ROYAL BANK OF CANADA
Form 424B2
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PRICING SUPPLEMENT
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Registration Statement No. 333-227001
Dated November 28, 2018
Royal Bank of Canada Trigger Absolute Return Step Securities
$4,459,300 Securities Linked to a Basket of Six Equity Indices, due on November 30, 2023

Investment Description

Trigger Absolute Return Step Securities are unconditional, unsecured and unsubordinated debt securities issued by Royal Bank of Canada with returns linked to the an unequally weighted basket (the "Underlying Basket") of six equity indices, consisting of the EURO STOXX 50® Index (40.00% weighting), the FTSE® 100 Index (20.00% weighting), Nikkei 225 Index (20.00% weighting), the Swiss Market Index (7.50% weighting), the S&P/ASX 200 Index (7.50% weighting), and the Hang Seng® Index (5.00% weighting) (each, an "Underlying Index"). If the Final Basket Level is greater than or equal to the Step Barrier, we will pay the principal amount at maturity plus a return equal to the greater of (i) the Step Return and (ii) the Underlying Return. If the Final Basket Level is equal to or greater than the Downside Threshold but less than the Initial Basket Level, we will pay the principal amount at maturity and a return equal to the absolute value of the Underlying Return (the "Contingent Absolute Return"). If the Final Basket Level is less than the Downside Threshold, we will pay less than the full principal amount at maturity, if anything, resulting in a loss of principal that is proportionate to the negative Underlying Return. The Securities 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 Securities involves significant risks. The Securities do not pay dividends or interest. You may lose some or all of your principal amount. The Step Payment, the Contingent Absolute Return and the contingent repayment of principal apply only if you hold the Securities to maturity. Any payment on the Securities 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 Securities and you could lose your entire investment. The Securities will not be listed on any securities exchange.

Features Key Dates

q Step Return with Upside Participation: At maturity, we will pay you the principal amount plus a minimum return of 52.50%, which we call the "Step Return," as long as the value of the Underlying Basket does not close below the Step Barrier on the Final Valuation Date, with participation in any positive Index Return above the Step Return.

q Absolute Return Above the Downside Threshold — If the Underlying Return is less than or equal to zero but the Final Basket Level is greater than or equal to the Downside Threshold, we will pay the principal amount at maturity plus a return equal to the product of (i) the principal amount multiplied by (ii) the Contingent Absolute Return.

q Downside Exposure— If the Underlying Return is negative and the Final Basket Level is less than the Downside Threshold, we will pay you less than the full principal amount at maturity, resulting in a loss of principal that is proportionate to the negative Underlying Return. Accordingly, you may lose some or all of the principal amount of the Securities. Any payment on the Securities is subject to our creditworthiness.

Trade Date	November 28, 2018
Settlement Date	November 30, 2018
Final Valuation Date[1]	November 27, 2023
Maturity Date[1]	November 30, 2023

[1] Subject to postponement in the event of a market disruption event, as described under "General Terms of the Securities – Payment at Maturity" in the accompanying product prospectus supplement UBS-IND-1.

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

YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED UNDER "KEY RISKS" BEGINNING ON PAGE 5 OF THIS PRICING SUPPLEMENT AND UNDER "RISK FACTORS" BEGINNING ON PAGE PS-3 OF THE ACCOMPANYING PRODUCT PROSPECTUS SUPPLEMENT BEFORE PURCHASING ANY SECURITIES. EVENTS RELATING TO ANY OF THOSE RISKS, OR OTHER RISKS AND UNCERTAINTIES, COULD ADVERSELY AFFECT THE MARKET VALUE OF, AND THE RETURN ON, YOUR SECURITIES. YOU COULD LOSE SOME OR ALL OF THE PRINCIPAL AMOUNT.

Security Offering

We are offering Trigger Absolute Return Step Securities Linked to an unequally weighted basket of six equity indices. The Securities are offered at a minimum investment of 100 Securities at the Price to Public described below.

Underlying Indices with Weightings	Bloomberg Symbols	Step Return	Step Barrier	Downside Threshold	CUSIP	ISIN
EURO STOXX 50® Index (40.00%)	SX5E					
FTSE® 100 Index (20.00%)	UKX		100% of the Initial Basket Level	70, which is 70% of the Initial Basket Level (rounded to two decimal places)		
Nikkei 225 Index (20.00%)	NKY	52.50%			78014G765	US78014G7658
Swiss Market Index (7.50%)	SMI					
S&P/ASX 200 Index (7.50%)	AS51					
Hang Seng® Index (5.00%)	HSI					

See "Additional Information About Royal Bank of Canada and the Securities" in this pricing supplement. The Securities will have the terms specified in the prospectus dated September 7, 2018, the prospectus supplement dated September 7, 2018, product prospectus supplement UBS-IND-1 dated September 7, 2018 and this pricing supplement.

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

Offering of the Securities	Price to Public		Fees and Commissions[(1)]		Proceeds to Us	
	Total	Per Security	Total	Per Security	Total	Per Security
Securities Linked to a basket of six equity indices	$4,459,300.00	$10.00	$156,075.50	$0.35	$4,303,224.50	$9.65

(1) UBS Financial Services Inc., which we refer to as UBS, will receive a commission of $0.35 per $10 in principal amount. See "Supplemental Plan of Distribution (Conflicts of Interest)" below.

The initial estimated value of the Securities as of the date of this document is $9.4729 per $10 in principal amount, which is less than the price to public. The actual value of the Securities 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 Securities” below. The Securities 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 Securities

You should read this pricing supplement together with the prospectus dated September 7, 2018, as supplemented by the prospectus supplement dated September 7, 2018, relating to our senior global medium-term notes, Series H, of which these Securities are a part, and the more detailed information contained in product prospectus supplement UBS-IND-1 dated September 7, 2018. This pricing supplement, together with the documents listed below, contains the terms of the Securities 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 UBS-IND-1, as the Securities 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, the prospectus supplement, or the prospectus, the terms discussed herein will control.

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 UBS-IND-1 dated September 7, 2018:
https://www.sec.gov/Archives/edgar/data/1000275/000114036118038046/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 Securities may be suitable for you if, among other considerations:

- You fully understand the risks inherent in an investment in the Securities, including the risk of loss of your entire initial investment.
- You can tolerate the loss of all or a substantial portion of the principal amount of the Securities and are willing to make an investment that may have the full downside market risk as a hypothetical investment in the Underlying Basket.
- You seek an investment with a return linked to the performance of the Underlying Basket and believe the Final Basket Level is likely to be at or above the Step Barrier on the Final Valuation Date.
- You understand and accept that your potential positive return from the Contingent Absolute Return feature is limited by the Downside Threshold.
- You are willing to invest in the Securities based on the Step Return set forth on the cover page of this document.
- You can tolerate fluctuations in the price of the Securities prior to maturity that may be similar to or exceed the downside fluctuations in the value of the Underlying Basket.
- You do not seek current income from your investment and are willing to forgo dividends paid on the securities represented by the Underlying Indices.
- You are willing to hold the Securities to maturity and accept that there may be little or no secondary market for the Securities.
- You understand and accept the risks associated with the Underlying Indices.
- You are willing to assume our credit risk for all payments under the Securities, and understand that if we default on our obligations, you may not receive any amounts due to you, including any repayment of principal.

