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PRICING SUPPLEMENT
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Dated August 16, 2019

Royal Bank of Canada Trigger Autocallable Contingent Yield Notes

\$2,185,600 Notes Linked to the Least Performing Underlying Between the iShares[®] MSCI Emerging Markets ETF and the EURO STOXX 50[®] Index due on August 19, 2022

Investment Description

Trigger Autocallable Contingent Yield Notes (the "Notes") are unsecured and unsubordinated debt securities issued by Royal Bank of Canada linked to the performance of the least performing of the iShares[®] MSCI Emerging Markets ETF and the EURO STOXX 50[®] Index (each, an "Underlying," and together, the "Underlyings"). We will pay a quarterly Contingent Coupon payment if the closing values of both Underlyings on the applicable Coupon Observation Date are equal to or greater than their respective Coupon Barriers. Otherwise, no coupon will be paid for that quarter. We will automatically call the Notes early if the closing values of both Underlyings on any quarterly Call Observation Date (beginning after six months) are equal to or greater than their respective Initial Levels. If the Notes are called, we will pay you the principal amount of your Notes plus the Contingent Coupon for the applicable quarter, and no further amounts will be owed to you under the Notes. If the Notes are not called prior to maturity and the Final Levels of both Underlyings are equal to or greater than their respective Downside Thresholds (which are the same levels as their respective Coupon Barriers), we will pay you a cash payment at maturity equal to the principal amount of your Notes plus the Contingent Coupon for the final quarter. However, if the Final Level of the Underlying with the lowest percentage change from its Initial Level (the "Least Performing Underlying") is less than its Downside Threshold, we will pay you less than the full principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the negative performance of the Least Performing Underlying over the term of the Notes, and you may lose up to 100% of your initial investment. The Notes are not subject to conversion into our common shares under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act.

Investing in the Notes involves significant risks. You will not receive a coupon for any Coupon Observation Date on which either Underlying closes below its Coupon Barrier. The Notes will not be automatically called if either Underlying closes below its Initial Level on a quarterly Call Observation Date. You may lose some or all of your principal amount if the Least Performing Underlying closes below its Downside Threshold, regardless of the performance of the other Underlying. The contingent repayment of principal only applies if you hold the Notes until maturity. Generally, the higher the Contingent Coupon Rate on a security, the greater the risk of loss. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire investment. The Notes will not be listed on any securities exchange.

Features

- Contingent Coupon** — We will pay a quarterly Contingent Coupon payment if the closing values of both Underlyings on the applicable Coupon Observation Date are equal to or greater than their respective Coupon Barriers. Otherwise, no coupon will be paid for the quarter.
- Automatically Callable** — We will automatically call the Notes and pay you the principal amount of your Notes plus the Contingent Coupon otherwise due for the applicable quarter if the closing values of both Underlyings on any quarterly Call Observation Date (beginning after six months) are greater than or equal to their respective Initial Levels. If the Notes are not called, investors will have the potential for downside equity market risk at maturity.
- Contingent Repayment of Principal at Maturity** — If by maturity the Notes have not been called and the value of each Underlying does not close below its Downside Threshold on the Final Valuation Date, we will repay your principal amount per Note at maturity. However, if the closing value of the Least Performing Underlying is less than its Downside Threshold on the Final Valuation Date, we will pay less than the principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the decline in the value of the Least Performing Underlying from the trade date to the Final Valuation Date. The contingent repayment of principal only applies if you hold the Notes until maturity. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness.

Key Dates

Trade Date	August 16, 2019
Settlement Date	August 21, 2019
Coupon Observation Dates ¹	Quarterly (see page 6)
Call Observation Dates ¹	Quarterly (callable after six months) (see page 6)
Final Valuation Date ¹	August 16, 2022
Maturity Date ¹	August 19, 2022

¹ Subject to postponement if a market disruption event occurs, as described under "General Terms of the Notes — Payment at Maturity" in the accompanying product prospectus supplement no. UBS-TACYN-1.

NOTICE TO INVESTORS: THE NOTES ARE SIGNIFICANTLY RISKIER THAN CONVENTIONAL DEBT INSTRUMENTS. THE ISSUER IS NOT NECESSARILY OBLIGATED TO REPAY THE FULL PRINCIPAL AMOUNT OF THE NOTES AT MATURITY, AND THE NOTES CAN HAVE DOWNSIDE MARKET RISK SIMILAR TO THE LEAST PERFORMING UNDERLYING. THIS MARKET RISK IS IN ADDITION TO THE CREDIT RISK INHERENT IN PURCHASING OUR DEBT OBLIGATION. YOU SHOULD NOT PURCHASE THE NOTES IF YOU DO NOT UNDERSTAND OR ARE NOT COMFORTABLE WITH THE SIGNIFICANT RISKS INVOLVED IN INVESTING IN THE NOTES.

YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED UNDER "KEY RISKS" BEGINNING ON PAGE 7, THE RISKS DESCRIBED UNDER "RISK FACTORS" BEGINNING ON PAGE PS-5 OF THE PRODUCT PROSPECTUS SUPPLEMENT NO. UBS-TACYN-1 AND UNDER "RISK FACTORS" BEGINNING ON PAGE S-1 OF THE PROSPECTUS SUPPLEMENT BEFORE PURCHASING ANY NOTES. EVENTS RELATING TO ANY OF THOSE RISKS, OR OTHER RISKS AND UNCERTAINTIES, COULD ADVERSELY AFFECT THE MARKET VALUE OF, AND THE RETURN ON, YOUR NOTES. YOU MAY LOSE SOME OR ALL OF YOUR INITIAL INVESTMENT IN THE NOTES.

Note Offering

This pricing supplement relates to Trigger Autocallable Contingent Yield Notes we are offering linked to the least performing Underlying between the iShares[®] MSCI Emerging Markets ETF and the EURO STOXX 50[®] Index. The Notes will be issued in minimum denominations of \$10.00, and integral multiples of \$10.00 in excess thereof, with a minimum investment of \$1,000.

Underlyings (Least Performing of)	Tickers	Contingent Coupon Rate	Initial Levels	Downside Thresholds*	Coupon Barriers*	CUSIP	ISIN
iShares [®] MSCI Emerging Markets ETF (EEM)	EEM	7.60% per annum	\$39.54	\$27.68, which is 70% of its Initial Level	\$27.68, which is 70% of its Initial Level	78014J330	US78014J3308
EURO STOXX 50 [®] Index (SX5E)	SX5E		3,329.08	2,330.36, which is 70% of its Initial Level	2,330.36, which is 70% of its Initial Level		

*Rounded to two decimal places.

See "Additional Information About Royal Bank of Canada and the Notes" in this pricing supplement. The Notes will have the terms specified in the prospectus dated September 7, 2018, the prospectus supplement dated September 7, 2018, product prospectus supplement no. UBS-TACYN-1 dated October 3, 2018 and this pricing supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Notes or passed upon the accuracy or the adequacy of this pricing supplement or the accompanying prospectus, prospectus supplement and product prospectus supplement no. UBS-TACYN-1. Any representation to the contrary is a criminal offense.

Offering of the Notes

Notes linked to the Least Performing Underlying Between the iShares[®] MSCI Emerging Markets ETF and the EURO STOXX 50[®] Index

	Price to Public Total	Per Note	Fees and Commissions ⁽¹⁾ Total	Per Note	Proceeds to Us Total	Per Security
	\$2,185,600	\$10.00	\$43,712	\$0.20	\$2,141,888	\$9.80

⁽¹⁾ UBS Financial Services Inc., which we refer to as UBS, will receive a commission of \$0.20 per \$10 in principal amount. See "Supplemental Plan of Distribution (Conflicts of Interest)" below.

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The initial estimated value of the Notes as of the trade date was \$9.6706 per \$10 in principal amount, which is less than the price to public. The actual value of the Notes at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. We describe our determination of the initial estimated value under "Key Risks," "Supplemental Plan of Distribution (Conflicts of Interest)" and "Structuring the Notes" below.

The Notes will not constitute deposits insured under the Canada Deposit Insurance Corporation Act or by the United States Federal Deposit Insurance Corporation or any other Canadian or United States government agency or instrumentality.

UBS Financial Services Inc.

RBC Capital Markets, LLC

Additional Information About Royal Bank of Canada and the Notes

You should read this pricing supplement together with the prospectus dated September 7, 2018, as supplemented by the prospectus supplement dated September 7, 2018, relating to our Series H medium-term notes of which these Notes are a part, and the more detailed information contained in product prospectus supplement no. UBS-TACYN-1 dated October 3, 2018. **This pricing supplement, together with the documents listed below, contains the terms of the Notes and supersedes all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours.** You should carefully consider, among other things, the matters set forth in "Risk Factors" in the accompanying product prospectus supplement no. UBS-TACYN-1, as the Notes involve risks not associated with conventional debt securities.

If the terms discussed in this pricing supplement differ from those discussed in the product prospectus supplement no. UBS-TACYN-1, the prospectus supplement, or the prospectus, the terms discussed herein will control. In particular, please see the section below, "Additional Terms of Your Notes Relating to the SX5E," which provides additional information about potential events impacting the SX5E.

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

- ◆ Product prospectus supplement no. UBS-TACYN-1 dated October 3, 2018:
<https://www.sec.gov/Archives/edgar/data/1000275/000114036118040006/form424b5.htm>
- ◆ Prospectus supplement dated September 7, 2018:
<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005975/f97180424b3.htm>
- ◆ Prospectus dated September 7, 2018:
<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005973/l96181424b3.htm>

As used in this pricing supplement, "we," "us" or "our" refers to Royal Bank of Canada.

