other holder or owner of the notes will have any voting rights, any right to receive dividends or other distributions or any other rights with respect to these securities.

Adjustments to the Underlying Assets could adversely affect the value of the notes. STOXX Limited, the sponsor of the SX5E, FTSE Russell, the sponsor of the RTY (each, an "Index Sponsor"), VanEck Associates, the investment advisor of the GDX, and BlackRock, Inc. (collectively with its affiliates, "BlackRock"), as the sponsor and advisor of the EEM, may add, delete or substitute the stocks represented or held by the Underlying Assets, or make other methodological changes. Further, these Index Sponsors and these investment advisors may discontinue or suspend calculation or publication of these indices or discontinue or suspend maintenance of these ETFs at any time, as applicable. Any of these actions could affect the value of and the return on the notes.

•We have no affiliation with either Index Sponsor (or the underlying index for any ETF) or the sponsor or investment advisor of any ETF and will not be responsible for any actions taken by them. — The sponsors of these indices and the sponsors or investment advisors of these ETFs are not our affiliates, and will not be involved in the offering of the notes in any way. Consequently, we have no control over the actions of these sponsors or the sponsors

or investment advisors of the ETFs, including any actions of the type that would require the calculation agent to adjust the payments on the notes. None of these index sponsors or the sponsors or investment advisors of the ETFs has any obligation of any sort with respect to the notes. Thus, none of these index sponsors or the sponsors or investment advisors of the ETFs has any obligation to take your interests into consideration for any reason, including in taking any actions that might affect the value of the notes. None of our proceeds from the issuance of the notes will be delivered to either Index Sponsor or the sponsor or investment advisor of either ETF.

The performance of each ETF may not correlate with the performance of its underlying index as well as the net asset value per share of that ETF. — The performance of an ETF is linked principally to the performance of its underlying index and the net asset value per share of that ETF. However, because of the potential discrepancies identified in more detail in the product supplement, the return on an ETF may correlate imperfectly with the return on its underlying index or its net asset value per share.

**The ETFs are subject to management risks.** — The ETFs are subject to management risk, which is the risk that the investment advisor's investment strategy, the implementation of which is subject to a number of constraints, may not produce the intended results. For example, the investment advisor may invest a portion of an ETF's assets in securities not included in the relevant industry or sector but which the investment advisor believes will help that ETF track the relevant industry or sector.

Lack of liquidity. — The notes will not be listed on any securities exchange. BMOCM may offer to purchase the notes in the secondary market, but is not required to do so. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the notes easily. Because other dealers are not likely to make a secondary market for the notes, the price at which you may be able to trade the notes is likely to depend on the price, if any, at which BMOCM is willing to buy the notes.

**Hedging and trading activities.** — We or any of our affiliates may have carried out or may carry out hedging activities related to the notes, including purchasing or selling securities included in an Underlying Asset, or futures or options relating to an Underlying Asset, or other derivative instruments with returns linked or related to changes in the performance of an Underlying Asset. We or our affiliates may also engage in trading relating to an Underlying Asset from time to time. Any of these hedging or trading activities on or prior to the Pricing Date and during the term of the notes could adversely affect our payment to you at maturity.

Many economic and market factors will influence the value of the notes. — In addition to the value of each Underlying Asset and interest rates on any trading day, the value of the notes will be affected by a number of economic and market factors that may either offset or magnify each other, and which are described in more detail in the product supplement.

**You must rely on your own evaluation of the merits of an investment linked to the Underlying Assets.** — In the ordinary course of their businesses, our affiliates from time to time may express views on expected movements in the values of the Underlying Assets or the securities represented or held by the Underlying Assets. One or more of our affiliates have published, and in the future may publish, research reports that express views on the Underlying Assets or these securities. However, these views are subject to change from time to time. Moreover, other professionals who deal in the markets relating to the Underlying Assets at any time may have significantly different views from those of our affiliates. You are encouraged to derive information concerning the Underlying Assets from multiple sources, and you should not rely on the views expressed by our affiliates.

Neither the offering of the notes nor any views which our affiliates from time to time may express in the ordinary course of their businesses constitutes a recommendation as to the merits of an investment in the notes.

#### An investment in the notes is subject to risks associated in investing in stocks with a small market

**capitalization.** — The RTY consists of stocks issued by companies with relatively small market capitalizations. These companies often have greater stock price volatility, lower trading volume and less liquidity than large-capitalization companies. As a result, the level of the RTY may be more volatile than that of a market measure that does not track solely small-capitalization stocks. Stock prices of small-capitalization companies are also generally more vulnerable

than those of large-capitalization companies to adverse business and economic developments, and the stocks of small-capitalization companies may be thinly traded, and be less attractive to many investors if they do not pay dividends. In addition, small capitalization companies are typically less well-established and less stable financially than large-capitalization companies and may depend on a small number of key personnel, making them more vulnerable to loss of those individuals. Small capitalization companies tend to have lower revenues, less diverse product lines, smaller shares of their target markets, fewer financial resources and fewer competitive strengths than large-capitalization companies. These companies may also be more susceptible to adverse developments related to their products or services.