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

- You do not fully understand the risks inherent in an investment in the Securities, including the risk of loss of your entire initial investment.
- You require an investment designed to provide a full return of principal at maturity.
- You cannot tolerate the loss of all or a substantial portion of the principal amount of the Securities, and you are not willing to make an investment that may have the full downside market risk as a hypothetical investment in the Underlying Basket.
- You believe that the Final Basket Level is unlikely to be at or above the Step Barrier on the Final Valuation Date.
- You believe the Underlying Basket will depreciate from the Initial Basket Level over the term of the Securities and is likely to close below the Downside Threshold on the Final Valuation Date.
- You do not understand and accept that your potential positive return from the Contingent Absolute Return feature is limited by the Downside Threshold.
- You are unwilling to invest in the Securities based on the Step Return set forth on the cover page of this document.
- You cannot tolerate fluctuations in the price of the Securities prior to maturity that may be similar to or exceed the downside fluctuations in the value of the Underlying Basket.
- You seek current income from this investment or prefer to receive the dividends paid on the securities represented by the Underlying Indices.
- You are unable or unwilling to hold the Securities to maturity or you seek an investment for which there will be an active secondary market.
- You do not understand and accept the risks associated with the Underlying Indices.
- You are not willing to assume our credit risk for all payments under the Securities, including any repayment of principal.

The suitability considerations identified above are not exhaustive. Whether or not the Securities 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 Securities in light of your particular circumstances. You should also review carefully the “Key Risks” in this pricing supplement and “Risk Factors” in the accompanying product prospectus supplement UBS-IND-1 for risks related to an investment in the Securities. In addition, you should review carefully the section below, “Information About the Underlying Indices,” for more information about the Underlying Indices.

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Final Terms of the Securities[1]

Issuer:	Royal Bank of Canada
Issue Price:	$10 per Security (subject to a minimum purchase of 100 Securities).
Principal Amount:	$10 per Security.
Term:	Approximately five years
Underlying Basket:	An unequally weighted basket consisting of the following equity indices:

Underlying Indices	Bloomberg Symbols	Component Weightings	Initial Levels
EURO STOXX 50® Index	SX5E	40.00%	3,168.29
FTSE® 100 Index	UKX	20.00%	7,004.52
Nikkei 225 Index	NKY	20.00%	22,177.02
Swiss Market Index	SMI	7.50%	8,894.58
S&P/ASX 200 Index	AS51	7.50%	5,725.078
Hang Seng® Index	HSI	5.00%	26,682.56

Payment at Maturity (per $10 Security):	If the Underlying Return is zero or positive, we will pay you: $10 + $10 × (the greater of: (a) the Step Return and (b) the Underlying Return); If the Underlying Return is negative, but the Final Basket Level is greater than or equal to the Downside Threshold, we will pay you: $10 + ($10 x Contingent Absolute Return) In this scenario, you will receive a 1% positive return on the Securities for each 1% negative return on the Underlying Basket. If the Underlying Return is negative and the Final Basket Level is less than the Downside Threshold, we will pay you a cash payment that is less than the principal amount of $10, resulting in a loss of principal that is proportionate to the negative Underlying Return, calculated as follows: $10 + ($10 × Underlying Return) In this scenario, you will lose some or all of the principal amount, in an amount proportionate to the negative Underlying Return.
Underlying Return:	$\frac{\text{Final Basket Level} - \text{Initial Basket Level}}{\text{Initial Basket Level}}$
Contingent Absolute Return:	The absolute value of the Underlying Return. For example, if the Underlying Return is -5%, the Contingent Absolute Return will be equal to 5%.
Downside Threshold:	70, which is 70% of the Initial Basket Level (rounded to two decimal places)
Step Barrier:	100, which is 100% of the Initial Basket Level
Step Return:	52.50%
Initial Basket Level:	Set to 100 on the Trade Date.
Final Basket Level:	10 x [1 + (the sum of the Index Return of each Underlying Index multiplied by its Component Weighting)]

Index Return of Each Underlying Index:	The Index Return with respect to each Underlying Index reflects the performance of that Underlying Index, calculated as follows: $\frac{\text{Final Level} - \text{Initial Level}}{\text{Initial Level}}$
Initial Level:	With respect to each Underlying Index, the Index Closing Level of that Underlying Index on the Trade Date, as indicated in the table above.
Final Level:	With respect to each Underlying Index, the Index Closing Level of that Underlying Index on the Final Valuation Date. If there is a market disruption event as to an Underlying Index on the Final Valuation Date, or if that date is not a trading day as to an Underlying Index, only the determination of the Final Level for that Underlying Index will be postponed, as set forth in the product prospectus supplement.

Investment Timeline

Trade Date:	The Initial Basket Level, Downside Threshold and Step Barrier were determined.
Maturity Date:	The Final Level and the Index Return of each Underlying Index, the Final Basket Level and the Underlying Return are determined. If the Final Basket Level is greater than or equal to the Step Barrier, we will pay you a cash payment per Security equal to: \$10 + [\$10 × (the greater of (i) the Step Return and (ii) the Underlying Return)] If the Final Basket Level is less than the Initial Basket Level, but greater than or equal to the Downside Threshold, we will pay you a cash payment equal to: \$10 + (\$10 × Contingent Absolute Return); If the Final Basket Level is less than the Downside Threshold, we will pay you a cash payment that is less than the principal amount, calculated as follows: \$10 + (\$10 x Underlying Return) In this scenario, you will lose some or all of the principal amount, in an amount proportionate to the negative Underlying Return.

INVESTING IN THE SECURITIES INVOLVES SIGNIFICANT RISKS. YOU MAY LOSE SOME OR ALL OF YOUR PRINCIPAL AMOUNT. ANY PAYMENT ON THE SECURITIES, 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 SECURITIES AND YOU COULD LOSE YOUR ENTIRE INVESTMENT.

[1] Terms used in this pricing supplement, but not defined herein, shall have the meanings ascribed to them in the product prospectus supplement.

