

ROYAL BANK OF CANADA
Form FWP
August 03, 2017

ISSUER FREE WRITING PROSPECTUS

Filed Pursuant to Rule 433

Registration Statement No. 333-208507

Dated August 2, 2017

Royal Bank of Canada Trigger GEARS

\$ · Securities Linked to the S&P 500[®] Index due on or about August 31, 2020

Investment Description

Trigger GEARS are unconditional, unsecured and unsubordinated debt securities issued by Royal Bank of Canada with returns linked to the performance of the S&P 500[®] Index (the “Underlying”) (each, a “Security” and collectively, the “Securities”). If the Underlying Return is positive, we will repay the principal amount at maturity plus pay a return equal to the Upside Gearing times the Underlying Return. The Upside Gearing will be set on the Trade Date and will be between 1.14 and 1.24. If the Underlying Return is zero or negative, but the Final Underlying Level is greater than or equal to the Downside Threshold, we will pay you the principal amount at maturity. If the Final Underlying Level is less than the Downside Threshold, we will pay less than the full principal amount at maturity, if anything, resulting in a loss on your initial investment that is proportionate to the negative performance of the Underlying over the term of the Securities, and you may lose up to 100% of your initial investment. 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 contingent repayment of principal applies only if you hold the Securities to maturity. 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. The Securities will not be listed on any securities exchange.

Features Key Dates¹

Enhanced Growth Potential— At maturity, if the Underlying Return is positive, we will pay you the principal amount plus a return equal to the Upside Gearing times the Underlying Return. If the Underlying Return is negative, investors may be exposed to the negative Underlying Return at maturity.

Contingent Repayment of Principal— If the Underlying Return is negative, but the Final Underlying Level is not below the Downside Threshold, we will repay your principal amount. However, if the Final Underlying Level is less than the Downside Threshold, investors will be exposed to the full downside performance of the Underlying and we will pay less than the principal amount, resulting in a loss of principal amount that is proportionate to the percentage decline in the Underlying. Accordingly, you may lose some or all of the principal amount of the Securities. The contingent repayment of principal applies only at maturity. Any payment on the Securities, including any repayment of principal, is subject to our creditworthiness.

Trade Date¹ August 28, 2017

Settlement Date¹ August 31, 2017

Final Valuation Date² August 26, 2020

Maturity Date² August 31, 2020

Expected. In the event that we make any change to the expected Trade Date and Settlement Date, the Final Valuation Date and Maturity Date will be changed so that the stated term of the Securities remains approximately the same.

² Subject to postponement in the event of a market disruption event and as described under “General Terms of the Securities—Payment at Maturity” in the accompanying product prospectus supplement no. UBS-IND-1.

NOTICE TO INVESTORS: THE SECURITIES ARE SIGNIFICANTLY RISKIER THAN CONVENTIONAL DEBT INSTRUMENTS. THE ISSUER IS NOT NECESSARILY OBLIGATED TO REPAY THE FULL PRINCIPAL AMOUNT OF THE SECURITIES AT MATURITY, AND THE SECURITIES CAN HAVE THE FULL DOWNSIDE MARKET RISK OF THE UNDERLYING. 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 FREE WRITING PROSPECTUS AND UNDER “RISK FACTORS” BEGINNING ON PAGE PS-4 OF THE ACCOMPANYING PRODUCT PROSPECTUS SUPPLEMENT NO. UBS-IND-1 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 OF THE SECURITIES.

Security Offering

We are offering Trigger GEARS Linked to the S&P 500® Index. The Securities are offered at a minimum investment of 100 Securities at the Price to Public described below. The indicative Upside Gearing is listed below. The actual Initial Underlying Level and Downside Threshold will be determined on the Trade Date.

Underlying	Upside Gearing	Initial Underlying Level	Downside Threshold	CUSIP	ISIN
S&P 500® Index	1.14 to 1.24		80% of the Initial Underlying Level	78013F248	US78013F2487

See “Additional Information About Royal Bank of Canada and the Securities” in this free writing prospectus. The Securities will have the terms specified in the prospectus dated January 8, 2016, the prospectus supplement dated January 8, 2016, product prospectus supplement no. UBS-IND-1 dated January 5, 2017 and this free writing prospectus.