Investor Suitability

The Notes may be suitable for you if, among other considerations:

- ◆ You fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.
- ◆ You can tolerate a loss of all or a substantial portion of your investment and are willing to make an investment that may have the same downside market risk as an investment in the securities represented by the Least Performing Underlying.
- ◆ You believe the closing values of both Underlyings will be equal to or greater than their respective Coupon Barriers on most or all of the Coupon Observation Dates (including the Final Valuation Date).
- ◆ You are willing to make an investment whose return is limited to the applicable Contingent Coupon payments, regardless of any potential appreciation of the Underlyings, which could be significant.
- ◆ You do not seek guaranteed current income from this investment and are willing to forgo the dividends paid on the equity securities represented by the Underlyings.
- ◆ You can tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside fluctuations of the Underlyings.
- ◆ You are willing to invest in Notes for which there may be little or no secondary market and you accept that the secondary market will depend in large part on the price, if any, at which RBC Capital Markets, LLC, which we refer to as “RBCCM,” is willing to purchase the Notes.
- ◆ You are willing to invest in the Notes based on the Contingent Coupon Rate set forth on the cover page of this pricing supplement.
- ◆ You are willing to accept individual exposure to each Underlying and that the performance of the Least Performing Underlying will not be offset or mitigated by the performance of the other Underlying.
- ◆ You understand and accept the risks associated with the Underlyings.
- ◆ You are willing to invest in securities that may be called early and you are otherwise willing to hold such securities to maturity.
- ◆ You are willing to assume our credit risk for all payments under the Notes, and understand that if we default on our obligations, you may not receive any amounts due to you, including any repayment of principal.

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

- ◆ You do not fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.
- ◆ You cannot tolerate a loss on your investment and require an investment designed to provide a full return of principal at maturity.
- ◆ You are not willing to make an investment that may have the same downside market risk as an investment in the Least Performing Underlying.
- ◆ You believe that the value of either Underlying will decline during the term of the Notes and is likely to close below its Coupon Barrier on most or all of the Coupon Observation Dates and below its Downside Threshold on the Final Valuation Date.
- ◆ You seek an investment that participates in the full appreciation in the values of the Underlyings or that has unlimited return potential.
- ◆ You cannot tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside fluctuations of the Least Performing Underlying.
- ◆ You are unwilling to invest in the Notes based on the Contingent Coupon Rate set forth on the cover page of this pricing supplement.
- ◆ You do not understand or accept the risks associated with the Underlyings.
- ◆ You are unwilling to accept individual exposure to each Underlying and that the performance of the Least Performing Underlying will not be offset or mitigated by the performance of the other Underlying.
- ◆ You seek guaranteed current income from this investment or prefer to receive the dividends paid on the equity securities represented by the Underlyings.
- ◆ You are unable or unwilling to hold securities that may be called early, or you are otherwise unable or unwilling to hold such securities to maturity or you seek an investment for which there will be an active secondary market for the Notes.
- ◆ You are not willing to assume our credit risk for all payments under the Notes, including any repayment of principal.

The suitability considerations identified above are not exhaustive. Whether or not the Notes are a suitable investment for you will depend on your individual circumstances, and you should reach an investment decision only after you and your investment, legal, tax, accounting, and other advisers have carefully considered the suitability of an investment in the Notes in light of your particular circumstances. You should also review carefully the “Key Risks” below and “Risk Factors” in the accompanying product prospectus supplement no. UBS-TACYN-1 for risks related to an investment in the Notes. In addition, you should review carefully “Information About the Underlyings” below for more information about the Underlyings.

Final Terms of the Notes¹

<p>Issuer: Royal Bank of Canada</p> <p>Principal Amount per Note: \$10 per Note</p> <p>Term: Approximately three years, if not previously called</p> <p>Underlyings: The iShares® MSCI Emerging Markets ETF (“EEM”) and the EURO STOXX 50® Index (“SX5E”) (each, an “Underlying”)</p> <p>Closing Value: With respect to the EEM, on any trading day, the last reported sale price on the principal national securities exchange in the U.S. on which it is listed for trading; as to the SX5E, its closing level on any trading day.</p> <p>Initial Level: With respect to the EEM, its closing price on the trade date, and as to the SX5E, its closing level on the trade date, each as indicated on the cover page.</p> <p>Final Level: With respect to the EEM, its closing price on the Final Valuation Date; as to the SX5E, its closing level on the Final Valuation Date.</p> <p>Contingent Coupon: If the closing values of both Underlyings are equal to or greater than their respective Coupon Barriers on any Coupon Observation Date, we will pay you the Contingent Coupon applicable to that Coupon Observation Date. If the closing value of either Underlying is less than its Coupon Barrier on any Coupon Observation Date, the Contingent Coupon applicable to that Coupon Observation Date will not accrue or be payable, and we will not make any payment to you on the relevant Contingent Coupon Payment Date. The Contingent Coupon is a fixed amount based upon equal quarterly installments at the Contingent Coupon Rate, which is a per annum rate as set forth below.</p> <p>Contingent Coupon payments on the Notes are not guaranteed. We will not pay you the Contingent Coupon for any Coupon Observation Date on which the closing value of either Underlying is less than its Coupon Barrier.</p> <p>Contingent Coupon Rate: 7.60% per annum (1.90% per quarter)</p> <p>Coupon Barrier: With respect to each Underlying, 70% of its Initial Level, as indicated on the cover page (as may be adjusted in the case of certain adjustment events affecting the EEM as described under “General Terms of the Notes — Anti-dilution Adjustments” in the product prospectus supplement). The Coupon Barrier equals the Downside Threshold.</p> <p>Downside: With respect to each Underlying, 70% of its Initial Level, as indicated on the cover</p>	<p>Threshold: page (as may be adjusted in the case of certain adjustment events affecting the EEM as described under “General Terms of the Notes — Anti-dilution Adjustments” in the product prospectus supplement). The Downside Threshold equals the Coupon Barrier.</p> <p>Automatic Call Feature: The Notes will be called automatically if the closing values of both Underlyings on any Call Observation Date (beginning after six months and set forth on page 6) are greater than or equal to their respective Initial Levels. If the Notes are called, we will pay you on the corresponding Coupon Payment Date (which will be the “Call Settlement Date”) a cash payment per Note equal to the principal amount per Note plus the applicable Contingent Coupon payment otherwise due on that day (the “Call Settlement Amount”). No further amounts will be owed to you under the Notes.</p> <p>Payment at Maturity: If the Notes are not called and the Final Levels of both Underlyings are equal to or greater than their respective Downside Thresholds and the Coupon Barriers, we will pay you a cash payment per Note on the maturity date equal to \$10 plus the Contingent Coupon otherwise due on the maturity date. If the Notes are not called and the Final Level of the Least Performing Underlying is less than its Downside Threshold, we will pay you a cash payment on the maturity date of less than the principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the negative Underlying Return of the Least Performing Underlying, equal to: $\\$10.00 + (\\$10.00 \times \text{Underlying Return of the Least Performing Underlying})$</p> <p>Least Performing Underlying: The Underlying with the lowest Underlying Return.</p> <p>Underlying Return: With respect to each Underlying, $\frac{\text{Final Level} - \text{Initial Level}}{\text{Initial Level}}$</p>
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¹ Terms used in this pricing supplement, but not defined herein, shall have the meanings ascribed to them in the product prospectus supplement.

Investment Timeline

Trade Date

The Initial Level, Downside Threshold and Coupon Barrier of each Underlying were determined. The Contingent Coupon Rate was set.



**Quarterly
(beginning
after six
months):**

If the closing values of both Underlyings are equal to or greater than their respective Coupon Barriers on any Coupon Observation Date, we will pay you a Contingent Coupon payment on the applicable Coupon Payment Date.

The Notes will be called if the closing values of both Underlyings on any Call Observation Date (beginning after six months) are equal to or greater than their respective Initial Levels. If the Notes are called, we will pay you a cash payment per Note equal to \$10 plus the Contingent Coupon otherwise due on that date.



Maturity Date:

The Final Level of each Underlying is observed on the Final Valuation Date.

If the Notes have not been called and the Final Levels of both Underlyings are equal to or greater than their respective Downside Thresholds (and their respective Coupon Barriers), we will repay the principal amount equal to \$10 per Note plus the Contingent Coupon otherwise due on the maturity date.

If the Notes have not been called and the Final Level of the Least Performing Underlying is less than its Downside Threshold, we will pay less than the principal amount, if anything, resulting in a loss on your initial investment proportionate to the decline of the Least Performing Underlying, for an amount equal to:

$\$10 + (\$10 \times \text{Underlying Return of the Least Performing Underlying})$ per Note

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

Coupon Observation Dates and Coupon Payment Dates*

Coupon Observation Dates	Coupon Payment Dates
November 18, 2019	November 20, 2019
February 18, 2020 ⁽¹⁾	February 20, 2020 ⁽²⁾
May 18, 2020 ⁽¹⁾	May 20, 2020 ⁽²⁾
August 17, 2020 ⁽¹⁾	August 19, 2020 ⁽²⁾
November 16, 2020 ⁽¹⁾	November 18, 2020 ⁽²⁾
February 16, 2021 ⁽¹⁾	February 18, 2021 ⁽²⁾
May 17, 2021 ⁽¹⁾	May 19, 2021 ⁽²⁾
August 16, 2021 ⁽¹⁾	August 18, 2021 ⁽²⁾
November 16, 2021 ⁽¹⁾	November 18, 2021 ⁽²⁾
February 16, 2022 ⁽¹⁾	February 18, 2022 ⁽²⁾
May 16, 2022 ⁽¹⁾	May 18, 2022 ⁽²⁾
August 16, 2022 ⁽³⁾	August 19, 2022 ⁽⁴⁾

(1) These Coupon Observation Dates are also Call Observation Dates.