Key Risks

An investment in the Securities involves significant risks. Investing in the Securities is not equivalent to investing directly in any of the component securities of the Underlying Indices. These risks are explained in more detail in the "Risk Factors" section of the accompanying product prospectus supplement UBS-IND-1. We also urge you to consult your investment, legal, tax, accounting and other advisors before investing in the Securities.

- Your Investment in the Securities May Result in a Loss of Principal: The Securities differ from ordinary debt securities in that we are not necessarily obligated to repay the full principal amount of the Securities at maturity. The return on the Securities at maturity is linked to the performance of the Underlying Basket and will depend on whether, and the extent to which, the Underlying Return is positive or negative. If the Final Basket Level is less than the Downside Threshold, the Contingent Absolute Return feature will no longer be available, you will be fully exposed to any negative Underlying Return and we will pay you less than your principal amount at maturity, resulting in a loss proportionate to the decrease in the value of the Underlying Basket from the Initial Basket Level to the Final Basket Level. Accordingly, you could lose the entire principal amount of the Securities.
- The Step Return and the Contingent Absolute Return Apply Only if You Hold the Securities to Maturity: You should be willing to hold the Securities to maturity. If you are able to sell your Securities in the secondary market, the price you receive will likely not reflect the full economic value of the Step Return or the Securities themselves, and the return you realize may be less than the Underlying Basket's return at the time of sale even if that return is positive.
- The Contingent Repayment of Principal Applies Only if You Hold the Securities to Maturity: The contingent repayment of principal only applies at maturity. If you are able to sell your Securities prior to maturity in the secondary market, you may have to sell them at a loss even if the value of the Underlying Basket is above the Downside Threshold at the time of sale.
- The Potential for a Positive Return if the Underlying Basket Depreciates is Limited: Any positive return on the Securities if the Underlying Basket depreciates will be limited by the Downside Threshold, because the Contingent Absolute Return feature will apply only if the Final Basket Level is greater than or equal to the Downside Threshold. If the Final Basket Level is less than the Downside Threshold, you will not receive a Contingent Absolute Return and will instead lose some or all of your investment.
- No Interest Payments: We will not pay any interest with respect to the Securities.
- An Investment in the Securities Is Subject to Our Credit Risk: The Securities are unsubordinated, unsecured debt obligations of the issuer, Royal Bank of Canada, and are not, either directly or indirectly, an obligation of any third party. Any payment to be made on the Securities, including any repayment of principal at maturity, depends on our ability to satisfy our obligations as they come due. As a result, our actual and perceived creditworthiness may affect the market value of the Securities and, in the event we were to default on our obligations, you may not receive any amounts owed to you under the terms of the Securities and you could lose your entire initial investment.
- The Securities 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 of the Bank. As 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, this could result in holders of the Securities being exposed to losses.
- Your Return on the Securities May Be Lower than the Return on a Conventional Debt Security of Comparable Maturity: The return that you will receive on the Securities, which could be negative, may be less than the return you could earn on other investments. Even if your return is positive, your return may be less than the return you could earn if you bought a conventional senior interest bearing debt security of ours with the same maturity date or if you were able to invest directly in the Underlying Indices or the securities included in the Underlying Indices. Your investment may not reflect the full opportunity cost to you when you take into account factors that affect the time value of money.
- Lack of Liquidity: The Securities will not be listed on any securities exchange. RBC Capital Markets, LLC

("RBCCM") intends to offer to purchase the Securities 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 Securities easily. Because other dealers are not likely to make a secondary market for the Securities, the price at which you may be able to trade your Securities is likely to depend on the price, if any, at which RBCCM is willing to buy the Securities.

¨ The Initial Estimated Value of the Securities Is Less than the Price to the Public: The initial estimated value that is set forth on the cover page of this document, which is less than the public offering price you pay for the Securities, does not represent a minimum price at which we, RBCCM or any of our other affiliates would be willing to purchase the Securities in any secondary market (if any exists) at any time. If you attempt to sell the Securities 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 value of the Underlying Basket, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the underwriting discount, and our estimated profit and the costs relating to our hedging of the Securities. These factors, together with various credit, market and economic factors over the term of the Securities, are expected to reduce the price at which you may be able to sell the Securities in any secondary market and will affect the value of the Securities 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 Securities 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 Securities. In addition, any price at which you may sell the Securities is likely to reflect customary bid-ask spreads for similar trades. In addition to bid-ask spreads, the value of the Securities determined for any secondary market price is expected to be based on the secondary market rate rather than the internal borrowing rate used to price the Securities and determine the initial estimated value. As a result, the secondary price will be less than if the internal borrowing rate was used. The Securities are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Securities to maturity.

¨ Our Initial Estimated Value of the Securities Is an Estimate Only, Calculated as of the Time the Terms of the Securities Were Set: The initial estimated value of the Securities is based on the value of our obligation to make the payments on the Securities, together with the mid-market value of the derivative embedded in the terms of the Securities. See "Structuring the Securities" 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 Securities. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Securities or similar securities at a price that is significantly different than we do.

The value of the Securities 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 Securities in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Securities and the amount that may be paid at maturity.

- Changes in the Level of One or More of the Underlying Indices May Be Offset by Changes in the Level of One or More of the Other Underlying Indices: Changes in the levels of the Underlying Indices may not correlate with each other. At a time when the level of one of the Underlying Indices increases, the level of any other Underlying Indices may not increase as much or may even decline. Therefore, in calculating the Final Basket Level, an increase in the level of one of the Underlying Indices may be moderated, or more than offset, by a lesser increase or decline in the level of any other Underlying Indices. In addition, because the SX5E makes up 40% of the Underlying Basket, we expect that generally the market value of your Securities and your payment at maturity will depend to a greater extent on the performance of the SX5E than the performance of each of the other Underlying Indices. Further, high correlation of movements in the levels of the Underlying Indices during periods of negative returns among the Underlying Indices could have an adverse effect on any payment on the Securities.
- No Dividend Payments or Voting Rights: Investing in the Securities is not equivalent to investing directly in any of the component securities of an Underlying Index: As a holder of the Securities, you will not have voting rights or rights to receive cash dividends or other distributions or other rights that holders of the equity securities underlying an Underlying Index would have. Each Underlying Index is a price return index, and its Index Return excludes any cash dividend payments paid on its component stocks.
- An Investment in the Securities Is Subject to Risks Associated with Non-U.S. Securities Markets: The securities included in each Underlying Index have been issued by non-U.S. companies. An investment in securities linked to the value of non-U.S. equity securities involves particular risks. Non-U.S. securities markets may be more volatile than U.S. securities markets, and market developments may affect non-U.S. securities markets differently from the U.S. securities markets. Direct or indirect government intervention to stabilize these non-U.S. securities markets, as well as cross shareholdings among non-U.S. companies, may affect trading prices and volumes in those markets. Also, there is generally less publicly available information in the U.S. about non-U.S. companies than about those U.S. companies that are subject to the reporting requirements of the SEC, and non-U.S. companies are subject to accounting, disclosure, auditing and financial reporting standards and requirements that differ from those applicable to U.S. reporting companies.