An investment in the notes linked to the EURO STOXX 50<sup>®</sup> Index, the iShares<sup>®</sup> MSCI Emerging Markets ETF and the VanEck Vectors<sup>®</sup> Gold Miners ETF is subject to risks associated with foreign securities markets. — The SX5E, the MSCI Emerging Markets Index (the underlying index of the EEM), and the NYSE Arca Gold Miners Index (the underlying index of the GDX), track the value of certain foreign equity securities. You should be aware that investments in securities linked to the value of foreign equity securities involve particular risks. The foreign securities markets comprising these Underlying Assets may have less liquidity and may be more volatile than U.S. or other securities markets and market developments may affect foreign markets differently from U.S. or other securities markets and market developments may affect trading prices and volumes in these markets. Also, there is generally less publicly available information about foreign companies than about those U.S. companies that are subject to the reporting requirements of the U.S. Securities and Exchange Commission, and foreign companies are subject to accounting, auditing and financial reporting standards and requirements that differ from those applicable to U.S. reporting companies.

Prices of securities in foreign countries are subject to political, economic, financial and social factors that apply in those geographical regions. These factors, which could negatively affect those securities markets, include the possibility of recent or future changes in a foreign government's economic and fiscal policies, the possible imposition of, or changes in, currency exchange laws or other laws or restrictions applicable to foreign companies or investments in foreign equity securities and the possibility of fluctuations in the rate of exchange between currencies, the possibility of outbreaks of hostility and political instability and the possibility of natural disaster or adverse public health developments in the region. Moreover, foreign economies may differ favorably or unfavorably from the U.S. economy in important respects such as growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency.

An investment in the notes linked to the iShares<sup>®</sup> MSCI Emerging Markets ETF and the VanEck Vectors<sup>®</sup> Gold Miners ETF is subject to foreign currency exchange rate risk. — The share prices of the EEM and the GDX will fluctuate based upon its net asset value, which will in turn depend in part upon changes in the value of the currencies in which the stocks held by the EEM and the GDX are traded. Accordingly, investors in the notes will be exposed to currency exchange rate risk with respect to each of the currencies in which the stocks held by the EEM and the GDX are traded. An investor's net exposure will depend on the extent to which these currencies strengthen or weaken against the U.S. dollar. If the dollar strengthens against these currencies, the net asset value of the EEM and the GDX will be adversely affected and the prices of the EEM and the GDX may decrease.

The holdings of the VanEck Vectors<sup>®</sup> Gold Miners ETF are concentrated in the gold and silver mining industries. — All or substantially all of the equity securities held by the GDX are issued by gold or silver mining companies. An investment in the notes will be exposed to risks in the gold and silver mining industries. As a result of being linked to a single industry or sector, the notes may have increased volatility as the share price of the GDX may be more susceptible to adverse factors that affect that industry or sector. Competitive pressures may have a significant effect on the financial condition of companies in these industries.

In addition, these companies are highly dependent on the price of gold or silver, as applicable. These prices fluctuate widely and may be affected by numerous factors. Factors affecting gold prices include economic factors, including, among other things, the structure of and confidence in the global monetary system, expectations of the future rate of

inflation, the relative strength of, and confidence in, the U.S. dollar (the currency in which the price of gold is generally quoted), interest rates and gold borrowing and lending rates, and global or regional economic, financial, political, regulatory, judicial or other events. Gold prices may also be affected by industry factors such as industrial and jewelry demand, lending, sales and purchases of gold by the official sector, including central banks and other governmental agencies and multilateral institutions which hold gold, levels of gold production and production costs, and short-term changes in supply and demand because of trading activities in the gold market. Factors affecting silver prices include general economic trends, technical developments, substitution issues and regulation, as well as specific factors including industrial and jewelry demand, expectations with respect to the rate of inflation, the relative strength of the U.S. dollar (the currency in which the price of silver is generally quoted) and other currencies, interest rates, central bank sales, forward sales by producers, global or regional political or economic events, and production costs and disruptions in major silver producing countries such as Mexico and Peru. The supply of silver consists of a combination of new mine production and existing stocks of bullion and fabricated silver held by governments, public and private financial institutions, industrial organizations and private individuals. In addition, the price of silver has on occasion been subject to very rapid short-term changes due to speculative activities. From time to time, above-ground inventories of silver may also influence the market.

**Relationship to gold and silver bullion.** — The GDX invests in shares of gold and silver mining companies, but not in ·gold bullion or silver bullion. The GDX may under- or over-perform gold bullion and/or silver bullion over the term of the notes.

**Significant aspects of the tax treatment of the notes are uncertain.** — The tax treatment of the notes is uncertain. We do not plan to request a ruling from the Internal Revenue Service or from any Canadian authorities regarding the tax treatment of the notes, and the Internal Revenue Service or a court may not agree with the tax treatment described in this pricing supplement.