(2) These Coupon Payment Dates are also Call Settlement Dates.

(3) This is also the Final Valuation Date.

(4) This is also the maturity date.

* Expected. Subject to postponement if a market disruption event occurs, as described under "General Terms of the Securities — Payment at Maturity" in the accompanying product prospectus supplement no. UBS-TACYN-1.

Key Risks

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

- ◆ **Risk of Loss at Maturity** — The Notes differ from ordinary debt securities in that we will not necessarily repay the full principal amount of the Notes at maturity. If the Notes are not called, we will repay you the principal amount of your Notes in cash only if the Final Level of each Underlying is greater than or equal to its Downside Threshold, and we will only make that payment at maturity. If the Notes are not called and the Final Level of the Least Performing Underlying is less than its Downside Threshold, you will lose some or all of your initial investment in an amount proportionate to the decline in the value of the Least Performing Underlying.
- ◆ **The Contingent Repayment of Principal Applies Only at Maturity** — If the Notes are not automatically called, you should be willing to hold your Notes to maturity. If you are able to sell your Notes prior to maturity in the secondary market, if any, you may have to do so at a loss relative to your initial investment, even if the values of both Underlyings are above their respective Downside Thresholds.
- ◆ **You May Not Receive any Contingent Coupons** — We will not necessarily make periodic Contingent Coupon payments on the Notes. If the closing values of one or both Underlyings on a Coupon Observation Date is less than their respective Coupon Barriers, we will not pay you the Contingent Coupon applicable to that Coupon Observation Date. If the closing value of at least one Underlying is less than its Coupon Barrier on each of the Coupon Observation Dates, we will not pay you any Contingent Coupons during the term of, and you will not receive a positive return on, your Notes. Generally, this non-payment of the Contingent Coupon coincides with a period of greater risk of principal loss on your Notes. Accordingly, if we do not pay the Contingent Coupon on the maturity date, you will incur a loss of principal, because the Final Level of the Least Performing Underlying will be less than its Downside Threshold.
- ◆ **The Call Feature and the Contingent Coupon Feature Limit Your Potential Return** — The return potential of the Notes is limited to the pre-specified Contingent Coupon Rate, regardless of the appreciation of the Underlyings. In addition, the total return on the Notes will vary based on the number of Coupon Observation Dates on which the Contingent Coupon becomes payable prior to maturity or an automatic call. Further, if the Notes are called due to the automatic call feature, you will not receive any Contingent Coupons or any other payment in respect of any Coupon Observation Dates after the applicable Call Settlement Date. Since the Notes could be called as early as the first Call Observation Date, the total return on the Notes could be limited to six months. If the Notes are not called, you may be subject to the full downside performance of the Least Performing Underlying, even though your potential return is limited to the Contingent Coupon Rate. Generally, the longer the Notes are outstanding, the less likely it is that they will be automatically called due to the decline in the values of the Underlyings and the shorter time remaining for the values of the Underlyings to recover. As a result, the return on an investment in the Notes could be less than the return on a direct investment in the securities represented by the Underlyings or on a similar security that allows you to participate in the appreciation of the values of the Underlyings.
- ◆ **The Contingent Coupon Rate Per Annum Payable on the Notes Will Reflect in Part the Volatility of the Underlyings, and May Not Be Sufficient to Compensate You for the Risk of Loss at Maturity** — "Volatility" refers to the frequency and magnitude of changes in the values of the Underlyings. The greater the volatility of the Underlyings, the more likely it is that the value of either Underlying could close below its Downside Threshold on the Final Valuation Date. This risk will generally be reflected in a higher Contingent Coupon Rate for the Notes than the rate payable on our conventional debt securities with a comparable term. In addition, lower correlation between the Underlyings can also indicate a greater likelihood of one Underlying closing below its Coupon Barrier or Downside Threshold on a Coupon Observation Date or Final Valuation Date. This greater risk will also be reflected in a higher Contingent Coupon Rate than on a security linked to Underlyings with a greater degree of correlation. However, while the Contingent Coupon Rate was set on the trade date, the Underlyings' volatility and correlation can change significantly over the term of the Notes, and may increase. The values of one or both of the Underlyings could fall sharply as of the Final Valuation Date, which could result in missed Contingent Coupon payments and a significant loss of your principal.
- ◆ **Reinvestment Risk** — The Notes will be called automatically if the closing values of both Underlyings are equal to or greater than their respective Initial Levels on any Call Observation Date. If the Notes are called prior to maturity, there is no guarantee that you will be able to reinvest the proceeds from an investment in the Notes at a comparable rate of return for a similar level of risk. To the extent you are able to reinvest your proceeds in an

investment comparable to the Notes, you will incur transaction costs and the original issue price for such an investment is likely to include certain built in costs such as dealer discounts and hedging costs.

- ◆ **The Notes Are Subject to Our Credit Risk** — The Notes are subject to our credit risk, and our credit ratings and credit spreads may adversely affect the market value of the Notes. Investors are dependent on our ability to pay all amounts due on the Notes, and therefore investors are subject to our credit risk and to changes in the market's view of our creditworthiness. Any decline in our credit ratings or increase in the credit spreads charged by the market for taking our credit risk is likely to adversely affect the value of the Notes. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire investment.
- ◆ **The Notes Will be Subject to Risks, Including Non-Payment in Full, Under Canadian Bank Resolution Powers** — Under Canadian bank resolution powers, the Canada Deposit Insurance Corporation ("CDIC") may, in circumstances where we have ceased, or are about to cease, to be viable, assume temporary control or ownership over us and may be granted broad powers by one or more orders of the Governor in Council (Canada), including the power to sell or dispose of all or a part of our assets, and the power to carry out or cause us to carry out a transaction or a series of transactions the purpose of which is to restructure our business. See Description of Debt Securities — Canadian Bank Resolution Powers" in the accompanying prospectus for a description of the Canadian bank resolution powers, including the bail-in regime. If the CDIC were to take action under the Canadian bank resolution powers with respect to us, holders of the Notes could be exposed to losses.
- ◆ **The Initial Estimated Value of the Notes Is Less than the Price to the Public** — The initial estimated value for the Notes that is set forth on the cover page of this pricing supplement is less than the public offering price you pay for the Notes and does not represent a minimum price at which we, RBCCM or any of our other affiliates would be willing to purchase the Notes in any secondary market (if any exists) at any time. If you attempt to sell the Notes prior to maturity, their market value may be lower than the price you paid for them and the initial estimated value. This is due to, among other things, changes in the values of the Underlyings, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to public of the underwriting discount and our estimated profit and the costs relating to our hedging of the Notes. These factors, together with various credit, market and economic factors over the term of the Notes, are expected to reduce the price at which you may be able to sell the Notes in any secondary market and will affect the value of the Notes in complex and unpredictable ways. Assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your Notes prior to maturity may be less than the price to public, as any such sale price would not be expected to include the underwriting discount and our estimated profit and the costs relating to our hedging of the Notes. In addition, any price at which you may sell the Notes is likely to reflect customary bid-ask spreads for similar trades. In addition to bid-ask spreads, the value of the Notes determined for any secondary market price is expected to be based on a secondary market rate rather than the internal borrowing rate used to price the Notes and determine the initial estimated value. As a result, the secondary market price will be less than if the internal borrowing rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Notes to maturity.
- ◆ **Our Initial Estimated Value of the Notes Is an Estimate Only, Calculated as of the Time the Terms of the Notes Were Set** — The initial estimated value of the Notes is based on the value of our obligation to make the payments on the Notes, together with the mid-market value of the derivative embedded in the terms of the Notes. See "Structuring the Notes" below. Our estimate is based on a variety of assumptions, including our credit spreads, expectations as to dividends, interest rates and volatility, and the expected term of the Notes. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Notes or similar securities at a price that is significantly different than we do.

The value of the Notes at any time after the trade date will vary based on many factors, including changes in market conditions, and cannot be predicted with accuracy. As a result, the actual value you would receive if you sold the Notes in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Notes and the amount that may be paid at maturity.
- ◆ **Owning the Notes Is Not the Same as Owning the Securities Represented by the Underlyings** — The return on your Notes may not reflect the return you would realize if you actually owned shares of the EEM or the securities represented by the Underlyings. As a holder of the Notes, you will not have voting rights or rights to receive dividends or other distributions or other rights that holders these securities would have, and any such dividends will not be incorporated in the determination of the Underlying Return for either Underlying.
- ◆ **You Will Not Have Any Shareholder Rights and Will Have No Right to Receive Any Securities at Maturity** — Investing in the Notes will not make you a holder of any shares of the EEM or any securities represented by the Underlyings. Neither you nor any other holder or owner of the Notes will have any voting rights, any right to receive dividends or other distributions, or any other rights with respect to such securities.