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

- The Return on the Securities Will Not Be Adjusted for the Exchange Rates Related to the Underlying Indices: Although the equity securities that comprise each Underlying Index are traded in the foreign currencies, and your Securities are denominated in U.S. dollars, the amount payable on your Securities will not be adjusted for changes in the exchange rates between the U.S. dollar and the relevant foreign currencies. Therefore, if a relevant foreign currency appreciates or depreciates relative to the U.S. dollar over the term of the Securities, you will not receive any additional payment or incur any reduction in any payment on the Securities. Changes in exchange rates, however, may also reflect changes in the foreign economies that in turn may affect the level of an Underlying Index, and therefore the return on your Securities.
- Changes Affecting an Underlying Index: The policies of an index sponsor concerning additions, deletions and substitutions of the stocks included in the relevant Underlying Index and the manner in which the index sponsor takes account of certain changes affecting those stocks included in the relevant Underlying Index may adversely affect the level of that Underlying Index. The policies of an index sponsor with respect to the calculation of the relevant Underlying Index could also adversely affect the level of that Underlying Index. An index sponsor may discontinue or suspend calculation or dissemination of the relevant Underlying Index and has no obligation to consider your interests in the Securities when taking any action regarding the relevant Underlying Index. Any such actions could have an adverse effect on the value of the Securities and the amount that may be paid at maturity

- Potential Conflicts: We and our affiliates play a variety of roles in connection with the issuance of the Securities, including hedging our obligations under the Securities. 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 Securities.
- Potentially Inconsistent Research, Opinions or Recommendations by RBCCM, UBS or Their Affiliates: RBCCM, UBS or their respective affiliates may publish research, express opinions or provide recommendations that are inconsistent with investing in or holding the Securities, and which may be revised at any time. Any such research, opinions or recommendations could affect the value of the Underlying Basket or the equity securities included in the Underlying Basket, and therefore the market value of the Securities.
- Uncertain Tax Treatment: Significant aspects of the tax treatment of an investment in the Securities are uncertain. You should consult your tax adviser about your tax situation.
- Potential Royal Bank of Canada and UBS Impact on Price: Trading or other transactions by Royal Bank of Canada, UBS and our respective affiliates in the equity securities included in the Underlying Basket or in futures, options, exchange-traded funds or other derivative products on the equity securities included in the Underlying Basket may adversely affect the market value of those equity securities and the value of the Underlying Basket and, therefore, the market value of the Securities.
- The Probability That the Value of the Underlying Basket Will Fall Below the Downside Threshold on the Final Valuation Date Will Depend on the Volatility of the Underlying Basket: “Volatility" refers to the frequency and magnitude of changes in the value of the Underlying Basket. Greater expected volatility with respect to the Underlying Basket reflects a higher expectation as of the Trade Date that the Underlying Basket could close below its Downside Threshold on the Final Valuation Date, resulting in the loss of some or all of your investment. However, the Underlying Basket’s volatility can change significantly over the term of the Securities. The value of the Underlying Basket could fall sharply, which could result in a significant loss of principal.
- The Terms of the Securities 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 Securities at issuance and will affect 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 Securities, including a combination of a bond with one or more options or other derivative instruments. For the market value of the Securities, we expect that, generally, the value of the Underlying Basket on any day will affect the value of the Securities more than any other single factor. However, you should not expect the value of the Securities in the secondary market to vary in proportion to changes in the value of the Underlying Basket. The value of the Securities will be affected by a number of other factors that may either offset or magnify each other, including:
- the actual or expected volatility of the Underlying Basket;
- the time remaining to maturity of the Securities;
- the dividend rates on the equity securities included in the Underlying Basket;

- interest and yield rates in the market generally, as well as in each of the markets of the equity securities included in the Underlying Basket;
- a variety of economic, financial, political, regulatory or judicial events; and
- our creditworthiness, including actual or anticipated downgrades in our credit ratings.

Some or all of these factors influenced the terms of the Securities at issuance and will influence the price you will receive if you choose to sell the Securities 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 Securities at a substantial discount from the principal amount if, for example, the value of the Underlying Basket is at, below or not sufficiently above, the Initial Basket Level.

Hypothetical Examples and Return Table at Maturity

Hypothetical terms only. Actual terms may vary. See the cover page for the actual offering terms.
The following table and hypothetical examples below illustrate the payment at maturity per $10 Security for a hypothetical range of Underlying Returns from -100.00% to +100.00, reflect the Downside Threshold of 70% of the Initial Basket Level, and are based on the Initial Basket Level of 100 and the Step Return of 52.50%. The hypothetical Payment at Maturity examples set forth below are for illustrative purposes only and may not be the actual returns applicable to a purchaser of the Securities. The actual payment at maturity will be determined based on the Final Basket Level on the Final Valuation Date. You should consider carefully whether the Securities are suitable to your investment goals. The numbers appearing in the table below have been rounded for ease of analysis.

Example 1 – On the Final Valuation Date, the Underlying Basket closes 5% above the Initial Basket Level. Because the Underlying Return is positive, we will pay you an amount based upon the greater of the Underlying Return and Step Return, calculated as follows:

Underlying Return = (105– 100) / 100 = 5%

Payment at Maturity = $10 + [$10 x the greater of (i) 52.50% and (ii) 5%] = $15.25

Because the Final Basket Level is greater than or equal to the Step Barrier but the Underlying Return is less than the Step Return of 52.50%, the Payment at Maturity is equal to $15.25 per $10.00 Principal Amount of Securities, resulting in a total return on the Securities of 52.50%.

Example 2 – On the Final Valuation Date, the Underlying Basket closes 60% above the Initial Basket Level. Because the Underlying Return is positive, we will pay you an amount based upon the greater of the Underlying Return and Step Return, calculated as follows:

Underlying Return = (160 – 100) / 100 = 60%

Payment at Maturity = $10 + [$10 x the greater of (i) 52.50% and (ii) 60%] = $16.00

Because the Final Basket Level is greater than or equal to the Step Barrier but the Underlying Return is greater than the Step Return, the Payment at Maturity is equal to $16.00 per $10.00 Principal Amount of Securities, resulting in a total return on the Securities of 60%.