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 free writing prospectus or the accompanying prospectus, prospectus supplement and product prospectus supplement no. UBS-IND-1. Any representation to the contrary is a criminal offense.

	Price to Public	Fees and Commissions ⁽¹⁾	Proceeds to Us
Offering of Securities	Total Per Security	Total Per Security	Total Per Security
Securities Linked to the S&P 500® Index (the “SPX”)	\$10.00	\$0.00	\$10.00

⁽¹⁾ All sales of the Securities will be made to certain fee-based advisory accounts for which UBS Financial Services Inc., which we refer to as UBS, is an investment advisor and UBS will act as placement agent. The purchase price will be \$10.00 per Security and UBS will forgo any commissions related to these sales. See “Supplemental Plan of Distribution (Conflicts of Interest)” on page 12 of this free writing prospectus.

The initial estimated value of the Securities as of the date of this document is \$9.8133 per \$10 in principal amount, which is less than the price to public. The pricing supplement relating to the Securities will set forth our estimate of the initial value of the Securities as of the Trade Date, which will not be more than \$0.20 less than this amount. 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” beginning on page 5, “Supplemental Plan of Distribution (Conflicts of Interest)” on page 12 and “Structuring the Securities” on page 12 of this free writing prospectus.

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

Royal Bank of Canada has filed a registration statement (including a prospectus) with the Securities and Exchange Commission, or SEC, for the offering to which this free writing prospectus relates. Before you invest, you should read the prospectus in that registration statement and the other documents relating to this offering that Royal Bank of Canada has filed with the SEC for more complete information about Royal Bank of Canada and this offering. You may obtain these documents without cost by visiting EDGAR on the SEC website at www.sec.gov. Alternatively, Royal Bank of Canada, any agent or any dealer participating in this offering will arrange to send you the prospectus, the prospectus supplement, product prospectus supplement no. UBS-IND-1 and this free writing prospectus if you so request by calling toll-free 866-609-6009.

You may revoke your offer to purchase the Securities at any time prior to the time at which we accept such offer by notifying the applicable agent. We reserve the right to change the terms of, or reject any offer to purchase, the Securities prior to their issuance. In the event of any changes to the terms of the Securities, we will notify you and you will be asked to accept such changes in connection with your purchase. You may also choose to reject such changes, in which case we may reject your offer to purchase.

You should read this free writing prospectus together with the prospectus dated January 8, 2016, as supplemented by the prospectus supplement dated January 8, 2016, relating to our senior global medium-term notes, Series G, of which these Securities are a part, and the more detailed information contained in product prospectus supplement no. UBS-IND-1 dated January 5, 2017. This free writing prospectus, 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 no. UBS-IND-1, as the Securities involve risks not associated with conventional debt securities.

If the terms discussed in this free writing prospectus 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 no. UBS-IND-1 dated January 5, 2017:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036117000609/form424b5.htm>

Prospectus supplement dated January 8, 2016:

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

Prospectus dated January 8, 2016:

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

As used in this free writing prospectus, "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.
- .. You believe the level of the Underlying will appreciate over the term of the Securities.
- .. You would be willing to invest in the Securities if the Upside Gearing was set to the bottom of the range indicated on the cover page of this free writing prospectus (the actual Upside Gearing will be determined on the Trade Date).
- .. 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 level of the Underlying.
- .. You do not seek current income from your investment and are willing to forgo dividends paid on the securities represented by the Underlying.
- .. You are willing to hold the Securities to maturity and accept that there may be little or no secondary market for the Securities.
- .. 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.

.. You fully understand and accept the risks associated with the Underlying.

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.
- .. You believe that the level of the Underlying will decline over the term of the Securities.
- .. You would be unwilling to invest in the Securities if the Upside Gearing was set to the bottom of the range indicated on the cover page of this free writing prospectus (the actual Upside Gearing will be determined on the Trade Date).
- .. 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 level of the Underlying.
- .. You seek current income from this investment or prefer to receive the dividends paid on the securities represented by the Underlying.
- .. 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 are not willing to assume our credit risk for all payments under the Securities, including any repayment of principal.
- .. You do not fully understand and accept the risks associated with the Underlying.