- ◆ **Changes That Affect the Applicable Indices Will Affect the Market Value of the Notes and the Amount You Will Receive at Maturity** — The policies of the index sponsors concerning the calculation of the EEM's underlying index or the SX5E, additions, deletions or substitutions of the components of these indices and the manner in which changes affecting those components, such as stock dividends, reorganizations or mergers, may be reflected in these indices and, therefore, could affect the values of the Underlyings, the amount payable on the Notes, and the market value of the Notes prior to maturity. The amount payable on the Notes and their market value could also be affected if an index sponsor changes these policies, for example, by changing the manner in which it calculates the applicable index, or if an index sponsor discontinues or suspends the calculation or publication of the applicable index.
- ◆ **We Have No Affiliation with Any Index Sponsor and Will Not Be Responsible for Its Actions** — The sponsors of the EEM's underlying index and of the SX5E are not affiliates of ours and will not be involved in the offering of the Notes in any way. Consequently, we have no control over the actions of these sponsors, including any actions of the type that would require the calculation agent to adjust the payment to you at maturity. These sponsors have no obligation of any sort with respect to the Notes. Thus, these sponsors have no obligation to take your interests into consideration for any reason, including in taking any actions that might affect the value of the Notes. None of our proceeds from the issuance of the Notes will be delivered to these sponsors.
- ◆ **Adjustments to the EEM Could Adversely Affect the Notes** — Blackrock, Inc. ("Blackrock"), in its role as the sponsor of the EEM, is responsible for calculating and maintaining the EEM. Blackrock can add, delete or substitute the stocks comprising the EEM or make other methodological changes that could change the share prices of the EEM at any time. If one or more of these events occurs, the calculation of the amount payable at maturity may be adjusted to reflect such event or events. Consequently, any of these actions could adversely affect the amounts payable on the Notes and/or the market value of the Notes.
- ◆ **We and Our Affiliates Do Not Have Any Affiliation With the Investment Advisor of the EEM and Are Not Responsible for Its Public Disclosure of Information** — We and our affiliates are not affiliated with Blackrock in any way and have no ability to control or predict its actions, including any errors in or discontinuance of disclosure regarding its methods or policies relating to the EEM. Blackrock is not involved in the offering of the Notes in any way and has no obligation to consider your interests as an owner of the Notes in taking any actions relating to the EEM that might affect the value of the Notes. Neither we nor any of our affiliates has independently verified the adequacy or accuracy of the information about Blackrock or the EEM contained in any public disclosure of information. You, as an investor in the Notes, should make your own investigation into the EEM.
- ◆ **The Correlation Between the Performance of the EEM and the Performance of its Underlying Index May Be Imperfect** — The performance of the EEM is linked principally to the performance of its underlying index. However, because of the potential discrepancies identified in more detail in the product prospectus supplement, the return on the EEM may correlate imperfectly with the return on its underlying index. Further, the performance of the EEM may not exactly replicate the performance of its underlying index, because the EEM will reflect transaction costs and fees that are not included in the calculation of its underlying index.

During periods of market volatility, securities underlying the EEM may be unavailable in the secondary market, market participants may be unable to calculate accurately the net asset value per share of the EEM and the liquidity of the EEM may be adversely affected. This kind of market volatility may also disrupt the ability of market participants to create and redeem shares of the EEM. Further, market volatility may adversely affect, sometimes materially, the prices at which market participants are willing to buy and sell shares of the EEM. As a result, under these circumstances, the market value of shares of the EEM may vary substantially from the net asset value per share of that Underlying. For all of the foregoing reasons, the performance of the EEM may not correlate with the performance of its underlying index as well as its net asset value per share, which could materially and adversely affect the value of the Notes in the secondary market and/or reduce your payment at maturity.

- ◆ **Historical Values of any Underlying Should Not Be Taken as an Indication of its Future Value During the Term of the Notes** — The trading values of the Underlyings will determine the value of the Notes at any given time. As it is impossible to predict whether the value of any Underlying will rise or fall, and trading prices of the common stocks represented by the Underlyings will be influenced by complex and interrelated political, economic, financial and other factors that can affect the issuers of those stocks, and therefore, the value of the Underlyings.
- ◆ **Management Risk** — The EEM is not managed according to traditional methods of "active" investment management, which involve the buying and selling of securities based on economic, financial and market analysis and investment judgment. Instead, the EEM, utilizing a "passive" or indexing investment approach, attempt to approximate the investment performance of its underlying index by investing in a portfolio of securities that generally replicate its underlying index. Therefore, unless a specific security is removed from its underlying index, the EEM generally would not sell a security because the security's issuer was in financial trouble. In addition, the

EEM is subject to the risk that the investment strategy of its investment advisor may not produce the intended results.

- ◆ **Your Return on the Notes Is Not Linked to a Basket Consisting of the Underlyings. Rather, It Will Be Contingent Upon the Performance of Each Individual Underlying** — Unlike an instrument with a return linked to a basket of Underlyings or other underlying assets, in which risk is mitigated and diversified among all of the components of the basket, you will be exposed equally to the risks related to both of the Underlyings. Poor performance by either one of the Underlyings over the term of the Notes may negatively affect your return and will not be offset or mitigated by a positive performance by the other Underlying. For the Notes to be automatically called or to receive any Contingent Coupon payment or contingent repayment of principal at maturity from us, both Underlyings must close above their Initial Levels, Coupon Barriers and Downside Thresholds, respectively, on the applicable Coupon Observation Date. In addition, if not called prior to maturity, you may incur a loss proportionate to the negative return of the Least Performing Underlying. Accordingly, your investment is subject to the market risk of each Underlying, which results in a higher risk of your not receiving Contingent Coupon payments and incurring a loss at maturity.
- ◆ **Because the Notes Are Linked to the Individual Performance of More than One Underlying, It Is More Likely that One of the Underlyings Will Decrease in Value Below its Coupon Barrier and its Downside Threshold, Increasing the Probability That You Will Not Receive the Contingent Coupons and that You Will Lose Some or All of Your Initial Investment** — The risk that you will not receive the Contingent Coupons and that you will lose some or all of your initial investment in the Notes is greater if you invest in the Notes as opposed to securities that are linked to the performance of a single Underlying if their terms are otherwise substantially similar. With a greater total number of Underlyings, it is more likely that an Underlying will be below its Coupon Barrier or Downside Threshold on a Coupon Observation Date or the Final Valuation Date, and therefore it is more likely that you will not receive the Contingent Coupons and that at maturity you will receive an amount in cash which is worth less than your principal amount. In addition, the performances of a pair of Underlyings may be positively or negatively correlated, or may not be correlated at all. If the Underlyings are not correlated to each other or are negatively correlated, there is a greater potential for one of those Underlyings to close below its Coupon Barrier or Downside Threshold or on the Final Valuation Date, respectively, and therefore the risk of missing a Contingent Coupon payment and that you will lose a portion of your principal at maturity.

It is impossible to predict what the correlations between the Underlyings will be over the term of the Notes. The Underlyings represent different equity markets and these different equity markets may not perform similarly over the term of the Notes. Although the correlation of the Underlyings' performance may change over the term of the Notes, the Contingent Coupon Rate is determined, in part, based on the Underlyings' performance calculated using our internal models at the time when the terms of the Notes are determined. As stated earlier, a higher Contingent Coupon Rate is generally associated with lower correlation of the Underlyings, which reflects a greater potential for missed Contingent Coupons and for a loss on your investment at maturity. See "Correlation of the Underlyings" below.

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

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

- ◆ **An Investment in the Notes is Subject to Emerging Markets Risk** — Investments in securities linked directly or indirectly to emerging market equity securities, such as the EEM, involve many risks, including, but not limited to: economic, social, political, financial and military conditions in the emerging market; regulation by national, provincial, and local governments; less liquidity and smaller market capitalizations than exist in the case of many large U.S. companies; different accounting and disclosure standards; and political uncertainties. Stock prices of emerging market companies may be more volatile and may be affected by market developments differently than U.S. companies. Government intervention to stabilize securities markets and cross-shareholdings may affect prices and volume of trading of the securities of emerging market companies. Economic, social, political, financial and military factors could, in turn, negatively affect such companies' value. These factors could include changes in the emerging market government's economic and fiscal policies, possible imposition of, or changes in, currency exchange laws or other laws or restrictions applicable to the emerging market companies or investments in their securities, and the possibility of fluctuations in the rate of exchange between currencies. Moreover, emerging market economies may differ favorably or unfavorably from the U.S. economy in a variety of ways, including growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency. You should carefully consider the risks related to emerging markets, to which the Notes are highly susceptible, before making a decision to invest in the Notes.
- ◆ **Exchange Rate Risk** — The values of the Underlyings will depend in part upon changes in the value of the currencies in which the securities that they represent 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 relevant securities are traded. An investor's net exposure will depend on the extent to which these currencies strengthen or weaken against the U.S. dollar. For example, if the dollar strengthens against these currencies, the net asset value of the EEM will be adversely affected and the value of the EEM, and consequently, the market value of the Notes may decrease. In addition, the calculation agent will not make any adjustments to the level of the SX5E as a result of any changes in the exchange rate of the currency in which the shares that it represents are traded.
- ◆ **No Assurance that the Investment View Implicit in the Notes Will Be Successful** — It is impossible to predict whether and the extent to which the values of the Underlyings will rise or fall. The closing values of the Underlyings will be influenced by complex and interrelated political, economic, financial and other factors that affect the Underlyings. You should be willing to accept the downside risks of owning equities in general and the Underlyings in particular, and the risk of losing some or all of your initial investment.
- ◆ **Lack of Liquidity** — The Notes will not be listed on any securities exchange. RBCCM intends to offer to purchase the Notes in the secondary market, but is not required to do so. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the Notes easily. Because other dealers are not likely to make a secondary market for the Notes, the price at which you may be able to trade your Notes is likely to depend on the price, if any, at which RBCCM is willing to buy the Notes.
- ◆ **Potential Conflicts** — We and our affiliates play a variety of roles in connection with the issuance of the Notes, including hedging our obligations under the Notes. In performing these duties, the economic interests of the calculation agent and other affiliates of ours are potentially adverse to your interests as an investor in the Notes.
- ◆ **Potentially Inconsistent Research, Opinions or Recommendations by RBCCM, UBS or Their Affiliates** — RBCCM, UBS or their affiliates may publish research, express opinions or provide recommendations as to the Underlyings that are inconsistent with investing in or holding the Notes, and which may be revised at any time. Any such research, opinions or recommendations could affect the value of the Underlyings, and therefore the market value of the Notes.
- ◆ **Uncertain Tax Treatment** — Significant aspects of the tax treatment of an investment in the Notes are uncertain. You should consult your tax adviser about your tax situation.
- ◆ **Potential Royal Bank of Canada and UBS Impact on Price** — Trading or transactions by us, UBS or our respective affiliates in one or both of the Underlyings or the securities that they represent, or in futures, options, exchange-traded funds or other derivative products on the Underlyings or those securities may adversely affect the market value of the Underlyings, and, therefore, the market value of the Notes.
- ◆ **The Terms of the Notes at Issuance Were Influenced and Their Market Value Prior to Maturity Will Be Influenced by Many Unpredictable Factors** — Many economic and market factors influenced the terms of the Notes at issuance and will influence their value prior to maturity. These factors are similar in some ways to those that could affect the value of a combination of instruments that might be used to replicate the payments on the Notes, including a combination of a bond with one or more options or other derivative instruments. For the market value of the Notes, we expect that, generally, the value of the Underlyings on any day will affect the value of the Notes more than any other single factor. However, you should not expect the value of the Notes in the secondary