Example 3 – On the Final Valuation Date, the Underlying Basket closes 10% below the Initial Basket Level. Because the Underlying Return is negative and the Final Basket Level is greater than the Downside Threshold, the payment at maturity will be calculated as follows:

$10 + ($10 x 10.00%) = $10.00 + $1.00 = $11.00

Example 4 – On the Final Valuation Date, the Underlying Basket closes 40% below the Initial Basket Level. Because the Final Basket Level is less than the Downside Threshold, we will pay you at maturity a cash payment of $6.00 per $10 principal amount Security (a 40% loss on the principal amount), calculated as follows:

$10 + ($10 x -40%) = $10.00 - $4.00 = $6.00

Hypothetical Final Basket Level	Hypothetical Underlying Return*	Hypothetical Payment at Maturity ($)	Total Return on Securities (%)[1]
200.00	100.00%	$20.00	100.00%
175.00	75.00%	$17.50	75.00%
160.00	60.00%	$16.00	60.00%
152.50	52.50%	$15.25	52.50%
150.00	50.00%	$15.25	52.50%
140.00	40.00%	$15.25	52.50%
130.00	30.00%	$15.25	52.50%
120.00	20.00%	$15.25	52.50%
110.00	10.00%	$15.25	52.50%
100.00	0.00%	$15.25	52.50%
90.00	-10.00%	$11.00	10.00%

85.00	-15.00%	$11.50	15.00%
80.00	-20.00%	$12.00	20.00%
75.00	-25.00%	$12.50	25.00%
70.00	-30.00%	$13.00	-30.00%
60.00	-40.00%	$6.00	-40.00%
50.00	-50.00%	$5.00	-50.00%
25.00	-75.00%	$2.50	-75.00%
0.00	-100.00%	$0.00	-100.00%

* The Underlying Return excludes any cash dividend payments.

[1] The “total return” is the number, expressed as a percentage, that results from comparing the payment at maturity per $1,000 principal amount Security to the purchase price of $1,000 per Security.

What Are the Tax Consequences of the Securities?

U.S. Federal Income Tax Consequences

Set forth below, together with the discussion of U.S. federal income tax in the accompanying product prospectus supplement, prospectus supplement, and prospectus, is a summary of the material U.S. federal income tax consequences relating to an investment in the Securities. The following summary supplements and to the extent inconsistent with supersedes the discussion under the section entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in the accompanying product prospectus supplement, 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 Securities.

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat a Security with terms described herein as a pre-paid cash-settled derivative contract in respect of the Underlying Basket for U.S. federal income tax purposes, and the terms of the Securities 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 Securities for all tax purposes in accordance with such characterization. If the Securities are so treated, subject to the discussion in the accompanying product prospectus supplement concerning the potential application of the “constructive ownership” rules under Section 1260 of the Code, a U.S. holder should generally recognize capital gain or loss upon the sale or maturity of the Securities in an amount equal to the difference between the amount a holder receives at such time and the holder’s tax basis in the Securities. 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 Securities. According to the notice, the IRS and the U.S. Treasury Department are actively considering whether the holder of an instrument such as the Securities 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 Securities will ultimately be required to accrue income currently and this could be applied on a retroactive basis. The IRS and the U.S. Treasury Department are also considering other relevant issues, including whether additional gain or loss from such instruments should be treated as ordinary or capital and whether the special "constructive ownership rules" of Section 1260 of the 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.

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

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 Securities.

Please see the discussion under the section entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in the accompanying product prospectus supplement for a further discussion of the U.S. federal income tax consequences of an investment in the Securities.

Canadian Federal Income Tax Consequences

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

Information About the Underlying Indices

We have derived all information contained in this document regarding each Underlying Index, including, without limitation, its make-up, method of calculation, and changes in its components, from publicly available sources. The information reflects the policies of, and is subject to change by, its index sponsor. Each index sponsor, which owns the copyright and all other rights to the applicable Underlying Index, has no obligation to continue to publish, and may discontinue publication of the relevant Underlying Index. None of us, UBS or RBCCM accepts any responsibility for the calculation, maintenance or publication of any Underlying Index or any successor index.

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:

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

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 Securities 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 Securities. STOXX does not:

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

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

- STOXX does not make any warranty, express or implied, and disclaims any and all warranty concerning:
  -

the results to be obtained by the Securities, 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 Securities or any other third parties

Historical Information

The following graph sets forth the closing levels of the SX5E from January 1, 2008 through November 28, 2018, as reported by Bloomberg Financial Markets. The historical performance of the SX5E should not be taken as an indication of future performance. We cannot give you assurance that the performance of the SX5E will result in the return of any of your initial investment.

The FTSE® 100 Index

The FTSE® 100 Index (Bloomberg ticker "UKX Index") is a market capitalization-weighted index of the 100 most highly capitalized U.K.-listed blue chip companies traded on the London Stock Exchange. The FTSE® 100 Index was developed with a base level of 1,000 as of December 30, 1983. It is calculated, published and disseminated by FTSE International Limited ("FTSE"), a company owned by the London Stock Exchange Plc (the "Exchange"). Additional information on the FTSE® 100 Index is available from the following website: www.ftse.com/uk. We are not incorporating by reference the website or any material it includes in this document. FTSE is under no obligation to continue to publish the FTSE® 100 Index and may discontinue publication of the FTSE® 100 Index at any time.

The FTSE® 100 is a market capitalization-weighted index of the 100 most highly capitalized U.K.-listed blue chip companies traded on the London Stock Exchange. FTSE divides the 100 companies included in the FTSE® 100 Index into 19 sectors: Oil & Gas, Chemicals, Basic Resources, Construction & Materials, Industrial Goods & Services, Automobiles & Parts, Food & Beverage, Personal & Household Goods, Health Care, Retail, Media, Travel & Leisure, Telecommunications, Utilities, Banks, Insurance, Real Estate, Financial Services and Technology.

Index Composition and Selection Criteria

The FTSE® 100 Index consists of the 100 largest U.K.-listed blue chip companies, based on full market capitalization, that pass screening tests for price and liquidity. The FTSE® 100 Index is reviewed on a quarterly basis in March, June, September and December based on data from the close of business on the Tuesday before the first Friday of the review month. The FTSE Europe, Middle East & Africa Regional Advisory Committee (the "Committee"), meets quarterly to approve the constituents of the index. These meetings are held on the Wednesday before the first Friday in March, June, September and December. Any constituent changes are implemented after the close of business on the third Friday of the review month (i.e., effective Monday), following the expiration of the London International Financial Futures and Options Exchange futures and options contracts.

Eligibility Standards

Only "premium listed" equity shares, as defined by the Financial Conduct Authority in its Listing Rules Sourcebook, are eligible for inclusion in the FTSE® 100 Index. Eligible stocks must pass price and liquidity screens before being included in the index. Additionally, a stock must have a free float (as described below) of greater than 5%.