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 free writing prospectus and “Risk Factors” in the accompanying product prospectus supplement no. 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,” for more information about the Underlying.

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Indicative Terms of the Securities¹

Issuer:	Royal Bank of Canada
Issue Price:	\$10 per Security (subject to a minimum purchase of 100 Securities).
Principal Amount:	\$10 per Security.
Term ² :	Approximately 36 months
Underlying:	S&P 500 [®] Index
Upside Gearing:	1.14 to 1.24 (to be determined on the Trade Date)
Payment at Maturity (per \$10 Security):	<p>If the Underlying Return is positive, we will pay you: $\\$10 + (\\$10 \times \text{the Upside Gearing} \times \text{the Underlying Return})$</p> <p>If the Underlying Return is zero or negative and the Final Underlying Level is greater than or equal to the Downside Threshold, we will pay you: $\\$10$</p> <p>If the Final Underlying Level is less than the Downside Threshold, we will pay you: $\\$10 + (\\$10 \times \text{the Underlying Return})$</p> <p>In this scenario, you will lose some or all of the principal amount of the Securities in an amount proportionate to the negative Underlying Return.</p>
Underlying Return:	$\frac{\text{Final Underlying Level} - \text{Initial Underlying Level}}{\text{Initial Underlying Level}}$
Initial Underlying Level:	The closing level of the Underlying on the Trade Date.
Final Underlying Level:	The closing level of the Underlying on the Final Valuation Date.
Downside Threshold:	80% of the Initial Underlying Level
Investment Timeline	

Trade Date: The Upside Gearing is set. The Initial Underlying Level and Downside Threshold are determined.

The Final Underlying Level and Underlying Return are determined.

Maturity Date: If the Underlying Return is positive, we will pay you a cash payment per \$10.00 Security that provides you with your principal amount plus a return equal to the Underlying Return times the Upside Gearing. Your payment at maturity per \$10.00 Security will be equal to:
 $\$10 + (\$10 \times \text{the Upside Gearing} \times \text{the Underlying Return})$

If the Underlying Return is zero or negative and the Final Underlying Level is greater than or equal to the Downside Threshold, we will pay you a cash payment of \$10.00 per \$10.00 Security.

If the Final Underlying Level is less than the Downside Threshold, we will pay you a cash payment that is less than the principal amount of \$10.00 per Security, resulting in a loss of principal that is proportionate to the percentage decline in the Underlying, and equal to:
 $\$10.00 + (\$10.00 \times \text{Underlying Return})$

In this scenario, you will lose some or all of the principal amount of the Securities, 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 free writing prospectus, but not defined herein, shall have the meanings ascribed to them in the product prospectus supplement.

² In the event we make any change to the expected Trade Date and Settlement Date, the Final Valuation Date and Maturity Date will be changed to ensure that the stated term of the Securities remains approximately the same.

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. These risks are explained in more detail in the “Risk Factors” section of the accompanying product prospectus supplement no. UBS-IND-1. We also urge you to consult your investment, legal, tax, accounting and other advisors before investing in the Securities.

Risks Relating to the Securities Generally

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 and will depend on whether, and the extent to which, the Underlying Return is positive or negative. If the Final Underlying Level is less than the Downside Threshold, 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 of principal of your Securities that is proportionate to the percentage decline in the Underlying. Accordingly, you could lose the entire principal amount of the Securities.

The Contingent Repayment of Principal Applies Only if You Hold the Securities to Maturity — You should be willing to hold your Securities to 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 level of the Underlying is above the Downside Threshold at the time of sale.

The Upside Gearing Applies Only if You Hold the Securities to Maturity — The application of the Upside Gearing only applies at maturity. If you are able to sell your Securities prior to maturity in the secondary market, the price you receive will likely not reflect the full effect of the Upside Gearing and the return you realize may be less than the Upside Gearing times the return of the Underlying at the time of sale, even if that return is positive.

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.

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 or the securities included in the Underlying. Your investment may not reflect the full opportunity cost to you when you take into account factors that affect the time value of money.

No Dividend Payments or Voting Rights — Investing in the Securities is not equivalent to investing directly in any of the component securities of the Underlying. 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 represented by the Underlying would have. The Underlying is a price return index, and the Underlying Return excludes any cash dividend payments paid on its component stocks.