The Internal Revenue Service has released a notice that may affect the taxation of holders of "prepaid forward contracts" and similar instruments. According to the notice, the Internal Revenue Service and the U.S. Treasury are actively considering whether the holder of such instruments should be required to accrue ordinary income on a current basis. While it is not clear whether the notes would be viewed as similar to such instruments, it is possible that any future guidance could materially and adversely affect the tax consequences of an investment in the notes, possibly with retroactive effect.

Please read carefully the section entitled "Supplemental U.S. Federal Income Tax Considerations" in this pricing supplement, the section entitled "United States Federal Income Taxation" in the accompanying prospectus and the section entitled "Certain Income Tax Consequences" in the accompanying prospectus supplement. You should consult your tax advisor about your own tax situation.

#### Examples of the Hypothetical Payment at Maturity for a \$1,000 Investment in the Notes

The following table illustrates the hypothetical payments on a note at maturity, assuming that the notes are not automatically called. The hypothetical payments are based on a \$1,000 investment in the note, a hypothetical Initial Level of 100.00 for each Underlying Asset, a hypothetical Trigger Level of 60.00 for each Underlying Asset (60% of its hypothetical Initial Level), a hypothetical Call Level of 100 for each Underlying Asset (100% of its hypothetical Final Levels of the Lesser Performing Underlying Asset and the effect on the payment at maturity if (i) a Trigger Event occurs with respect to **any** Underlying Asset or (ii) if a Trigger Event does not occur with respect to **each** Underlying Asset.

The hypothetical examples shown below are intended to help you understand the terms of the notes. If the notes are not automatically called, the actual cash amount that you will receive at maturity will depend upon whether the Closing Level of **any** Underlying Asset is below its Trigger Level on any trading day during the Monitoring Period and whether the Final Level of **any** Underlying Asset is below its Initial Level on the Valuation Date. If the notes are automatically called prior to maturity, the hypothetical examples below will not be relevant, and you will receive on the applicable Call Settlement Date, for each \$1,000 principal amount, the principal amount plus the applicable interest payment, if payable.

Your total return on the notes will also depend on the number of monthly periods in which interest is payable, as set forth above.

Hypothetical Final Level of the Lesser Performing Underlying Asset	Hypothetical Final Level of the Lesser Performing Underlying Asset Expressed as a Percentage of the Initial Level	(i) if the Closing Level of each Underlying Asset does not fall below its Trigger Level on any day during the Monitoring Period	any
150.00	150.000	¢1,000,00	
150.00	150.00%	\$1,000.00	\$1,000.00
125.00	125.00%	\$1,000.00	\$1,000.00

# Payment at Maturity (Excluding Any Conditional Interest Payment)

110.00	110.00%	\$1,000.00	\$1,000.00
100.00	100.00%	\$1,000.00	\$1,000.00
90.00	90.00%	\$1,000.00	\$900.00
80.00	80.00%	\$1,000.00	\$800.00
70.00	70.00%	\$1,000.00	\$700.00
60.00	60.00%	\$1,000.00	\$600.00
50.00	50.00%	N/A	\$500.00
25.00	25.00%	N/A	\$250.00
0.00	0.00%	N/A	\$0.00

#### Supplemental U.S. Federal Income Tax Considerations

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

The following section supplements the discussion of U.S. federal income taxation in the accompanying prospectus and prospectus supplement with respect to United States holders (as defined in the accompanying prospectus). It applies only to those holders who are not excluded from the discussion of U.S. federal income taxation in the accompanying prospectus. It does not apply to holders subject to special rules including holders subject to Section 451(b) of the Code. In addition, the discussion below assumes 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. Bank of Montreal intends to treat conditional interest payments with respect to the notes as U.S. source income for U.S. federal income tax purposes.

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 Underlying Asset, the issuer of any of the component stocks included in an Underlying Asset or any of the entities whose stock is owned by any Underlying Asset that is an exchange traded fund would be treated as a "passive foreign investment company" within the meaning of Section 1297 of the Code or a "U.S. real property holding corporation" within the meaning of Section 897 of the Code. If any Underlying Asset, the issuer of any of the component stocks included in an Underlying Asset or any of the entities whose stock is owned by any Underlying Asset that is an exchange traded fund were so treated, certain adverse U.S. federal income tax consequences could possibly apply. You should refer to any available information filed with the SEC by the issuer of any Underlying Asset, any of the component stocks included in an Underlying Asset or any of the entities whose stock is owned by

is owned by any Underlying Asset that is an exchange traded fund and consult your tax advisor regarding the possible consequences to you in this regard.