market to vary in proportion to changes in the values of the Underlyings. The value of the Notes will be affected by a number of economic and market factors that may either offset or magnify each other, including:

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

Some or all of these factors influenced the terms of the Notes at issuance, and will affect the price you will receive if you choose to sell the Notes prior to maturity. The impact of any of the factors set forth above may enhance or offset some or all of any change resulting from another factor or factors. You may have to sell the Notes at a substantial discount from the principal amount if, for example, the value of one or both of the Underlyings is at, or not sufficiently above, its Downside Threshold.

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

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

The following examples are hypothetical and provided for illustrative purposes only. They do not purport to be representative of every possible scenario concerning increases or decreases in the value of either Underlying relative to its Initial Level. We cannot predict the Final Level of any Underlying. You should not take these examples as an indication or assurance of the expected performance of either Underlying. The numbers appearing in the examples and tables below have been rounded for ease of analysis. The following examples and tables illustrate the Payment at Maturity or upon an automatic call per Note on a hypothetical offering of the Notes, based on the following hypothetical assumptions (actual Initial Levels, Coupon Barriers and Downside Thresholds are set forth on the cover page):

Principal Amount:	\$10.00
Term:	Approximately three years
Contingent Coupon Rate:	7.60% per annum (or 1.90% per quarter)
Contingent Coupon**:	\$0.19 per quarter
Coupon Observation Dates:	Quarterly
Call Observation Dates:	Quarterly (callable after six months)
Hypothetical Initial Levels*:	
Underlying A:	100.00
Underlying B:	100.00
Hypothetical Coupon Barriers*:	
Underlying A:	70.00 (which is 70% of its Initial Level)
Underlying B:	70.00 (which is 70% of its Initial Level)
Hypothetical Downside Thresholds*:	
Underlying A:	70.00 (which is 70% of its Initial Level)
Underlying B:	70.00 (which is 70% of its Initial Level)

* Not the actual Initial Level, Coupon Barrier or Downside Threshold applicable to the Notes. The actual Initial Level, Coupon Barrier and Downside Threshold are set forth on the cover page of this pricing supplement.

** Contingent Coupon payments, if payable, will be paid in arrears in equal quarterly installments during the term of the Notes unless earlier called.

Scenario #1: Notes Are Called on the Fourth Coupon Observation Date.

Date	Closing Value	Payment (per Note)
First Coupon Observation Date	Underlying A: 100.00 (at or above Initial Level) Underlying B: 110.00 (at or above Initial Level)	\$0.19 (Contingent Coupon – not callable)
Second Coupon Observation Date	Underlying A: 95.00 (at or above Coupon Barrier; below Initial Level) Underlying B: 60.00 (below Coupon Barrier)	\$0.00 (Notes are not called)
Third Coupon Observation Date	Underlying A: 95.00 (at or above Coupon Barrier; below Initial Level) Underlying B: 60.00 (below Coupon Barrier)	\$0.00 (Notes are not called)
Fourth Coupon Observation Date	Underlying A: 110.00 (at or above Initial Level) Underlying B: 115.00 (at or above Initial Level)	\$10.19 (settlement amount)
	Total Payment:	\$10.38 (3.80% return)

Since the Notes are called on the fourth Coupon Observation Date, we will pay you on the Call Settlement Date a total of \$10.19 per Note, reflecting your principal amount plus the applicable Contingent Coupon. When added to the Contingent Coupon payment of \$0.19 received in respect of a prior Coupon Observation Date, we will have paid you a total of \$10.38 per Note, for a 3.80% total return on the Notes. No further amount will be owed to you under the Notes.

Scenario #2: Notes Are NOT Called and the Final Levels of Both Underlyings Are at or Above Their Respective Downside Thresholds.

Date	Closing Value	Payment (per Note)
First Coupon Observation Date	Underlying A: 110.00 (at or above Coupon Barrier; above Initial Level) Underlying B: 80.00 (at or above Coupon Barrier; below Initial Level)	\$0.19 (Contingent Coupon – not callable)
Second Coupon Observation Date	Underlying A: 50.00 (below Coupon Barrier) Underlying B: 90.00 (at or above Coupon Barrier; below Initial Level)	\$0.00 (Notes are not called)
Third Coupon Observation Date	Underlying A: 95.00 (at or above Coupon Barrier; below Initial Level) Underlying B: 40.00 (below Coupon Barrier)	\$0.00 (Notes are not called)
Fourth Coupon Observation Date	Underlying A: 95.00 (at or above Coupon Barrier; below Initial Level) Underlying B: 60.00 (below Coupon Barrier)	\$0.00 (Notes are not called)
Fifth through Eleventh Coupon Observation Dates	Underlying A: Various (below Coupon Barrier) Underlying B: Various (above Initial Level)	\$0.00 (Notes are not called)
Final Valuation Date	Underlying A: 90.00 (at or above Downside Threshold and Coupon Barrier; below Initial Level) Underlying B: 115.00 (at or above Downside Threshold, Coupon Barrier and Initial Level)	\$10.19 (Payment at Maturity)
	Total Payment:	\$10.38 (3.80% return)

At maturity, we will pay you a total of \$10.19 per Note, reflecting your principal amount plus the applicable Contingent Coupon. When added to the Contingent Coupon payment of \$0.19 received in respect of a prior Coupon Observation Date, we will have paid you a total of \$10.38 per Note, for a 3.80% total return on the Notes.

Scenario #3: Notes Are NOT Called and the Final Level of One Underlying Is Below its Downside Threshold

Date	Closing Value	Payment (per Note)
First Coupon Observation Date	Underlying A: 85.00 (at or above Coupon Barrier; below Initial Level) Underlying B: 120.00 (above Initial Level)	\$0.19 (Contingent Coupon – not callable)
Second Coupon Observation Date	Underlying A: 90.00 (at or above Coupon Barrier; below Initial Level) Underlying B: 80.00 (at or above Coupon Barrier; below Initial Level)	\$0.19 (Contingent Coupon – not called)
Third Coupon Observation Date	Underlying A: 220.00 (above Initial Level) Underlying B: 80.00 (at or above Coupon Barrier; below Initial Level)	\$0.19 (Contingent Coupon – not called)
Fourth Coupon Observation Date	Underlying A: 95.00 (at or above Coupon Barrier; below Initial Level) Underlying B: 60.00 (below Coupon Barrier)	\$0.00 (Notes are not called)
Fifth through Eleventh Coupon Observation Dates	Underlying A: Various (below Coupon Barrier) Underlying B: Various (above Initial Level)	\$0.00 (Notes are not called)
Final Valuation Date	Underlying A: 50.00 (below Downside Threshold and Coupon Barrier) Underlying B: 130.00 (above Initial Level)	$\$10.00 + [\$10.00 \times \text{Underlying Return}] =$ $\$10.00 + [\$10.00 \times -50\%] =$ $\$10.00 - \$5.00 =$ \$5.00 (Payment at Maturity)
	Total Payment:	\$5.57 (-44.30% return)

Since the Notes are not called and the Final Level of the Least Performing Underlying is below the Downside Threshold, we will pay you at maturity \$5.00 per Note. When added to the Contingent Coupon payments of \$0.57 received in respect of prior Coupon Observation Dates, we will have paid you \$5.57 per Note, for a loss on the Notes of 44.30%.

The Notes differ from ordinary debt securities in that, among other features, we are not necessarily obligated to repay the full amount of your initial investment. If the Notes are not called on any Call Observation Date, you may lose some or all of your initial investment. Specifically, if the Notes are not called and the Final Level of one or both of the Underlyings is less than its Downside Threshold, you will lose 1% (or a fraction thereof) of your principal amount for each 1% (or a fraction thereof) that the Underlying Return of the Least Performing Underlying is less than zero.

