

Royal Bank of Canada Trigger GEARS

\$12,083,790 Securities Linked to a Basket of Five Equity Indices due on February 21, 2029

Investment Description

Trigger GEARS (each, a “Security” and collectively, the “Securities”) are our unsecured and unsubordinated debt securities, with returns linked to an unequally weighted basket (the “Underlying Basket”) of five equity indices, consisting of the EURO STOXX 50[®] Index (40.00% weighting), the Nikkei 225 Index (25.00% weighting), the FTSE[®] 100 Index (17.50% weighting), the Swiss Market Index (10.00% weighting) and the S&P/ASX 200 Index (7.50% weighting) (the “Underlying Indices” and, each, an “Underlying Index”). If the Underlying Return (as defined below) is positive, we will repay the principal amount at maturity plus pay a return equal to Upside Gearing times the Underlying Return. If the Underlying Return is zero or negative, but the Final Basket Level is greater than or equal to the Downside Threshold, we will pay you the principal amount at maturity. If the Final Basket Level is less than the Downside Threshold, we will pay less than the principal amount at maturity, and you will lose 1% of the principal amount of your Securities for every 1% decline in the level of the Underlying Basket, up to a loss of 100% of your investment. **Investing in the Securities involves significant risks. The Securities do not pay dividends or interest. You may lose some or all of the 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 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. The Securities are not subject to conversion into our common shares under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act.**

Features

- ☐ **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 Basket Level is not below the Downside Threshold, we will pay the full principal amount at maturity. However, if the Final Basket Level is less than the Downside Threshold, investors will be exposed to the full downside performance of the Underlying Basket and we will pay less than the full principal amount, resulting in a loss of the principal amount that is proportionate to the percentage decline in the Underlying Basket. Accordingly, you may lose some or all of the principal amount of the Securities. The contingent repayment of principal applies only at maturity.

Key Dates

Trade Date	February 16, 2024
Settlement Date	February 21, 2024
Final Valuation Date ¹	February 16, 2029
Maturity Date ¹	February 21, 2029
¹ Subject to postponement if a market disruption event occurs, as described under “General Terms of the Securities — Payment at Maturity” in the accompanying product prospectus supplement 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 OF THE SECURITIES 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-4 OF THE ACCOMPANYING PRODUCT PROSPECTUS SUPPLEMENT 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 an unequally weighted basket of five 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	Upside Gearing	Initial Basket Level	Downside Threshold	CUSIP	ISIN
EURO STOXX 50 [®] Index (40.00%)	SX5E					
Nikkei 225 Index (25.00%)	NKY					
FTSE [®] 100 Index (17.50%)	UKX	2.40	100.00	75, which is 75% of the Initial Basket Level	78016R421	US78016R4213
Swiss Market Index (10.00%)	SMI					
S&P/ASX 200 Index (7.50%)	AS51					

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, the prospectus supplement and the product prospectus supplement UBS-IND-1, each dated December 20, 2023, 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 prospectus, prospectus supplement and product prospectus supplement UBS-IND-1. Any representation to the contrary is a criminal offense.

Offering of the Securities	Price to Public ⁽¹⁾		Fees and Commissions ⁽¹⁾		Proceeds to Us	
	Total	Per Security	Total	Per Security	Total	Per Security
Securities Linked to a Basket of Equity Indices	\$12,083,790	\$10.00	\$422,932.65	\$0.35	\$11,660,857.35	\$9.65

⁽¹⁾ UBS Financial Services Inc., which we refer to as UBS, will receive a commission of \$0.35 per \$10.00 principal amount of the Securities. See “Supplemental Plan of Distribution (Conflicts of Interest)” below.

The initial estimated value of the Securities as of the Trade Date was \$9.54 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.

Additional Information About Royal Bank of Canada and the Securities

You should read this pricing supplement together with the prospectus dated December 20, 2023, as supplemented by the prospectus supplement dated December 20, 2023, relating to our senior global medium-term notes, Series J, of which these Securities are a part, and the more detailed information contained in product prospectus supplement UBS-IND-1 dated December 20, 2023. **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 December 20, 2023:
https://www.sec.gov/Archives/edgar/data/1000275/000114036123058570/ef20016878_424b5.htm
- ◆ Prospectus supplement dated December 20, 2023:
<https://www.sec.gov/Archives/edgar/data/1000275/000119312523299523/d638227d424b3.htm>
- ◆ Prospectus dated December 20, 2023:
<https://www.sec.gov/Archives/edgar/data/1000275/000119312523299520/d645671d424b3.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 believe that the value of the Underlying Basket will appreciate over the term of the Securities.
- ◆ You are willing to invest in the Securities based on the Upside Gearing set forth on the cover page of this pricing supplement.
- ◆ 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 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 understand and accept the risks associated with the Underlying Indices.