Price Screen — With regard to the price screen, the Committee must be satisfied that an accurate and reliable price exists for purposes of determining the market value of a company. To be eligible for inclusion in the FTSE® 100 Index, a stock must have a full listing on the London Stock Exchange with a Sterling-denominated price on SETS (SETS is the London Stock Exchange's trading service for UK blue chip securities).

Liquidity Screen — With regard to liquidity, each eligible stock is tested for liquidity annually in June by calculating its median daily trading per month. When calculating the median of daily trades per month of any security, a minimum of five trading days in each month must exist, otherwise the month is excluded from the test. Liquidity is tested from the first business day in May of the previous year to the last business day of April. The median trade is calculated by ranking each daily trade total and selecting the middle-ranking day. Any period of suspension is not included in the test. The liquidity test is applied on a pro-rata basis where the testing period is less than 12 months. A stock not presently included in the FTSE® 100 Index that does not turnover at least 0.025% of its shares in issue (after application of any investability weightings) based on its median daily trade per month in at least ten of the 12 months prior to the annual index review in June will not be eligible for

inclusion until the next annual review. An existing constituent failing to trade at least 0.015% of its shares in issue (after the application of any investability weightings) based on its median daily trade per month for at least eight of the 12 months prior to the annual index review will be removed from the FTSE® 100 Index and will not be eligible for inclusion until the next annual review. New issues will become eligible for inclusion in the index at the quarterly review following their issuance provided that they have a minimum trading record of at least 20 trading days prior to the review date and that they have turned over at least 0.025% of their shares in issue (after the application of any investability weightings) based on their median daily trade per month since listing.
Market Capitalization Ranking — Eligible stocks that pass the price and liquidity screens are ranked by the Committee according to their market capitalization before the application of any adjustments based on the extent to which the shares are publicly traded. Only the quoted equity capital of a constituent company will be included in the calculation of its market capitalization. Where a company has two or more classes of equity, secondary lines will be included in the calculation of the market capitalization of the company only if those lines are significant and liquid. The Committee will add a stock to the FTSE® 100 Index at the quarterly review if it has risen to 90th place or above on the full market capitalization rankings and will delete a stock at the quarterly review if it has fallen to 111th place or below on these rankings. Market capitalization rankings are calculated using data as of the close of business on the day before the review.
100 Constituent Limitation — The FTSE® 100 Index always contains 100 constituents. If a greater number of companies qualify to be inserted in the index than qualify to be removed, the lowest ranking constituents of the index will be removed so that the total number of stocks remains at 100 following inclusion of those that qualify to be inserted. Likewise, if a greater number of companies qualify to be removed than to be inserted at the quarterly review, securities of the highest ranking companies that are then not included in the FTSE® 100 Index will be inserted to match the number of companies being removed, in order to maintain the total at 100.
Index Calculation
The FTSE® 100 Index is a market capitalization weighted index. This means that the price movement of a larger company (that is, one representing larger percentage of the index) will have a greater effect on the level of the index than will the price movement of a smaller company (that is, one representing a smaller percentage of the index).
The value of the FTSE® 100 Index is represented by a fraction, (a) the numerator of which is the sum of the product of (i) the price of each component stock, (ii) the number of shares issued for each such component and (iii) a free float factor for each such component (described more fully below), and (b) the denominator of which is a divisor. The divisor represents the total issued share capital of the index on the base date; the divisor may be adjusted as necessary to allow for changes in issued share capital of individual securities without distorting the index.
As noted above, a free float factor is applied to each index component. By employing this approach, FTSE uses the investable market capitalization, not the total market capitalization, of each constituent to determine the value of the FTSE® 100 Index. Investable market capitalization depends on free float. The following are excluded from free float: shares directly owned by state, regional, municipal and local governments (excluding shares held by independently managed pension schemes for governments); shares held by sovereign wealth funds where each holding is 10% or greater of the total number of shares in issue (if the holding subsequently decreases below 10%, the shares will be excluded from free float until the holding falls below 7%); shares held by directors, senior executives and managers of the company, and by their family and direct relations, and by companies with which they are affiliated; shares held within employee share plans; shares held by public companies or by non-listed subsidiaries of public companies; shares held by founders, promoters, former directors, founding venture capital and private equity firms, private companies and individuals (including employees) where the holding is 10% or greater of the total number of shares in issue (if the holding subsequently decreases below 10%, the shares will be excluded from free float until the holding falls below 7%); all shares where the holder is subject to a lock-in clause (for the duration of that clause, after which free float changes resulting from the expiration of a lock-in clause will be implemented at the next quarterly review subsequent to there being a minimum of 20 business days between the expiration date of such lock-in clause and the index review date); shares held for publicly announced strategic reasons, including shares held by several holders acting in concert; and shares that are subject to ongoing contractual agreements (such as swaps) where they would ordinarily be treated as restricted.
The FTSE® 100 Index is recalculated whenever errors or distortions occur that are deemed to be significant. Users of the FTSE® 100 Index are notified through appropriate media.

Index Maintenance

The FTSE® 100 Index is reviewed quarterly for changes in free float. A stock's free float is also reviewed and adjusted if necessary following certain corporate events. Following a takeover or merger involving one or more index constituents, the free float restrictions will be based on restricted holdings in the successor company and will be implemented when the offer has completed (or lapsed) unless it directly reflects a corporate action independent of and not conditional on the takeover or merger completing or lapsing. If the corporate event includes another corporate action that affects the index, a change in free float is implemented at the same time as the corporate action. If there is no corporate action, the change in free float will be applied at the next quarterly review. Following the application of an initial free float restriction, a stock's free float will only be changed if its rounded free float moves more than three percentage points above or below the existing rounded free float. Companies with a free float of above 99% and of 15% or below will not be subject to the three percentage points threshold.

At each quarterly review, the Committee publishes a Reserve List containing the six highest ranking non-constituents of the FTSE® 100 Index. The Reserve List will be used in the event that one or more constituents are deleted from the index during the period up to the next quarterly review. If a merger or takeover results in one index constituent being absorbed by another constituent, the resulting company will remain a constituent and a vacancy will be created. This vacancy will be filled by selecting the highest ranking security in the Reserve List as at the close of the FTSE® 100 Index calculation two days prior to the deletion and related index adjustment. If an index constituent is taken over by a non-constituent company, the original constituent will be removed and replaced by the highest ranking non-constituent on the Reserve List. Any eligible company resulting from the takeover will be eligible to become the replacement company if it is ranked higher than any other company on the Reserve List. If a constituent company is split to form two or more companies, then the resulting companies will be eligible for inclusion as FTSE® 100 Index constituents, based on their respective full market capitalizations (before the application of any investability weightings), provided that they qualify in all other respects. Any eligible company resulting from a split that has no available market price after 20 business days will be removed. If a split results in the inclusion of an ineligible non-equity security, such security will remain in the FTSE® 100 Index for two trading days and then be removed. If a constituent is delisted or ceases to have a firm quotation, it will be removed from the list of constituents and be replaced by the highest ranking eligible company from the Reserve List as at the close of the index calculation two days prior to the deletion.