Any payment on the Notes, including payments in respect of an automatic call, Contingent Coupon or any repayment of principal provided at maturity, is dependent on our ability to satisfy our obligations when they come due. If we are unable to meet our obligations, you may not receive any amounts due to you under the Notes.

What Are the Tax Consequences of the Notes?

U.S. Federal Income Tax Consequences

The following, together with the discussion of U.S. federal income tax in the accompanying product prospectus supplement, prospectus supplement, and prospectus, is a general description of the material U.S. federal income tax consequences relating to an investment in the Notes. The following summary is not complete and is qualified in its entirety by the discussion under the section entitled "Supplemental Discussion of U.S. Federal Income Tax Consequences" in the accompanying product prospectus supplement no. UBS-TACYN-1, the section entitled "Certain Income Tax Consequences" in the accompanying prospectus supplement, and the section entitled "Tax Consequences" in the accompanying prospectus, which you should carefully review prior to investing in the Notes.

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat the Notes as a callable pre-paid cash-settled contingent income-bearing derivative contract linked to the Underlying for U.S. federal income tax purposes, and the terms of the Notes require a holder and us (in the absence of a change in law or an administrative or judicial ruling to the contrary) to treat the Notes for all tax purposes in accordance with such characterization. Although the U.S. federal income tax treatment of the Contingent Coupons is uncertain, we intend to take the position, and the following discussion assumes, that such Contingent Coupons (including any coupon paid on or with respect to the call or maturity date) constitute taxable ordinary income to a U.S. 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, subject to the potential application of the "constructive ownership" rules under Section 1260 of the Internal Revenue Code, a U.S. holder should generally recognize capital gain or loss upon the call, sale or maturity of the Notes in an amount equal to the difference between the amount a holder receives at such time (other than amounts properly attributable to any Contingent Coupon, which would be taxed, as described above, as ordinary income) and the holder's tax basis in the Notes. Capital gain recognized by an individual U.S. holder is generally taxed at preferential rates where the property is held for more than one year and is generally taxed at ordinary income rates where the property is held for one year or less. The deductibility of capital losses is subject to limitations.

Alternative tax treatments are also possible and the Internal Revenue Service (the "IRS") might assert that a treatment other than that described above is more appropriate. In addition, the IRS has released a notice that may affect the taxation of holders of the Notes. According to the notice, the IRS and the Treasury Department are actively considering whether the holder of an instrument such as the Notes should be required to accrue ordinary income on a current basis. It is not possible to determine what guidance they will ultimately issue, if any. It is possible, however, that under such guidance, holders of the Notes will ultimately be required to accrue income currently and this could be applied on a retroactive basis. The IRS and the 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 Internal Revenue 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.

Individual holders that own "specified foreign financial assets" may be required to include certain information with respect to such assets with their U.S. federal income tax return. You are urged to consult your own tax advisor regarding such requirements with respect to the Notes.

Under Section 871(m) of the Internal Revenue 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 Underlying or the Notes (for example, upon a rebalancing of an Underlying), and following such occurrence the Notes could be treated as subject to withholding on dividend equivalent payments. Non-U.S. holders that enter, or have entered, into other transactions in respect of the Underlying or the Notes should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the Notes and their other transactions. If any payments are treated as dividend equivalents subject to withholding, we (or the applicable withholding agent) would be entitled to withhold taxes without being required to pay any additional amounts with respect to amounts so withheld.

The accompanying product prospectus supplement notes that FATCA withholding on payments of gross proceeds from a sale or redemption of Notes will only apply to payments made after December 31, 2018. That discussion is modified to reflect regulations proposed by the U.S. Treasury Department in December 2018 indicating an intent to eliminate the requirement under FATCA of withholding on gross proceeds of the disposition of financial instruments. The U.S. Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalization. Prospective investors are urged to consult with their own tax advisors regarding the possible implications of FATCA on their investment in the Notes.

The Notes are not intended for purchase by any investor that is not a United States person, as that term is defined for U.S. federal income tax purposes, and the underwriters will not make offers of the Notes to any such investor.

Canadian Federal Income Tax Consequences

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

Information About the Underlyings

We have derived the following information regarding each of the applicable Underlyings from publicly available documents. We have not independently verified the accuracy or completeness of the following information. This document relates only to the Notes and does not relate to the shares of any of the EEM or any securities represented by the Underlyings. Neither we nor any of our affiliates participates in the preparation of the publicly available documents described below. Neither we nor any of our affiliates has made any due diligence inquiry with respect to any of the Underlyings in connection with the offering of any of the Notes. There can be no assurance that all events occurring prior to the date of this document, including events that would affect the accuracy or completeness of the publicly available documents described below, that would affect the values of either of the Underlyings have been or will be publicly disclosed.

The selection of the Underlyings relating to the Notes is not a recommendation to buy or sell the shares of the EEM or any of the securities represented by the Underlyings. Neither we nor any of our affiliates make any representation to you as to the performance of either of the Underlyings. Information provided to or filed with the SEC under the Securities Exchange Act of 1934 and the Investment Company Act of 1940 relating to the EEM may be obtained through the SEC's website at <http://www.sec.gov>.

iShares Funds

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

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

iShares[®] MSCI Emerging Markets ETF

The shares of the EEM are issued by iShares, Inc., a registered investment company. The EEM seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of the MSCI Emerging Markets Index. The EEM trades on the NYSE Arca under the ticker symbol "EEM." BlackRock Fund Advisors ("BFA") serves as the investment advisor to the EEM.

BFA, as the investment advisor to the EEM, employs a technique known as representative sampling to track the MSCI Emerging Markets Index. The EEM generally invests at least 90% of its assets in the securities of the MSCI Emerging Markets Index and in American Depositary Receipts or Global Depositary Receipts based on the securities of the MSCI Emerging Markets Index. The EEM may invest the remainder of its assets in securities not included in the MSCI Emerging Markets Index, but which BFA believes will help the EEM track the MSCI Emerging Markets Index, or in futures contracts, options on futures contracts, other types of options and swaps related to the MSCI Emerging Markets Index, as well as cash and cash equivalents, including shares of money market funds affiliated with BFA or its affiliates. BFA will waive portfolio management fees in an amount equal to the portfolio management fees of such other iShares funds for any portion of the EEM's assets invested in shares of such other funds.

The MSCI Emerging Markets Index

The information below is included only to give insight to the MSCI Emerging Markets Index, the performance of which the EEM attempts to reflect. The Notes are linked to the performance of the EEM and not to the MSCI Emerging Markets Index.

The MSCI Emerging Markets Index is a stock index calculated, published and disseminated daily by MSCI through numerous data vendors, on the MSCI website and in real time on Bloomberg Financial Markets and Reuters Limited.

The index is intended to measure equity market performance in the global emerging markets. The index is a free float-adjusted market capitalization index with a base date of December 31, 1987 and an initial value of 100. The index is calculated daily in U.S. dollars and published in real time every 60 seconds during market trading hours. The index currently consists of the following 24 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Greece, Egypt, Hungary, India, Indonesia, South Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates.

The index is part of the MSCI Regional Equity Indices series and is an MSCI Global Investable Market Index, which is a family within the MSCI International Equity Indices.

General – MSCI Indices

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

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

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

- defining the equity universe;
- determining the market investable equity universe for each market;
- determining market capitalization size segments for each market;

- applying index continuity rules for the MSCI Standard Index;
- creating style segments within each size segment within each market; and
- classifying securities under the Global Industry Classification Standard (the "GICS").

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

- **Identifying Eligible Equity Securities:** the equity universe initially looks at securities listed in any of the countries in the MSCI Global Index Series, which will be classified as either Developed Markets ("DM") or Emerging Markets ("EM"). All listed equity securities, including Real Estate Investment Trusts, are eligible for inclusion in the equity universe. Conversely, mutual funds, ETFs, equity derivatives and most investment trusts are not eligible for inclusion in the equity universe.
- **Classifying Eligible Securities into the Appropriate Country:** each company and its securities (i.e., share classes) are classified in only one country.

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

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

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

- **Equity Universe Minimum Size Requirement:** this investability screen is applied at the company level. In order to be included in a market investable equity universe, a company must have the required minimum full market capitalization.
- **Equity Universe Minimum Free Float-Adjusted Market Capitalization Requirement:** this investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have a free float-adjusted market capitalization equal to or higher than 50% of the equity universe minimum size requirement.
- **DM and EM Minimum Liquidity Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have adequate liquidity. The twelve-month and three-month Annual Traded Value Ratio ("ATVR"), a measure that screens out extreme daily trading volumes and takes into account the free float-adjusted market capitalization size of securities, together with the three-month frequency of trading are used to measure liquidity. A minimum liquidity level of 20% of three- and twelve-month ATVR and 90% of three-month frequency of trading over the last four consecutive quarters are required for inclusion of a security in a market investable equity universe of a DM, and a minimum liquidity level of 15% of three- and twelve-month ATVR and 80% of three-month frequency of trading over the last four consecutive quarters are required for inclusion of a security in a market investable equity universe of an EM.
- **Global Minimum Foreign Inclusion Factor Requirement:** this investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security's Foreign Inclusion Factor ("FIF") must reach a certain threshold. The FIF of a security is defined as the proportion of shares outstanding that is available for purchase in the public equity markets by international investors. This proportion accounts for the available free float of and/or the foreign ownership limits applicable to a specific security (or company). In general, a security must have an FIF equal to or larger than 0.15 to be eligible for inclusion in a market investable equity universe.
- **Minimum Length of Trading Requirement:** this investability screen is applied at the individual security level. For an initial public offering ("IPO") to be eligible for inclusion in a market investable equity universe, the new issue must have started trading at least three months before the implementation of a semi-annual index review (as described below). This requirement is applicable to small new issues in all markets. Large IPOs are not subject to the minimum length of trading requirement and may be included in a market investable equity universe and the Standard Index outside of a Quarterly or Semi-Annual Index Review.
- **Minimum Foreign Room Requirement:** this investability screen is applied at the individual security level. For a security that is subject to a foreign ownership limit to be eligible for inclusion in a market investable equity universe, the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as "foreign room") must be at least 15%.