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat a note with terms described in this pricing supplement as a pre-paid cash-settled contingent income-bearing derivative contract in respect of the Underlying Assets 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. Although the U.S. federal income tax treatment of the conditional interest payments is uncertain, we intend to take the position, and the following discussion assumes, that such conditional interest payments (including any interest payment on or with respect to the maturity date) constitute taxable ordinary income to a United States holder at the time received or accrued in accordance with the holder's regular method of accounting. If the notes are treated as described above, it would be reasonable for a United States holder to take the position that it will recognize capital gain or loss upon the sale or maturity of the notes in an amount equal to the difference between the amount a United States holder receives at such time (other than amounts properly attributable to any interest payments, which would be treated, as described above, as ordinary income) and the United States holder's tax basis in the notes. In general, a United States 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 United States holder is generally taxed at ordinary income rates where the property is held for one year or less. The deductibility of capital losses is subject to limitations.

#### **Alternative 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 would be possible to treat the notes, and the Internal Revenue Service might assert that the notes should be treated, as a single debt instrument. If the notes are so treated, a United States holder would generally be required to accrue interest currently over the term of the notes irrespective of the conditional interest payments, if any, paid on the notes. In addition, any gain a United States 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 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.

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 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 interest payments, and they sought taxpayer comments on the subject. It is not possible to determine what guidance they will ultimately issue, if any. It is possible, however, that under such guidance, holders of the notes will ultimately be required to accrue income currently and this could be applied on a retroactive basis. The Internal Revenue Service and the Treasury Department are also considering other relevant issues, including whether additional gain or loss from such instruments should be treated as ordinary or capital and whether the special "constructive ownership rules" of Section 1260 of the Code might be applied to such instruments. Holders are urged to consult their tax advisors concerning the significance, and the potential impact, of the above considerations. We intend to treat the notes for U.S. federal income tax purposes in accordance with the treatment described in this pricing supplement unless and until such time as the Treasury Department and Internal Revenue Service determine that some other treatment is more appropriate.

#### **Backup Withholding and Information Reporting**

Please see the discussion under "United States Federal Income Taxation—Other Considerations—Backup Withholding and Information Reporting" in the accompanying prospectus for a description of the applicability of the backup withholding and information reporting rules to payments made on your notes.

The following discussion applies to non-United States holders of the notes. A non-United States 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 conditional interest payments 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 conditional interest payments paid to a non-United States holder unless such payments are effectively connected with the conduct by the non-United States holder of a trade or business in the U.S. (in which case, to avoid withholding, the non-United States 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-United States 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-United States holders. A non-United States 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 conditional interest payments under U.S. federal income tax laws and whether such treaty rate or exemption applies to such payments. No assurance can be provided on the proper characterization of the conditional interest payments 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-United States holders must consult their tax advisors in this regard.

Except as discussed below, a non-United States 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 interest 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 United States 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-United States 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.

A "dividend equivalent" payment is treated as a dividend from sources within the U.S. and such payments generally would be subject to a 30% U.S. withholding tax if paid to a non-United States 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, Internal Revenue Service guidance provides that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2021. Based on our determination that the notes are not "delta-one" instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the notes. However, it is possible that the notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events affecting the Underlying Assets or the notes, and following such occurrence the notes could be treated as delta-one specified ELIs that are subject to withholding on dividend equivalent payments. Non-United States holders that enter, or have entered, into other transactions in respect of the Underlying Assets 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 paying 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. Prospective investors should consult their own tax advisors in this regard.

The Foreign Account Tax Compliance Act imposes a 30% U.S. withholding tax on certain U.S. source payments, including interest (and OID), dividends, other fixed or determinable annual or periodical gain, profits, and income, and on the gross proceeds from a disposition of property 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 behalf of a holder), unless such institution enters into an agreement with the Treasury Department to collect and provide to the Treasury Department substantial information regarding U.S. account holders, including certain account holders that are foreign entities with U.S. owners, with such institution. A note may constitute an account for these purposes. The legislation also generally imposes a withholding tax of 30% on Withholdable Payments made to a non-financial foreign entity unless such entity provides the withholding agent with a certification that it does not have any substantial U.S. owners or a certification identifying the direct and indirect substantial U.S. owners of the entity.

The U.S. Treasury Department and the Internal Revenue Service 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. If we determine withholding is appropriate with respect to the notes, we will withhold tax at the applicable statutory rate, and we will not pay any additional amounts in respect of such withholding. Account holders subject to information reporting requirements pursuant to the Foreign Account Tax Compliance Act may include holders of the notes. Foreign financial institutions and non-financial foreign entities located in jurisdictions that have an intergovernmental agreement with the United States governing the Foreign Account Tax Compliance Act may be subject to different rules. Holders are urged to consult with their own tax advisors regarding the possible implications of this legislation on their investment in the notes.

# Supplemental Plan of Distribution (Conflicts of Interest)

BMOCM will purchase the notes from us at a purchase price reflecting the commission set forth on the cover page of this pricing supplement. BMOCM has informed us that, as part of its distribution of the notes, it will reoffer the notes to other dealers who will sell them. Each such dealer, or each additional dealer engaged by a dealer to whom BMOCM reoffers the notes, will receive a commission from BMOCM, which will not exceed the commission set forth on the cover page.