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 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 value of the Underlying Basket will decline over the term of the Securities.
- ◆ You are unwilling to invest in the Securities based on the Upside Gearing set forth on the cover page of this pricing supplement.
- ◆ 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 are not willing to assume our credit risk for all payments under the Securities, including any repayment of principal.
- ◆ You do not understand or accept the risks associated with the Underlying Indices.

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.

Final Terms of the Securities¹

Issuer: Royal Bank of Canada (the "Bank")

Issue Price: \$10 per Security (subject to a minimum purchase of 100 Securities)

Principal Amount: \$10 per Security.

Term: Approximately 5 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%	4,765.65
Nikkei 225 Index	NKY	25.00%	38,487.24
FTSE [®] 100 Index	UKX	17.50%	7,711.71
Swiss Market Index	SMI	10.00%	11,310.61
S&P/ASX 200 Index	AS51	7.50%	7,658.317

Upside Gearing: 2.40

Payment at Maturity (per \$10 Security):

If the Underlying Return is positive, we will pay you:
 $\$10 + (\$10 \times \text{Upside Gearing} \times \text{Underlying Return})$

If the Underlying Return is zero or negative and the Final Basket Level is greater than or equal to the Downside Threshold, we will pay you:

\$10

If the Final Basket Level is less than the Downside Threshold, we will pay you:

$\$10 + (\$10 \times \text{the Underlying Return})$

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.

Underlying Return: $\frac{\text{Final Basket Level} - \text{Initial Basket Level}}{\text{Initial Basket Level}}$

Initial Basket Level: 100

Final Basket Level: $100 \times [1 + (\text{the sum of the Index Return of each Underlying Index multiplied by its Component Weighting})]$

Index Return of Each Underlying Index: The Index Return with respect to each Underlying Index reflects its performance, 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.

Downside Threshold: 75, which is 75% of the Initial Basket Level.

Investment Timeline

Trade Date:

The Initial Level of each Underlying Index was determined, and the Initial Basket Level was set to 100. The Upside Gearing was 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 Underlying Return is positive, we will pay you a cash payment per \$10 Security equal to:

$\$10 + (\$10 \times \text{Upside Gearing} \times \text{Underlying Return})$

If the Underlying Return is zero or negative and the Final Basket Level is greater than or equal to the Downside Threshold, we will pay you a cash payment of \$10 per \$10 Security.

If the Final Basket Level is less than the Downside Threshold, we will pay you a cash payment that is less than your initial investment of \$10 per Security and equal to:

$\$10 + (\$10 \times \text{Underlying Return})$

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 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.

Risks Relating to the Terms and Structure of 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 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, 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 Basket. 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 value of the Underlying Basket 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 Indices at the time of sale, even if that return is positive.
- ◆ **The Securities Will Not Pay Interest:** We will not pay any interest with respect to the Securities. You will not receive any payments on the Securities prior to the maturity date.
- ◆ **An Investment in the Securities Is Subject to Our Credit Risk:** The Securities are our unsubordinated, unsecured debt obligations, 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, if we 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. See “Description of Debt Securities — Canadian Bank Resolution Powers” in the accompanying prospectus for a description of the Canadian bank resolution powers, including the bail-in regime. If the CDIC were to take action under the Canadian bank resolution powers with respect to us, holders of the Securities could be 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 represented by 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.
- ◆ **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 and the NKY make up 40% and 25% of the Underlying Basket, respectively, 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 and the NKY 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.

- ◆ **Holders of the Securities Will Not Receive Dividend Payments or Have Any 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.
- ◆ **The Tax Treatment of the Securities Is Uncertain:** Significant aspects of the tax treatment of an investment in the Securities are uncertain. You should consult your tax adviser about your tax situation.

Risks Relating to the Initial Estimated Value of 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 pricing supplement, which is less than the public offering price you pay for the Securities, does not represent a minimum price at which we, RBC Capital Markets, LLC ("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, 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, our estimated profit or 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 market 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.