Capitalization Adjustments

A premium listed secondary line of a company will be considered for index inclusion if its total market capitalization before the application of any adjustments based on the extent to which the shares are publicly traded, is greater than 25% of the total market capitalization of the company's principal line and the secondary line is eligible, in its own right. Should the total market capitalization of a secondary line fall below 20% of the total market capitalization of the company's principal line at an annual review, the secondary line will be deleted from the FTSE® 100 Index unless its total market capitalization remains above the qualification level for continued inclusion as a constituent of the FTSE® 100 Index at that review. Where a company has partly paid shares, these shares, together with the outstanding call(s), are both included in the FTSE® 100 Index. Warrants to purchase ordinary shares and convertible securities are not included in the FTSE® 100 Index until they are exercised or converted.

Share Weighting Changes — For the purposes of computing the FTSE® 100 Index, the number of shares in issue for each constituent security is expressed to the nearest share and, to prevent a large number of insignificant weighting changes, the number of shares in issue for each constituent security is amended only when the total shares in issue held within the index system changes by more than 1% on a cumulative basis. Changes will be made quarterly after the close of business on the third Friday of March, June, September and December. The data for these changes will be taken from the close of business on the third Wednesday of the month prior to the review month.

If a corporate action is applied to a constituent which involves a change in the number of shares in issue, the change in shares will be applied simultaneously with the corporate action. If accumulated changes in the number of shares in issue add up to 10% or more or when an accumulated share change represents $2 billion of a company's total market capitalization, they are implemented between quarters. If an adjustment is made, it will be applied for the first time at the next review in March of the following year. All adjustments are made before the start of the index calculation on the day concerned, unless market conditions prevent this.

Shares in Issue Increase — When a company increases the number of shares it has in issue, the market capitalization of that company increases and the total market capitalization will rise accordingly. The index divisor is adjusted to maintain a constant index value.

Weighting Amendments — The market capitalization of a company is adjusted to take account of various corporate actions. To prevent the value of the FTSE® 100 Index from changing due to such an event, all corporate actions which affect the market capitalization of the FTSE® 100 Index require an offsetting divisor adjustment. By adjusting the divisor, the value of the FTSE® 100 Index remains constant before and after the event. Below is a summary of the more frequent corporate actions and their resulting adjustment.

Type of Corporate Action	Adjustment	Adjustment to Divisor
Issue of new shares	Share weighting increased	Yes
Share repurchase	Share weighting decreased	Yes
Bonus issued or stock split	Share weighting multiplied by four. Share price divided by four	No

Rights Issues — A rights issue is where a company raises new capital by offering shareholders additional shares at a set ratio with a discount to the market price. The rights become attached to the shares on a set date—the ex-date. On this date, the price of the company's underlying shares will fall by the value of the rights. The effect of the rights issue is to increase the market capitalization of the company by the value of the additional shares created by the rights issue less the value of the fall in the share price. The share weighting of the company and index divisor are also adjusted to prevent the index falling in line with the reduction in the share price on the ex-date.

In the event that the market price is equal to or below the rights offer price at the close of business immediately before trading ex-dividend, no adjustments will be made. In this circumstance, any resulting new shares will only be added to the index weighting once the take-up proportion is known and together with any associated change to the company's free float. If the rights issue is highly dilutive and the ratio is greater than ten to one, FTSE will include the new shares on a separate temporary line to reflect the market value of the right (together with a temporary line fixed at the value of the outstanding rights subscription price) until the end of the subscription period, at which point the temporary lines will be deleted and the new shares will be merged into the existing share line. In the event the rights issue involves non-equity and the value of the right cannot be determined, there will be no adjustment to the parent stock on the ex-date. The rights line will be included in the index at a value of zero on the ex-date (with no inclusion of the cash call value). If the rights line trades, it will be deleted at the market price after two days. If it does not trade, it will be deleted at a value of zero.

Market Disruption

If there is a system problem or situation in the market that is judged by FTSE to affect the quality of the constituent prices at any time when an index is being calculated, the index will be declared indicative (e.g. normally where a “fast market” exists in the equity market). The message “IND” will be displayed against the index value calculated by FTSE. The Committee must be satisfied that an accurate and reliable price for the purposes of determining the market value of a company exists. The Committee may exclude a security from the FTSE® 100 Index should it consider that an “accurate and reliable” price is not available.

If any event leads to an error in the index value of the FTSE® 100 Index that is greater than three basis points at the local country index level, then the FTSE® 100 Index will generally be recalculated, subject to discovery, within one month of the event. Where an alternative approach is available, FTSE may, at its sole discretion, choose not to recalculate.

License Agreement

The Securities are not in any way sponsored, endorsed, sold or promoted by FTSE or by the Exchange or by The Financial Times Limited ("FT") and neither FTSE or Exchange or FT makes any warranty or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of the FTSE® 100 Index and/or the figure at which the said FTSE® 100 Index stands at any particular time on any particular day or otherwise. The FTSE® 100 Index is compiled and calculated solely by FTSE. However, neither FTSE or the Exchange or FT shall be liable (whether in negligence or otherwise) to any person for any error in the FTSE® 100 Index and neither FTSE or the Exchange or FT shall be under any obligation to advise any person of any error therein. “FTSE100" is a trademark of London Stock Exchange Plc and The Financial Times Limited and are used by FTSE under license. "All-World" is a trademark of FTSE.

Historical Information

The following graph sets forth the closing levels of the UKX from January 1, 2008 through November 28, 2018, as reported by Bloomberg Financial Markets. The historical performance of the UKX should not be taken as an indication of future performance. We cannot give you assurance that the performance of the UKX will result in the return of any of your initial investment.

The Nikkei 225 Index

The NKY was developed by Nikkei Inc. and is calculated, maintained and published by Nikkei Digital Media, Inc. a wholly owned subsidiary of Nikkei Inc. The Nikkei 225 is reported by Bloomberg L.P. under the symbol "NKY."