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

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

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

- defining the market coverage target range for each size segment;
- determining the global minimum size range for each size segment;
- determining the market size segment cutoffs and associated segment number of companies;

- assigning companies to the size segments; and
- applying final size-segment investability requirements.

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

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

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

Index Maintenance

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

- (i) Semi-Annual Index Reviews ("SAIRs") in May and November of the Size Segment and Global Value and Growth Indices which include:
 - updating the indices on the basis of a fully refreshed equity universe;
 - taking buffer rules into consideration for migration of securities across size and style segments; and
 - updating FIFs and Number of Shares ("NOS").
- (ii) Quarterly Index Reviews in February and August of the Size Segment Indices aimed at:
 - including significant new eligible securities (such as IPOs that were not eligible for earlier inclusion) in the index;
 - allowing for significant moves of companies within the Size Segment Indices, using wider buffers than in the SAIR; and
 - reflecting the impact of significant market events on FIFs and updating NOS.
- (iii) Ongoing Event-Related Changes: changes of this type are generally implemented in the indices as they occur. Significantly large IPOs are included in the indices after the close of the company's tenth day of trading.

None of us, the dealer or any of our other affiliates accepts any responsibility for the calculation, maintenance, or publication of, or for any error, omission, or disruption in, the index or any successor to the index.

Historical Information

The graph below illustrates the performance of the EEM from August 16, 2009 to August 16, 2019, reflecting its Initial Level of \$39.54. The solid line represents its Downside Threshold and Coupon Barrier of \$27.68, which is equal to 70% of its Initial Level (rounded to two decimal places).



HISTORICAL PERFORMANCE IS NOT AN INDICATION OF FUTURE PERFORMANCE.

Source: Bloomberg L.P. We have not independently verified the accuracy or completeness of the information obtained from Bloomberg Financial Markets.

The EURO STOXX 50 Index®

The SX5E was created by STOXX, which is currently owned by Deutsche Börse AG. Publication of the SX5E began in February 1998, based on an initial SX5E level of 1,000 at December 31, 1991.

Composition and Maintenance

The SX5E is composed of 50 component stocks of market sector leaders from within the 19 EURO STOXX® Supersector indices, which represent the Eurozone portion of the STOXX Europe 600® Supersector indices.

The composition of the SX5E is reviewed annually, based on the closing stock data on the last trading day in August. The component stocks are announced on the first trading day in September. Changes to the component stocks are implemented on the third Friday in September and are effective the following trading day. Changes in the composition of the SX5E are made to ensure that the SX5E includes the 50 market sector leaders from within the SX5E.

The free float factors for each component stock used to calculate the SX5E, as described below, are reviewed, calculated, and implemented on a quarterly basis and are fixed until the next quarterly review.

The SX5E is also reviewed on an ongoing basis. Corporate actions (including initial public offerings, mergers and takeovers, spin-offs, delistings, and bankruptcy) that affect the SX5E composition are immediately reviewed. Any changes are announced, implemented, and effective in line with the type of corporate action and the magnitude of the effect.

Calculation of the SX5E

The SX5E is calculated with the "Laspeyres formula," which measures the aggregate price changes in the component stocks against a fixed base quantity weight. The formula for calculating the SX5E value can be expressed as follows:

$$\text{Index} = \frac{\text{Free float market capitalization of the index}}{\text{Adjusted base date market capitalization of the index}} \times 1,000$$

The "free float market capitalization of the SX5E" is equal to the sum of the products of the closing price, market capitalization, and free float factor for each component stock as of the time the SX5E is being calculated.

The SX5E is also subject to a divisor, which is adjusted to maintain the continuity of the SX5E values across changes due to corporate actions, such as the deletion and addition of stocks, the substitution of stocks, stock dividends, and stock splits.

License Agreement

We have entered into a non-exclusive license agreement with STOXX providing for the license to us and certain of our affiliated or subsidiary companies, in exchange for a fee, of the right to use indices owned and published by STOXX (including the SX5E) in connection with certain securities, including the Notes offered hereby.

The license agreement between us and STOXX requires that the following language be stated in this document:

STOXX has no relationship to us, other than the licensing of the SX5E and the related trademarks for use in connection with the Notes. STOXX does not:

- sponsor, endorse, sell, or promote the Notes;
- recommend that any person invest in the Notes offered hereby or any other securities;
- have any responsibility or liability for or make any decisions about the timing, amount, or pricing of the Notes;
- have any responsibility or liability for the administration, management, or marketing of the Notes; or
- consider the needs of the Securities or the holders of the Notes in determining, composing, or calculating the SX5E, or have any obligation to do so.

STOXX will not have any liability in connection with the Notes. Specifically:

- STOXX does not make any warranty, express or implied, and disclaims any and all warranty concerning:
- the results to be obtained by the Notes, the holders of the Securities or any other person in connection with the use of the SX5E and the data included in the SX5E;
- the accuracy or completeness of the SX5E and its data;
- the merchantability and the fitness for a particular purpose or use of the SX5E and its data;
- STOXX will have no liability for any errors, omissions, or interruptions in the SX5E or its data; and
- Under no circumstances will STOXX be liable for any lost profits or indirect, punitive, special, or consequential damages or losses, even if STOXX knows that they might occur.

The licensing agreement between us and STOXX is solely for their benefit and our benefit, and not for the benefit of the holders of the Notes or any other third parties.

Historical Information

The graph below illustrates the performance of the SX5E from August 16, 2009 to August 16, 2019, reflecting its Initial Level of 3,329.08. The solid line represents its Downside Threshold and Coupon Barrier of 2,330.36, which is equal to 70% of its Initial Level (rounded to two decimal places).



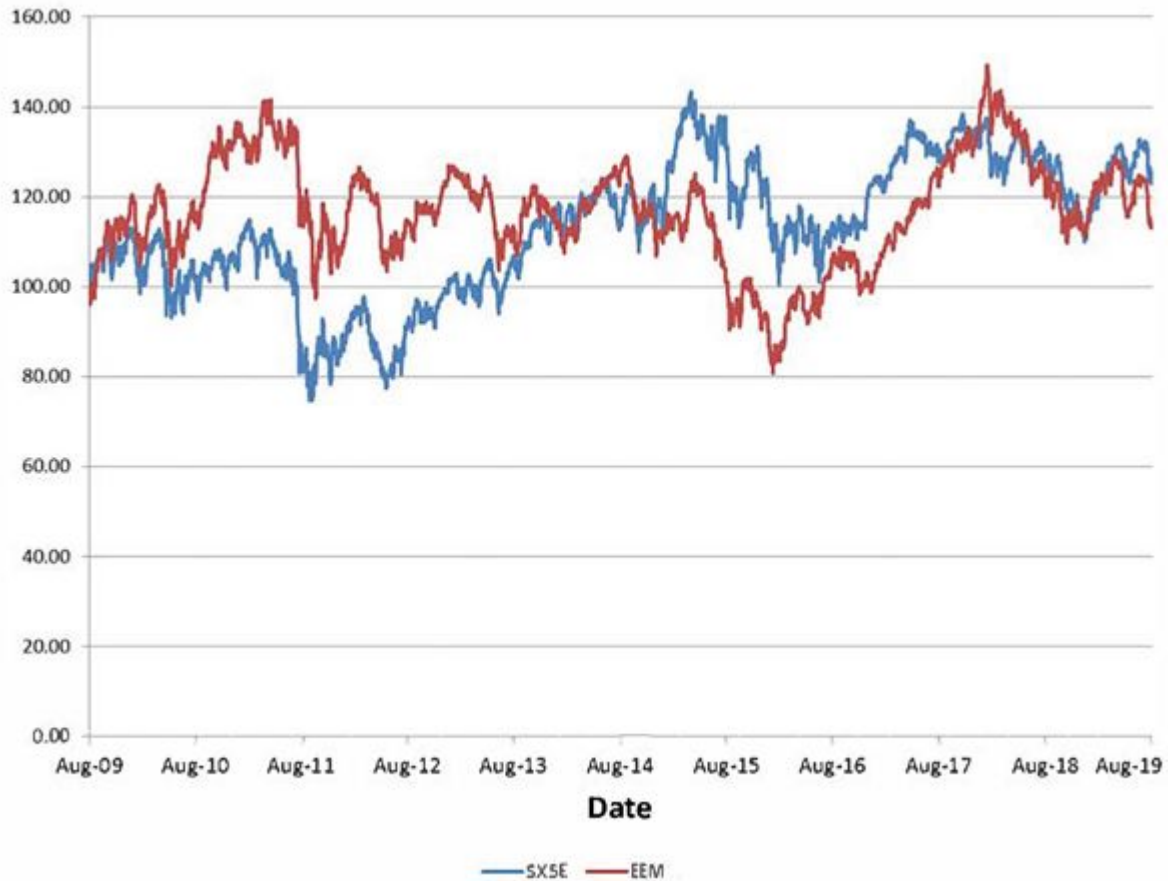
HISTORICAL PERFORMANCE IS NOT AN INDICATION OF FUTURE PERFORMANCE.