Risks Relating to the Secondary Market for the Securities

- ◆ **The Securities Are Expected to Have a Limited Trading Market:** The Securities will not be listed on any securities exchange. 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 Terms of the Securities Were Influenced at Issuance 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 influence their value prior to maturity. These factors are similar in some ways to those that could affect the value of a combination of instruments that might be used to replicate the payments on the 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 levels of the Underlying Indices 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 levels of the Underlying Indices. 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 each Underlying Index;

- ♦ the time remaining to maturity of the Securities;
- ♦ the dividend rates on the equity securities included in the Underlying Indices;
- ♦ interest and yield rates in the market generally, as well as in each of the markets of the equity securities included in the Underlying Indices;
- ♦ 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.

Risks Relating to the Underlying Indices

- ♦ **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 May Reduce the Return on the Securities:** 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.
- ♦ **The Historical Levels of any Underlying Index Should Not Be Taken as an Indication of Its Future Levels During the Term of the Securities:** The levels of the Underlying Indices will determine the value of the Securities at any given time. However, it is impossible to predict whether the level of any Underlying Index will rise or fall, and the levels of the Underlying Indices will be influenced by complex and interrelated political, economic, financial and other factors that can affect the value of the Underlying Basket.
- ♦ **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 Indices:** "Volatility" refers to the frequency and magnitude of changes

in the levels of the Underlying Indices. Greater expected volatility with respect to the Underlying Indices reflects a higher expectation as of the Trade Date that the Underlying Basket could close below the Downside Threshold on the Final Valuation Date, resulting in the loss of some or all of your investment. However, an Underlying Index's volatility can change significantly over the term of the Securities. The level of the Underlying Basket could fall sharply, which could result in a significant loss of principal.

Risks Relating to Conflicts of Interest

- ◆ **We, UBS and Our Respective Affiliates Will Have Potential Conflicts of Interest in Connection with the Securities:** We, UBS and our respective 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 and those of UBS are potentially adverse to your interests as an investor in the Securities.

We, UBS and our respective affiliates may do business from time to time with the issuers of the securities represented by the Underlying Indices. We may engage in lending or financing transactions with them, or advise them in connection with acquisitions or other transactions. We may acquire non-public information about these companies, which we have no obligation to provide to you.

- ◆ **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, and therefore, the market value of the Securities.
- ◆ **The Activities of 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 composing an Underlying Index or in futures, options, exchange-traded funds or other derivative products on those equity securities may adversely affect the market value of those equity securities, the level of that Underlying Index, and, therefore, the market value of the Securities.

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 \$10.00 Security for a hypothetical range of Underlying Returns from -100.00% to +100.00% and are based on the Initial Underlying Level of 100.00, the Downside Threshold of 75.00 and the Upside Gearing of 2.40. 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 Underlying Level. Because the Underlying Return is positive, we will pay you an amount based upon the Underlying Return times the Upside Gearing. In this case, we will pay you at maturity a cash payment of \$11.20 per \$10 principal amount Security, calculated as follows:

$$\$10 + (\$10 \times 5\% \times 2.4) = \$10 + \$1.2 = \$11.20$$

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

Example 3 – On the Final Valuation Date, the Underlying Basket closes 40% below the Initial Underlying Level. Because the Underlying Return is -40%, and the Final Basket Level is lower 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:

$$\$10 + (\$10 \times -40\%) = \$10 - \$4.00 = \$6.00$$

Hypothetical Final Basket Level	Hypothetical Underlying Return ¹	Hypothetical Payment at Maturity (\$)	Hypothetical Total Return on Securities ²
200.00	100.00%	\$34.00	240.00%
175.00	75.00%	\$28.00	180.00%
150.00	50.00%	\$22.00	120.00%
140.00	40.00%	\$19.60	96.00%
130.00	30.00%	\$17.20	72.00%
120.00	20.00%	\$14.80	48.00%
110.00	10.00%	\$12.40	24.00%
105.00	5.00%	\$11.20	12.00%
100.00	0.00%	\$10.00	0.00%
90.00	-10.00%	\$10.00	0.00%
80.00	-20.00%	\$10.00	0.00%
75.00	-25.00%	\$10.00	0.00%
70.00	-30.00%	\$7.00	-30.00%
65.00	-35.00%	\$6.50	-35.00%
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%

(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.

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, 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 special U.S. tax counsel, Ashurst LLP, it would generally be reasonable to treat the Securities as pre-paid cash-settled derivative contracts in respect of the Underlying Basket for U.S. federal income tax purposes, and the terms of the Securities require a holder (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 (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 will ultimately be issued, 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 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, directly or indirectly, 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, 2025. 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 an Underlying Index 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.