Certain dealers who purchase the notes for sale to certain fee-based advisory accounts may forego some or all of their selling concessions, fees or commissions. The public offering price for investors purchasing the notes in these accounts may be less than 100% of the principal amount, as set forth on the cover page of this document. Investors that hold their notes in these accounts may be charged fees by the investment advisor or manager of that account based on the amount of assets held in those accounts, including the notes.

We will deliver the notes on a date that is greater than two business days following the Pricing Date. Under Rule 15c6-1 of the Securities Exchange Act of 1934, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the notes more than two business days prior to the settlement date will be required to specify alternative settlement arrangements to prevent a failed settlement.

We own, directly or indirectly, all of the outstanding equity securities of BMOCM, the agent for this offering. In accordance with FINRA Rule 5121, BMOCM may not make sales in this offering to any of its discretionary accounts without the prior written approval of the customer.

You should not construe the offering of the notes as a recommendation of the merits of acquiring an investment linked to any Underlying Asset or as to the suitability of an investment in the notes.

BMOCM may, but is not obligated to, make a market in the notes. BMOCM will determine any secondary market prices that it is prepared to offer in its sole discretion.

We may use this pricing supplement in the initial sale of the notes. In addition, BMOCM or another of our affiliates may use this pricing supplement in market-making transactions in any notes after their initial sale. Unless BMOCM or we inform you otherwise in the confirmation of sale, this pricing supplement is being used by BMOCM in a market-making transaction.

For a period of approximately three months following issuance of the notes, the price, if any, at which we or our affiliates would be willing to buy the notes from investors, and the value that BMOCM may also publish for the notes through one or more financial information vendors and which could be indicated for the notes on any brokerage account statements, will reflect a temporary upward adjustment from our estimated value of the notes that would otherwise be determined and applicable at that time. This temporary upward adjustment represents a portion of (a) the hedging profit that we or our affiliates expect to realize over the term of the notes and (b) the underwriting discount and the selling concessions paid in connection with this offering. The amount of this temporary upward adjustment will decline to zero on a straight-line basis over the three-month period.

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

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Contingent Coupon Barrier Notes Royal Bank of Canada

Index Maintenance

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

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

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

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#### License Agreement

S&P<sup>®</sup> is a registered trademark of Standard & Poor's Financial Services LLC ("S&P") and Dow Jones is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks have been licensed for use by S&P Dow Jones Indices LLC. "Standard & Poor®", "S&P 500 and "S&P are trademarks of S&P. These trademarks have been sublicensed for certain purposes by us. The SPX is a product of S&P Dow Jones Indices LLC and/or its affiliates and has been licensed for use by us.

The Notes are not sponsored, endorsed, sold or promoted by S&P Dow Jones Indices LLC, Dow Jones, S&P 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 SPX to track general market performance. S&P Dow Jones Indices' only relationship to us with respect to the SPX is the licensing of the SPX and certain trademarks, service marks and/or trade names of S&P Dow Jones Indices and/or its third party licensors. The SPX 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 SPX. 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 SPX 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 SPX. It is possible that this trading activity will affect the value of the Notes.

S&P DOW JONES INDICES DO NOT GUARANTEE THE ADEOUACY, ACCURACY, TIMELINESS AND/OR THE COMPLETENESS OF THE SPX 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 SPX 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 S&P DOW JONES INDICES.

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#### Russell 2000® Index ("RTY")

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

#### Selection of Stocks Underlying the RTY

All companies eligible for inclusion in the RTY must be classified as a U.S. company under FTSE Russell's country-assignment methodology. If a company is incorporated, has a stated headquarters location, and trades in the same country (American Depositary Receipts and American Depositary Shares are not eligible), then the company is assigned to its country of incorporation. If any of the three factors are not the same, FTSE Russell defines three Home Country Indicators ("HCIs"): country of incorporation, country of headquarters, and country of the most liquid exchange (as defined by a two-year average daily dollar trading volume) ("ADDTV") from all exchanges within a country. Using the HCIs, FTSE Russell compares the primary location of the company's assets with the three HCIs. If the primary location of its assets matches any of the HCIs, then the company is assigned to the primary location of its assets. If there is insufficient information to determine the country in which the company's assets are primarily located, FTSE Russell will use the primary country from which the company's revenues are primarily derived for the comparison with the three HCIs in a similar manner. FTSE Russell uses the average of two years of assets or revenues data to reduce potential turnover. If conclusive country details cannot be derived from assets or revenues data, FTSE Russell will assign the company to the country of its headquarters, which is defined as the address of the company's principal executive offices, unless that country is a Benefit Driven Incorporation "BDI" country, in which case the company will be assigned to the country of its most liquid stock exchange. BDI countries include: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Channel Islands, Cook Islands, Curacao, Faroe Islands, Gibraltar, Guernsey, Isle of Man, Jersey, Liberia, Marshall Islands, Panama, Saba, Sint Eustatius, Sint Maarten, and Turks and Caicos Islands. For any companies incorporated or headquartered in a U.S. territory, including countries such as Puerto Rico, Guam, and U.S. Virgin Islands, a U.S. HCI is assigned. All securities eligible for inclusion in the RTY must trade on a major U.S. exchange. Stocks must have a closing price at or above \$1.00 on their primary exchange on the last trading day in May to be eligible for inclusion during annual reconstitution. However, in order to reduce unnecessary turnover, if an existing member's closing price is less than \$1.00 on the last day of May, it will be considered eligible if the average of the daily closing prices (from its primary exchange) during the month of May is equal to or greater than \$1.00. Initial public offerings are added each quarter and must have a closing price at or above \$1.00 on the last day of their eligibility period in order to qualify for index inclusion. If an existing stock does not trade on the "rank day" (typically the last trading day in May, but a confirmed timetable is