The NKY is a stock index that measures the composite price performance of selected Japanese stocks. The formal name of the NKY is the Nikkei Stock Average. The NKY is based on 225 underlying stocks (the "Nikkei Underlying Stocks") trading on the Tokyo Stock Exchange ("TSE") representing a broad cross-section of Japanese industries. All 225 Nikkei Underlying Stocks are stocks listed in the First Section of the TSE. Stocks listed in the First Section of the TSE are among the most actively traded stocks on the TSE. Nikkei Inc. rules require that the 75 most liquid issues (one-third of the component count of the NKY) be included in the NKY. Nikkei Inc. was first calculated and published the NKY in 1970; prior to 1970, the TSE calculated the NKY.

The 225 companies included in the NKY are divided into six sector categories: Technology, Financials, Consumer Goods, Materials, Capital Goods/Others and Transportation and Utilities. These six sector categories are further divided into 36 industrial classifications as follows:

- Technology — Pharmaceuticals, Electrical Machinery, Automobiles, Precision Machinery, Telecommunications;
- Financials — Banks, Miscellaneous Finance, Securities, Insurance;
- Consumer Goods — Marine Products, Food, Retail, Services;
- Materials — Mining, Textiles, Paper and Pulp, Chemicals, Oil, Rubber, Ceramics, Steel, Nonferrous Metals, Trading House;
- Capital Goods/Others — Constructions, Machinery, Shipbuilding, Transportation Equipment, Miscellaneous Manufacturing, Real Estate; and
- Transportation and Utilities — Railroads and Buses, Trucking, Shipping, Airlines, Warehousing, Electric Power, Gas.

Calculation of the NKY

The NKY is a modified, price-weighted index (i.e., a Nikkei Underlying Stock's weight in the NKY is based on its price per share rather than the total market capitalization of the issuer) which is calculated by (i) multiplying the per share price of each Nikkei Underlying Stock by the corresponding weighting factor for such Nikkei Underlying Stock (a "Weight Factor"), (ii) calculating the sum of all these products and (iii) dividing such sum by a divisor (the "Divisor"). The Divisor was initially set at 225 for the date of May 16, 1949 (the date on which the TSE was reopened after World War II) using historical numbers from that date. The Divisor is subject to periodic adjustments as set forth below. Each Weight Factor is computed by dividing ¥50 by the presumed par value of the relevant Nikkei Underlying Stock, so that the share price of each Nikkei Underlying Stock when multiplied by its Weight Factor corresponds to a share price based on a uniform par value of ¥50. The stock prices used in the calculation of the NKY are those reported by a primary market for the Nikkei Underlying Stocks (currently the TSE). The level of the NKY is calculated once every 15 seconds during TSE trading hours.

In order to maintain continuity in the NKY in the event of certain changes due to non-market factors affecting the Nikkei Underlying Stocks, such as the addition or deletion of stocks, substitution of stocks, stock splits or distributions of assets to stockholders, the Divisor used in calculating the NKY is adjusted in a manner designed to prevent any instantaneous change or discontinuity in the level of the NKY. Thereafter, the Divisor remains at the new value until a further adjustment is necessary as the result of another change. As a result of such change affecting any Nikkei Underlying Stock, the Divisor is adjusted in such a way that the sum of all share prices immediately after such change multiplied by the applicable Weight Factor and divided by the new Divisor (i.e., the level of the NKY immediately after such change) will equal the level of the NKY immediately prior to the change.

Standards for Listing and Maintenance

A Nikkei Underlying Stock may be deleted or added by Nikkei Inc. Any stock becoming ineligible for listing in the First Section of the TSE due to any of the following reasons will be deleted from the Nikkei Underlying Stocks: (i) bankruptcy of the issuer, (ii) merger of the issuer with, or acquisition of the issuer by, another company, (iii) delisting of such stock, (iv) transfer of such stock to the “Seiri-Post” because of excess debt of the issuer or because of any other reason or (v) transfer of such stock to the Second Section. In addition, a component stock transferred to the “Kanri-Post” (Posts for stocks under supervision) becomes a candidate for deletion. Nikkei Underlying Stocks with relatively low liquidity, based on trading value and rate of price fluctuation over the past five years, may be deleted by Nikkei Inc. Upon deletion of a stock from the Nikkei Underlying Stocks, Nikkei Inc. will select a replacement for such deleted Nikkei Underlying Stock in accordance with certain criteria. In an exceptional case, a newly listed stock in the First Section of the TSE that is recognized by Nikkei Inc. to be representative of a market may be added to the Nikkei Underlying Stocks. In such a case, a newly listed stock in the First Section of the TSE that is recognized by Nikkei Inc. to be representative of a market may be added to the Nikkei Underlying Stocks. In such a case, an existing Nikkei Underlying Stock with low trading volume and deemed not to be representative of a market will be deleted by Nikkei Inc.

A list of the issuers of the Nikkei Underlying Stocks constituting the NKY is available from the Nikkei Economic Electronic Databank System and from the Stock Market Indices Data Book published by Nikkei Inc. Nikkei Inc. may delete, add or substitute any stock underlying the NKY.

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Historical Information

The following graph sets forth the closing levels of the NKY from January 1, 2008 through November 28, 2018, as reported by Bloomberg Financial Markets. The historical performance of the NKY should not be taken as an indication of future performance. We cannot give you assurance that the performance of the NKY will result in the return of any of your initial investment.

Swiss Market Index

The Swiss Market Index (Bloomberg ticker "SMI Index"):

- was first launched with a base level of 1,500 as of June 30, 1988; and
- is sponsored, calculated, published and disseminated by SIX Group Ltd., certain of its subsidiaries, and the Management Committee of the SIX Swiss Exchange (the "SIX Exchange").

The Swiss Market Index is a price return float-adjusted market capitalization-weighted index of the 20 largest stocks traded on the Swiss Stock Exchange. The Management Committee of SIX Swiss Exchange is supported by an Index Commission (advisory board) in all index-related matters, notably in connection with changes to the index rules and adjustments, additions and exclusions outside of the established review and acceptance period. The Index Commission meets at least twice annually.

Sector designations are determined by the index sponsor using criteria it has selected or developed. Index sponsors may use very different standards for determining sector designations. In addition, many companies operate in a number of sectors, but are listed in only one sector and the basis on which that sector is selected may also differ. As a result, sector comparisons between indices with different index sponsors may reflect differences in methodology as well as actual differences in the sector composition of the indices.

Index Composition and Selection Criteria

The Swiss Market Index is comprised of the 20 highest ranked stocks traded on the Swiss Stock Exchange that have a free float of 20% or more and that are not investment companies. The equity universe is largely Swiss domestic companies; however, in some cases, foreign issuers with a primary listing on the Swiss Stock Exchange or investment companies that do not hold any shares of any other eligible company and that have a primary listing on the Swiss Stock Exchange may be included.

The ranking of each security is determined by a combination of the following criteria:

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