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 EURO STOXX 50® Index (the "SX5E") is a free-float market capitalization-weighted index of 50 European blue-chip stocks that is calculated in euros. The 50 stocks included in the SX5E trade in euros and are allocated, generally based on their country of incorporation and primary listing of the security, to one of the following Eurozone countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. Companies allocated to a Eurozone country but not traded in euros are not eligible for inclusion in the SX5E. The SX5E was created by STOXX Limited, a part of Deutsche Börse Group. The SX5E was first published on February 26, 1998, with a base value of 1,000 as of December 31, 1991. Additional information regarding the SX5E may be obtained from the STOXX Limited website: stoxx.com. We are not incorporating by reference the website or any material it includes in this document.

Composition and Maintenance

The SX5E is composed of 50 component stocks of market sector leaders from within the 20 EURO STOXX® Supersector indices, which represent the Eurozone portion of the STOXX Europe 600® Supersector indices. The 20 supersectors from which stocks are selected for the SX5E are: Automobiles & Parts; Banks; Basic Resources; Chemicals; Construction & Materials; Consumer Products & Services; Energy; Financial Services; Food, Beverage & Tobacco; Health Care; Industrial Goods & Services; Insurance; Media; Personal Care, Drug & Grocery Stores; Real Estate; Retailers; Technology; Telecommunications; Travel & Leisure; and Utilities; although stocks from each of these supersectors are not necessarily included at a given time.

The composition of the SX5E is reviewed annually in September, based on the closing stock data on the last trading day in August. For each of the 20 EURO STOXX Supersector indices, eligible stocks are ranked in terms of free-float market capitalization. The largest stocks are added to the selection list until the coverage is close to, but still less than, 60% of the free-float market capitalization of the corresponding EURO STOXX Total Market Supersector Index. If the next highest-ranked stock brings the coverage closer to 60% in absolute terms, then it is also added to the selection list. All stocks currently included in the SX5E are added to the selection list. All the stocks on the selection list are then ranked in terms of free-float market capitalization to produce the final index selection list. The largest 40 stocks on the selection list are selected; the remaining 10 stocks are selected from the largest remaining current stocks ranked between 41 and 60; if the number of stocks selected is still below 50, then the largest remaining stocks are selected until there are 50 stocks.

Component changes 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 Eurozone.

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 free-float factor reduces the number of shares to the actual amount available on the market. All fractions of the total number of shares that are larger than or equal to 5% and whose holding is of a long-term nature are excluded from the index calculation.

Components are capped at a maximum weight of 10% quarterly.

Ongoing Maintenance

The selection list for the SX5E is updated on a monthly basis and is used to determine replacements for any stock deleted from the SX5E due to corporate actions. The selection list is determined based on data as of the last trading day of the previous month. Updates to free-float data applicable to selection lists are published on a quarterly basis in March, June, September and December.

Corporate actions (including mergers and takeovers, spin-offs, delistings, and bankruptcy) that affect the SX5E composition are announced immediately, implemented two trading days later and become effective on the next trading day after implementation.

A deleted stock is replaced immediately to maintain the fixed number of 50 stocks. The replacement is based on the latest selection list that is updated monthly.

In case of merger and acquisition where an component stock is involved, the original stock is replaced by the new stock. If a stock is deleted from the SX5E in between the regular review dates but is still a component of the STOXX Regional TMI Index, then this stock will remain in the SX5E until the next regular review.

The component stocks of the SX5E are subject to a “fast exit” rule. A component stock is deleted if it ranks 75 or below on the monthly selection list and it ranked 75 or below on the selection list of the previous month.

The component stocks of the SX5E are also subject to a “fast entry” rule. All stocks on the latest selection list and initial public offering (IPO) stocks are reviewed for a fast-track addition on a quarterly basis. A stock is added if it qualifies for the latest selection list generated at the end of February, May, August or November and if it ranks within the lower buffer (between 1 and 25) on the selection list. If added, the stock replaces the smallest component stock.

In the case of a spin-off, if the original stock was a component stock, then each spin-off stock qualifies for addition if it lies within the upper buffer (between 1 and 40) on the latest selection list. The spin-off replaces the lowest ranked stock as determined by the selection list. Qualifying spin-off stocks are added in sequence: The largest qualifying spin-off stock replaces the original stock in the index, and so on.