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announced each spring), but does have a closing price at or above \$1.00 on another eligible U.S. exchange, that stock will be eligible for inclusion.

An important criterion used to determine the list of securities eligible for the RTY is total market capitalization, which is defined as the market price as of the rank day in May for those securities being considered at annual reconstitution times the total number of shares outstanding. Where applicable, common stock, non-restricted exchangeable shares and partnership units/membership interests are used to determine market capitalization. Any other form of shares such as preferred stock, convertible preferred stock, redeemable shares, participating preferred stock, warrants, rights, installment receipts or trust receipts, are excluded from the calculation. If multiple share classes of common stock exist, they are combined to determine total shares outstanding. In cases where the common stock share classes act independently of each other (e.g., tracking stocks), each class is considered for inclusion separately. If multiple share classes exist, the pricing vehicle will be designated as the share class with the highest two-year trading volume as of the rank day in May.

Companies with a total market capitalization of less than \$30 million are not eligible for the RTY. Similarly, companies with only 5% or less of their shares available in the marketplace are not eligible for the RTY. Royalty trusts, limited liability companies, closed-end investment companies (companies that are required to report Acquired Fund Fees and Expenses, as defined by the SEC, including business development companies), blank check companies, special purpose acquisition companies, and limited partnerships are also ineligible for inclusion. Exchange traded funds and mutual funds are also excluded. Bulletin board, pink sheets, and over-the-counter ("OTC") traded securities are not eligible for inclusion.

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

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

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

FTSE Russell does not guarantee the accuracy and/or the completeness of the RTY or any data included in the RTY and has no liability for any errors, omissions, or interruptions in the RTY. FTSE Russell makes no warranty, express or implied, as to results to be obtained by the calculation agent, holders of the Notes, or any other person or entity from the use of the RTY or any data included in the RTY in connection with the rights licensed under the license agreement described in this document or for any other use. FTSE Russell makes no express or implied warranties, and hereby expressly disclaims all

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warranties of merchantability or fitness for a particular purpose with respect to the RTY or any data included in the RTY. Without limiting any of the above information, in no event will FTSE Russell have any liability for any special, punitive, indirect or consequential damages, including lost profits, even if notified of the possibility of these damages. The Notes are not sponsored, endorsed, sold or promoted by FTSE Russell. FTSE Russell makes no representation or warranty, express or implied, to the owners of the 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 RTY to track general stock market performance or a segment of the same. FTSE Russell's publication of the RTY in no way suggests or implies an opinion by FTSE Russell as to the advisability of investment in any or all of the stocks upon which the RTY is based. FTSE Russell and of the RTY, which is determined, composed and calculated by FTSE Russell without regard to Royal Bank or the Notes. FTSE Russell is not responsible for and has not reviewed the Notes nor any associated literature or publications and FTSE Russell makes no representation or warranty express or implied as to their accuracy or completeness, or otherwise. FTSE Russell reserves the right, at any time and without notice, to alter, amend, terminate or in any way change the RTY. FTSE Russell has no obligation or liability in connection with the administration, marketing or trading of the Notes.

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

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# HISTORICAL INFORMATION

Each graph below sets forth the information relating to the historical performance of the applicable Reference Index. In addition, below each graph is a table setting forth the intra-day high, intra-day low and period-end closing levels of each of the Reference Indices. The information provided in these tables is for the four calendar quarters of 2008 through 2017, and the period from January 1, 2018 through October 29, 2018.

We obtained the information regarding the historical performance of the Reference Indices in the charts below from Bloomberg Financial Markets.

We have not independently investigated the accuracy or completeness of the information obtained from Bloomberg Financial Markets. The historical performance of the Reference Indices should not be taken as an indication of their future performance, and no assurance can be given as to the Final Level of any Reference Index. We cannot give you assurance that the performance of any of the Reference Indices will not result in the loss of all or a portion of your investment in the Notes.