The Initial Estimated Value of the Securities Will Be Less than the Price to the Public — The initial estimated value that is set forth on the cover page of this document, and that will be set forth in the final pricing supplement for the Securities, will be 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 level of the Underlying, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public 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 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 a 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 Are 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 Affecting the Underlying — The policies of the index sponsor concerning additions, deletions and substitutions of the stocks included in the Underlying and the manner in which the index sponsor takes account of certain changes affecting those stocks included in the Underlying may adversely affect its level. The policies of the index sponsor with respect to the calculation of the Underlying could also adversely affect its level. The index sponsor may discontinue or suspend calculation or dissemination of the Underlying and has no obligation to consider your interests in the Securities when taking any action regarding the Underlying. Any such actions could have an adverse effect on the value of the Securities and the amount that may be paid at maturity.

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.

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 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 level of the Underlying or the equity securities included in the Underlying, 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 or in futures, options, exchange-traded funds or other derivative products on the equity securities included in the Underlying may adversely affect the market value of those equity securities, the level of the Underlying and therefore, the market value of the Securities.

The Probability That the Underlying Will Fall Below the Downside Threshold on the Final Valuation Date Will Depend on the Volatility of the Underlying — “Volatility” refers to the frequency and magnitude of changes in the level of the Underlying. Greater expected volatility with respect to the Underlying reflects a higher expectation as of the Trade Date that the Underlying could close below its Downside Threshold on the Final Valuation Date, resulting in the loss of some or all of your investment. However, an Underlying’s volatility can change significantly over the term of the Securities. The level of the Underlying could fall sharply, which could result in a significant loss of principal.

The Terms of the Securities at Issuance and Their Market Value Prior to Maturity Will Be Influenced by Many Unpredictable Factors — Many economic and market factors will influence the terms of the Securities at issuance and 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 level of the Underlying 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 level of the Underlying. 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;

.. the time remaining to maturity of the Securities;

the dividend rates on the equity securities included in the Underlying;

interest and yield rates in the market generally, as well as in each of the markets of the equity securities included in the Underlying;

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 will influence the terms of the Securities at issuance and 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 level of the Underlying is at, below or not sufficiently above, the Initial Underlying Level.

Hypothetical Examples and Return Table at Maturity

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

The following table and hypothetical examples below illustrate the payment at maturity per \$10.00 Security for a hypothetical range of Underlying Returns from -100.00% to +100.00% and assume a hypothetical Initial Underlying Level of 2,000 and a hypothetical Downside Threshold of 1,600.00, and a hypothetical Upside Gearing of 1.14 (the low end of the Upside Gearing range indicated on the cover page). The actual Initial Underlying Level, Downside Threshold, and Upside Gearing for the Securities will be set on the Trade Date. 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 Underlying 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 closes 10% above the Initial Underlying Level. Because the Underlying Return is positive, we will pay you an amount based upon the Underlying Return times the Upside Gearing, and the payment at maturity per \$10 principal amount Security will be calculated as follows:

$$\$10 + (\$10 \times 1.14 \times 10\%) = \$10 + \$1.14 = \$11.14$$

Example 2 – On the Final Valuation Date, the Underlying closes 10% below the Initial Underlying Level. Because the Underlying Return is negative, but the Final Underlying Level is greater than the Downside Threshold, we will pay you at maturity the principal amount of \$10 per \$10 principal amount Security.

Example 4 – On the Final Valuation Date, the Underlying closes 50% below the Initial Underlying Level. Because the Underlying Return is negative and the Final Underlying Level is less than the Downside Threshold, we will pay you at maturity a cash payment of \$5.00 per \$10 principal amount Security (a 50% loss on the principal amount), calculated as follows:

$$\$10 + (\$10 \times -50\%) = \$10 - \$5.00 = \$5.00$$

Hypothetical Final Underlying Level	Hypothetical Underlying Return ¹	Hypothetical Payment at Maturity (\$)	Hypothetical Total Return on Securities ² (%)
4,000.00	100.00%	\$21.40	114.00%
3,500.00	75.00%	\$18.55	85.50%
3,000.00	50.00%	\$15.70	57.00%
2,800.00	40.00%	\$14.56	45.60%
2,600.00	30.00%	\$13.42	34.20%
2,400.00	20.00%	\$12.28	22.80%
2,300.00	15.00%	\$11.71	11.71%
2,200.00	10.00%	\$11.14	11.40%
2,100.00	5.00%	\$10.57	5.70%
2,040.00	2.00%	\$10.23	2.28%
2,000.00	0.00%	\$10.00	0.00%
1,900.00	-5.00%	\$10.00	0.00%
1,800.00	-10.00%	\$10.00	0.00%
1,600.00	-20.00%	\$10.00	0.00%
1,500.00	-25.00%	\$7.50	-25.00%
1,400.00	-30.00%	\$7.00	-30.00%
1,300.00	-35.00%	\$6.50	-35.00%
1,200.00	-40.00%	\$6.00	-40.00%
1,000.00	-50.00%	\$5.00	-50.00%
500.00	-75.00%	\$2.50	-75.00%
0.00	-100.00%	\$0.00	-100.00%

¹ The Underlying Return excludes any cash dividend payments.

² The “total return” is the number, expressed as a percentage, that results from comparing the payment at maturity per

\$10 principal amount Security to the purchase price of \$10 per Security.

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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 the Securities as pre-paid cash-settled derivative contracts in respect of the Underlying 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, 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 might assert that a treatment other than that described above is more appropriate. In addition, the Internal Revenue Service has released a notice that may affect the taxation of holders of the Securities. According to the notice, the Internal Revenue Service and the 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 Internal Revenue Service and the Treasury Department are also considering other relevant issues, including whether additional gain or loss from such instruments should be treated as ordinary or capital and whether the special “constructive ownership rules” of Section 1260 of the 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 Securities.

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, U.S. Treasury Department regulations 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, 2018. 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 or the Securities (for example, upon an Underlying 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 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.

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

We have derived all information contained in this document regarding the SPX, 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, the index sponsor. The index sponsor, which owns the copyright and all other rights to the SPX, has no obligation to continue to publish, and may discontinue publication of the SPX. None of us, UBS or RBCCM accepts any responsibility for the calculation, maintenance or publication of the SPX or any successor index.

The SPX is intended to provide an indication of the pattern of common stock price movement in the large capitalization segment of the U.S. equity market. The calculation of the level of the SPX is based on the relative value of the aggregate market value of the common stocks of 500 companies as of a particular time compared to the aggregate average market value of the common stocks of 500 similar companies during the base period of the years 1941 through 1943.

The index sponsor chooses companies for inclusion in the SPX with the aim of achieving a distribution by broad industry groupings that approximates the distribution of these groupings in the common stock population of its Stock Guide Database of over 10,000 companies, which the index sponsor uses as an assumed model for the composition of the total market. Relevant criteria employed by the index sponsor include the viability of the particular company, the extent to which that company represents the industry group to which it is assigned, the extent to which the market price of that company's common stock generally is responsive to changes in the affairs of the respective industry, and the market value and trading activity of the common stock of that company.

The index sponsor calculates the SPX by reference to the prices of the constituent stocks of the SPX without taking account of the value of dividends paid on those stocks. As a result, the return on the Securities will not reflect the return you would realize if you actually owned the SPX constituent stocks and received the dividends paid on those stocks.

Computation of the SPX

While the index sponsor currently employs the following methodology to calculate the SPX, no assurance can be given that the index sponsor will not modify or change this methodology in a manner that may affect the Payment at Maturity.

Historically, the market value of any component stock of the SPX was calculated as the product of the market price per share and the number of then outstanding shares of such component stock. In March 2005, the index sponsor began shifting the SPX halfway from a market capitalization weighted formula to a float-adjusted formula, before moving the SPX to full float adjustment on September 16, 2005. The index sponsor's criteria for selecting stocks for the SPX did not change with the shift to float adjustment. However, the adjustment affects each company's weight in the SPX.

Under float adjustment, the share counts used in calculating the SPX reflect only those shares that are available to investors, not all of a company's outstanding shares. Float adjustment excludes shares that are closely held by control groups, other publicly traded companies or government agencies.

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