Source: Bloomberg L.P. We have not independently verified the accuracy or completeness of the information obtained from Bloomberg Financial Markets.

Correlation of the Underlyings

The graph below illustrates the daily performance of the Underlyings from August 16, 2009 through August 16, 2019. For comparison purposes, each Underlying has been normalized to have a closing value of \$100.00 on August 16, 2009 by dividing the closing value of that Underlying on each day by the closing value of that Underlying on August 16, 2009 and multiplying by \$100.00. We obtained the closing values used to determine the normalized closing values set forth below from Bloomberg L.P., without independent verification.

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



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

The lower the correlation between two Underlyings, the greater the potential for one of those Underlyings to close below its Coupon Barrier or its Downside Threshold on any Coupon Observation Date or the Final Valuation Date, respectively. Therefore, the greater the number of Underlyings, the greater the potential for missed Contingent Coupons and for a loss of principal at maturity. We determined the Contingent Coupons for the Notes based, in part, on the correlation among the Underlyings, calculated using internal models at the time the terms of the Notes were set. As discussed above, increased risk resulting from lower correlation or from a greater number of Underlyings are reflected in a higher Contingent Coupon than would be payable on securities linked to fewer Underlyings or that have a higher degree of correlation.

Additional Terms of Your Notes Relating to the SX5E

Closing Level

The closing level of the SX5E (referred to in this section as the “Applicable Index”) on any trading day will equal its closing level published following the regular official weekday close of trading on that trading day.

A “trading day” as to the Applicable Index means a day on which the principal trading market for the Applicable Index is open for trading.

Unavailability of the Level of the SX5E

If the sponsor of the Applicable Index discontinues publication of the Applicable Index and its sponsor or another entity publishes a successor or substitute index that the calculation agent determines, in its sole discretion, to be comparable to the Applicable Index (such successor or substitute index being referred to in this section as a “successor index”), then any subsequent index closing level will be determined by reference to the published level of that successor index at the regular weekday close of trading on the applicable trading day.

Upon any selection by the calculation agent of a successor index, the calculation agent will provide written notice to the trustee of the selection, and the trustee will furnish written notice thereof, to the extent the trustee is required to under the senior debt indenture, to each noteholder, or in the case of global notes, the depository, as holder of the global notes.

If a successor index is selected by the calculation agent, that successor index will be used as a substitute for the Applicable Index for all purposes, including for purposes of determining whether a market disruption event exists with respect to the Applicable Index.

If the sponsor of the Applicable Index discontinues publication of the Applicable Index prior to, and that discontinuance is continuing on, any trading day on which the level of the Applicable Index must be determined, and the calculation agent determines, in its sole discretion, that no successor index is available at that time, then the calculation agent will determine the level of the Applicable Index for the relevant date in accordance with the formula for and method of calculating the Applicable Index last in effect prior to the discontinuance, without rebalancing or substitution, using the closing level (or, if trading in the relevant underlying securities or components of the Applicable Index have been materially suspended or materially limited, its good faith estimate of the closing level that would have prevailed but for that suspension or limitation) at the close of the principal trading session of the relevant exchange on that date of each security or component most recently comprising the Applicable Index. Notwithstanding these alternative arrangements, discontinuance of the publication of the Applicable Index may adversely affect the value of your Notes.

If at any time the method of calculating a closing level for the Applicable Index or a successor index is changed in a material respect, or if such index is in any other way modified so that it does not, in the opinion of the calculation agent, fairly represent its level had those changes or modifications not been made, then, from and after that time, the calculation agent will, at the close of business in New York City on the applicable trading day, make such calculations and adjustments as, in the good faith judgment of the calculation agent, may be necessary in order to arrive at a level of an index comparable to such index as if those changes or modifications had not been made. Accordingly, if the method of calculating an index is modified so that the level of that index is a fraction of what it would have been if it had not been modified (e.g., due to a split in that index), then the calculation agent will adjust the level of that index in order to arrive at a level of that index as if it had not been modified (e.g., as if such split had not occurred).

Market Disruption Events

A “market disruption event” with respect to the Applicable Index or a successor index means any event, circumstance or cause which we determine, and the calculation agent confirms, has or will have a material adverse effect on our ability to perform our obligations under the Notes or to hedge our position in respect of our obligations to make payment of amounts owing thereunder and more specifically includes the following events to the extent that they have such effect with respect to that index:

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

Supplemental Plan of Distribution (Conflicts of Interest)

We have agreed to indemnify UBS and RBCCM against liabilities under the Securities Act of 1933, as amended, or to contribute payments that UBS and RBCCM may be required to make relating to these liabilities as described in the prospectus supplement and the prospectus. We have agreed that UBS may sell all or a part of the Notes that it will purchase from us to investors at the price to public listed on the cover hereof, or its affiliates at the price indicated on the cover of this pricing supplement.

UBS may allow a concession not in excess of the underwriting discount set forth on the cover of this pricing supplement to its affiliates for distribution of the Notes.

Subject to regulatory constraints and market conditions, RBCCM intends to offer to purchase the Notes in the secondary market, but it is not required to do so.

We or our affiliates may enter into swap agreements or related hedge transactions with one of our other affiliates or unaffiliated counterparties in connection with the sale of the Notes and RBCCM and/or an affiliate may earn additional income as a result of payments pursuant to the swap or related hedge transactions. See "Use of Proceeds and Hedging" in the accompanying product prospectus supplement no. UBS-TACYN-1.

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

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 eight 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 or 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 the underwriting discount and our estimated costs and profits from hedging the Notes. Any such excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Notes, it expects to do so at prices that reflect their estimated value. This period may be reduced at RBCCM's discretion based on a variety of factors, including but not limited to, the amount of the Notes that we repurchase and our negotiated arrangements from time to time with UBS.

For additional information as to the relationship between us and RBCCM, please see the section "Plan of Distribution—Conflicts of Interest" in the prospectus dated September 7, 2018.

Structuring the Notes

The Notes are our debt securities, the return on which is linked to the performance of the Underlyings. As is the case for all of our debt securities, including our structured notes, the economic terms of the Notes reflect our actual or perceived creditworthiness at the time of pricing. In addition, because structured notes result in increased operational, funding and liability management costs to us, we typically borrow the funds under these Notes at a rate that is more favorable to us than the rate that we might pay for a conventional fixed or floating rate debt security of comparable maturity. Using this relatively lower implied borrowing rate rather than the secondary market rate is a factor that resulted in a higher initial estimated value of the Notes at the time their terms are set than if the secondary market rate was used. Unlike the estimated value included on the cover of this pricing supplement, any value of the Notes determined for purposes of a secondary market transaction may be based on a different borrowing rate, which may result in a lower value for the Notes than if our initial internal borrowing rate were used.

In order to satisfy our payment obligations under the Notes, we may choose to enter into certain hedging arrangements (which may include call options, put options or other derivatives) on the issue date with RBCCM or one of our other subsidiaries. The terms of these hedging arrangements take into account a number of factors, including our creditworthiness, interest rate movements, the volatility of each Underlying, and the tenor of the Notes. The economic terms of the Notes and their initial estimated value depend in part on the terms of these hedging arrangements.

The lower implied borrowing rate is a factor that reduced the economic terms of the Notes to you. The initial offering price of the Notes also reflects the underwriting discount 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 "Key Risks—The Initial Estimated Value of the Notes Is Less than the Price to the Public" above.

Terms Incorporated in Master Note

The terms appearing above under the caption "Final Terms of the Notes" and the provisions in the accompanying product prospectus supplement no. UBS-TACYN-1 dated October 3, 2018 under the caption "General Terms of the Notes" are incorporated into the master note issued to DTC, the registered holder of the Notes.

Validity of the Notes

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Notes has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Notes have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Notes will be validly issued and, to the extent validity of the Notes is a matter governed by the laws of the Province of Ontario or Québec, or the laws of Canada applicable therein, and will be valid obligations of the Bank, subject to equitable remedies which may only be granted at the discretion of a court of competent authority, subject to applicable bankruptcy, to rights to indemnity and contribution under the Notes or the Indenture which may be limited by applicable law; to insolvency and other laws of general application affecting creditors' rights, to limitations under applicable limitations statutes, and to limitations as to the currency in which judgments in Canada may be rendered, as prescribed by the Currency Act (Canada). This opinion is given as of the date hereof and is limited to the laws of the Provinces of Ontario and Québec and the federal laws of Canada applicable thereto. In addition, this opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and certain factual matters, all as stated in the letter of such counsel dated September 7, 2018, which has been filed as Exhibit 5.1 to Royal Bank's Form 6-K filed with the SEC dated September 7, 2018.

In the opinion of Morrison & Foerster LLP, when the Notes have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Notes will be valid, binding and enforceable obligations of Royal Bank, entitled to the benefits of the Indenture, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith). This opinion is given as of the date hereof and is limited to the laws of the State of New York. This opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel's reliance on the Bank and other sources as to certain factual matters, all as stated in the legal opinion dated September 7, 2018, which has been filed as Exhibit 5.2 to the Bank's Form 6-K dated September 7, 2018.