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Historical Information (SPX)

Below is a table setting forth the intra-day high, intra-day low and period-end closing levels of this Reference Index. The information provided in the table is for the period from January 1, 2008 through October 29, 2018. Period-End High Intra-Day Level of Low Intra-Day Level of this Period-End Closing Level Periodthis Reference Index Start Date Date Reference Index of this Reference Index 1.256.98 1.322.70 1/1/2008 3/31/2008 1,471.77 4/1/2008 6/30/2008 1,440.24 1,272.00 1,280.00 7/1/2008 9/30/2008 1,313.15 1,106.39 1,166.36 10/1/2008 12/31/2008 1,167.03 741.02 890.64 666.79 1/1/2009 3/31/2009 943.85 797.87 4/1/2009 6/30/2009 956.23 783.32 919.32 7/1/2009 9/30/2009 1,080.15 869.32 1,057.08 10/1/2009 12/31/2009 1,130.38 1,019.95 1,126.20 1/1/2010 3/31/2010 1,180.69 1,044.50 1,169.43 4/1/2010 6/30/2010 1,219.80 1,028.33 1,030.71 7/1/2010 9/30/2010 1,157.16 1,010.91 1,141.20 10/1/2010 12/31/2010 1.262.60 1,131.87 1,257.88 1/1/2011 3/31/2011 1,344.07 1,249.05 1,325.83 4/1/2011 6/30/2011 1,370.58 1,258.07 1,320.64 7/1/2011 9/30/2011 1,356.48 1,101.54 1,131.42 10/1/2011 12/31/2011 1,292.66 1,074.77 1,257.61 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 1,814.36 4/1/2014 6/30/2014 1,968.17 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 2,098.86 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 9/30/2017 2,519.44 2,407.70 2,519.36 10/1/2017 12/31/2017 2,694.97 2,520.40 2,673.61 1/1/2018 3/31/2018 2,872.87 2,532.69 2,640.87

4/1/2018	6/30/2018	2,791.47	2,553.80	2,718.37	
7/1/2018	9/28/2018	2,940.91	2,698.95	2,913.98	
10/1/2018	10/29/2018	2,939.86	2,628.16	2,641.25	
PAST PER	RFORMANC	CE IS NOT INDICATIVE	E OF FUTURE RESULTS.		
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The graph below illustrates the performance of this Reference Index from January 1, 2008 to October 29, 2018, reflecting its Initial Level of 2,641.25. The red line represents the Trigger Level of 1,848.88, which is equal to 70.00% of its Initial Level (rounded to two decimal places).

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Historical Information (RTY)

Below is a table setting forth the intra-day high, intra-day low and period-end closing levels of this Reference Index. The information provided in the table is for the period from January 1, 2008 through October 29, 2018. Period-End High Intra-Day Level of Low Intra-Day Level of this Period-End Closing Level Periodthis Reference Index Start Date Date Reference Index of this Reference Index 768.460 643.280 687.967 1/1/2008 3/31/2008 4/1/2008 6/30/2008 763.270 684.880 689.659 7/1/2008 9/30/2008 764.380 647.370 679.583 10/1/2008 12/31/2008 679.570 371.260 482.770 1/1/2009 3/31/2009 519.180 342.570 422.748 4/1/2009 6/30/2009 535.850 412.770 508.282 7/1/2009 9/30/2009 625.310 473.540 604.278 10/1/2009 12/31/2009 635.990 553.320 633.178 1/1/2010 3/31/2010 693.320 580.490 678.643 4/1/2010 6/30/2010 745.950 607.300 609.486 7/1/2010 9/30/2010 678.900 587.600 676.139 10/1/2010 12/31/2010 793.280 669.430 789.737 1/1/2011 3/31/2011 843.730 771.710 843.548 4/1/2011 6/30/2011 868.570 772.620 827.429 7/1/2011 9/30/2011 860.370 634.710 644.156 10/1/2011 12/31/2011 769.460 601.710 740.916 1/1/2012 3/31/2012 847.920 736.780 830.301 4/1/2012 6/30/2012 841.060 729.750 798.487 7/1/2012 9/30/2012 868.500 765.050 837.450 10/1/2012 12/31/2012 853.570 763.550 849.350 1/1/2013 3/31/2013 954.000 849.330 951.542 4/1/2013 6/30/2013 1,008.230 898.400 977.475 7/1/2013 9/30/2013 1,082.000 981.300 1,073.786 10/1/2013 12/31/2013 1,167.960 1,037.860 1,163.637 1/1/2014 3/31/2014 1,212.823 1,082.717 1,173.038 4/1/2014 6/30/2014 1,193.964 1,082.531 1,192.964 7/1/2014 9/30/2014 1,213.550 1,101.675 1,101.676 10/1/2014 12/31/2014 1,221.442 1,040.472 1,204.696 1/1/2015 3/31/2015 1,268.162 1,151.295 1,252.772 4/1/2015 6/30/2015 1,295.996 1,211.126 1,253.947 7/1/2015 9/30/2015 1,275.899 1,078.633 1,100.688 10/1/2015 12/31/2015 1,205.079 1,080.606 1,135.889 1/1/2016 3/31/2016 1,134.078 943.097 1,114.028 4/1/2016 6/30/2016 1,190.172 1,085.883 1,151.923 7/1/2016 9/30/2016 1,263.460 1,251.646 1,131.713 10/1/2016 12/31/2016 1,392.714 1,156.085 1,357.130 1/1/2017 3/31/2017 1,414.824 1,335.038 1.385.920 4/1/2017 6/30/2017 1,433.790 1,345.244 1,415.359 7/1/2017 9/30/2017 1,493.555 1,349.354 1,490.861 10/1/2017 12/31/2017 1,559.607 1,454.165 1,535.511 1/1/2018 3/31/2018 1,615.517 1,436.427 1,529.427

4/1/2018 6/30/201	8 1,708.098	1,482.897	1,643.069		
7/1/2018 9/28/201	8 1,742.089	1,631.056	1,696.571		
10/1/2018 10/29/20	018 1,703.809	1,459.164	1,477.306		
PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS.					

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The graph below illustrates the performance of this Reference Index from January 1, 2008 to October 29, 2018, reflecting its Initial Level of 1,477.306. The red line represents the Trigger Level of 1,034.114, which is equal to 70.00% of its Initial Level (rounded to three decimal places).

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# SUPPLEMENTAL DISCUSSION OF

#### U.S. FEDERAL INCOME TAX CONSEQUENCES

The following disclosure supplements, and to the extent inconsistent supersedes, the discussion in the product prospectus supplement dated September 10, 2018 under "Supplemental Discussion of U.S. Federal Income Tax Consequences."

Under Section 871(m) of the Code, a "dividend equivalent" payment is treated as a dividend from sources within the United States. Such payments generally would be subject to a 30% U.S. withholding tax if paid to a non-U.S. holder. Under U.S. Treasury Department regulations, payments (including deemed payments) with respect to equity-linked instruments ("ELIs") that are "specified ELIs" may be treated as dividend equivalents if such specified ELIs reference an interest in an "underlying security," which is generally any interest in an entity taxable as a corporation for U.S. federal income tax purposes if a payment with respect to such interest could give rise to a U.S. source dividend. However, the IRS has issued guidance that states that the U.S. Treasury Department and the IRS intend to amend the effective dates of the U.S. Treasury Department regulations to provide that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2021. Based on our determination that the Notes are not delta-one instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Notes. However, it is possible that the Notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events affecting the Reference Indices or the Notes (for example, upon a Reference Index 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 Indices 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.

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

Delivery of the Notes will be made against payment for the Notes on October 31, 2018, which is the second (2nd) business day following the Trade Date (this settlement cycle being referred to as "T+2"). See "Plan of Distribution" in the prospectus dated September 7, 2018. For additional information as to the relationship between us and RBCCM, please see the section "Plan of Distribution—Conflicts of Interest" in the prospectus dated September 7, 2018. In the initial offering of the Notes, they will be offered to investors at a purchase price equal to par, except with respect to certain accounts as indicated on the cover page of this document.

The value of the Notes shown on your account statement may be based on RBCCM's estimate of the value of the Notes if RBCCM or another of our affiliates were to make a market in the Notes (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Notes in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately 12 months after the issue date of the Notes, the value of the Notes that may be shown on your account statement may be higher than RBCCM's estimated value of the Notes at that time. This is because the estimated value of the Notes will not include the underwriting discount and 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 RBCCM's underwriting discount and 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.

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#### STRUCTURING THE NOTES

The Notes are our debt securities, the return on which is linked to the performance of each of the Reference Indices. 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 Indices, 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 the underwriting commission and our estimated hedging costs. These factors resulted in the initial estimated value for the Notes on the Trade Date being less than their public offering price. See "Selected Risk Factors—The Initial Estimated Value of the Notes Is Less than the Price to the Public" above.

# VALIDITY OF THE NOTES

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Notes has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Notes have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Notes will be validly issued and, to the extent validity of the Notes is a matter governed by the laws of the Province of Ontario or Québec, or the laws of Canada applicable therein, and will be valid obligations of the Bank, subject to equitable remedies which may only be granted at the discretion of a court of competent authority, subject to applicable bankruptcy, to rights to indemnity and contribution under the Notes or the Indenture which may be limited by applicable law; to insolvency and other laws of general application affecting creditors' rights, to limitations under applicable limitations statutes, and to limitations as to the currency in which judgments in Canada may be rendered, as prescribed by the Currency Act (Canada). This opinion is given as of the date hereof and is limited to the laws of the Provinces of Ontario and Québec and the federal laws of Canada applicable thereto. In addition, this opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and certain factual matters, all as stated in the letter of such counsel dated September 7, 2018, which has been filed as Exhibit 5.1 to Royal Bank's Form 6-K filed with the SEC dated September 7, 2018. In the opinion of Morrison & Foerster LLP, when the Notes have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Notes will be valid, binding and enforceable obligations of Royal Bank, entitled to the benefits of the Indenture, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith). This opinion is given as of the date hereof and is limited to the laws of the State of New York. This opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel's reliance on the Bank and other sources as to certain factual matters, all as stated in the legal opinion dated September 7, 2018, which has been filed as Exhibit 5.2 to the Bank's Form 6-K dated September 7, 2018.

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