Calculation of the SX5E

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

$$\text{SX5E} = \frac{\text{Free float market capitalization of the SX5E}}{\text{Divisor}}$$

The “free float market capitalization of the SX5E” is equal to the sum of the products of the price, the number of shares, the free float factor and the weighting cap 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 February 17, 2014 through February 16, 2024, 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 Nikkei 225 Index

The Nikkei 225 Index (the "NKY") is comprised of 225 stocks listed on the Tokyo Stock Exchange ("TSE") Prime Market and calculated as an adjusted price weight index. Stocks listed on the Prime Market of the TSE are among the most actively traded stocks on the TSE. The NKY is calculated and published by Nikkei Inc. The NKY started on September 7, 1950. It was retroactively calculated back to May 16, 1949, which is the day the Tokyo Stock Exchange reopened for the first time after the Second World War. The NKY has been calculated and published by Nikkei Inc. since 1970, when Nikkei took over from the Tokyo Stock Exchange. The index is reported by Bloomberg L.P. under the symbol "NKY."

Periodic Reviews

Constituents are reviewed twice a year at the end of January and July (each, a "periodic review") in accordance with the following rules. Results of the review become effective on the first trading day of April and October. The maximum number of constituents reshuffled at a periodic review is three (3), not including constituent changes due to corporate reorganization.

The 450 most liquid stocks in the TSE Prime Market, excluding ETFs, REITs, preferred stocks, preferred securities and tracking stocks, are selected to form a "high liquidity group." Liquidity of a stock is assessed using two measurements, (1) its "trading value" in the preceding 5 years, and (2) its "magnitude of price fluctuation by trading value" of the preceding 5 years, which is calculated as (high price/low price) / trading value. Current constituents of the NKY that are not included in the high liquidity group (i.e., ranked 451 or lower) are deleted from the NKY. The 75 most liquid stocks are automatically included in the NKY.

The 450 companies included in the high liquidity group are divided into six industrial sector categories: Technology, Financials, Consumer Goods, Industrial Materials, Capital Goods/Others and Transportation/Utilities. These six sector categories are further divided into 36 industrial classifications as follows:

- Technology – Pharmaceuticals, Electric Machinery, Automobiles & Auto Parts, Precision Instruments, Communications;
- Financials – Banking, Other Financial Services, Securities, Insurance;
- Consumer Goods – Fishery, Foods, Retail, Services;
- Materials – Mining, Textiles & Apparel, Paper & Pulp, Chemicals, Petroleum, Rubber, Glass & Ceramics, Steel, Nonferrous Metals, Trading Companies;
- Capital Goods/Others – Construction, Machinery, Shipbuilding, Transportation Equipment, Other Manufacturing, Real Estate; and
- Transportation and Utilities – Railway & Bus, Land Transport, Marine Transport, Air Transport, Warehousing, Electric Power, Gas.

The remaining index stocks are selected by Nikkei Inc. from the high liquidity group. Nikkei Inc. aims to achieve an "appropriate number" of constituents in each sector, defined as half of the number of stocks in each sector in the high liquidity group. The candidates are presented to the committee comprised of academics and market professionals and, based on the comments from the committee, Nikkei Inc. will finally determine and announce the changes. For over-represented sectors, current constituents from those sectors are deleted in order of lowest liquidity to highest until an appropriate number is achieved. For under-represented sectors, non-constituent stocks are added from the high liquidity group in order of highest liquidity to lowest until an appropriate number is achieved.

Extraordinary Replacement Rules

Index stocks that are (a) designated as a "securities to be delisted" or "securities on alert", (b) delisted due to corporate restructuring such as merger, share exchange or share transfer or (c) transferred to the market other than the TSE Prime Market, shall be deleted from the NKY. An index stock designated as a "security under supervision" shall remain a constituent of the NKY at the time of designation, unless the NKY deems it highly inappropriate to keep the index stock as a constituent of the NKY (e.g., probability of delisting is extremely high).

When an index stock is deleted, a replacement index stock will be selected from the same sector in the high liquidity group in the order of highest liquidity. Notwithstanding the preceding sentence, the following rules may apply depending on the timing and circumstances of the deletion: (a) when such deletion is scheduled close to the periodic review, the replacement index stock may be selected in the periodic review process, and (b) when multiple deletions are scheduled in a short period between periodic reviews, additions may not be selected one by one using the extraordinary replacement rules but using the periodic review procedure by assessing the liquidity and the balance of the sectors.

When an index stock is deleted due a corporate reorganization and is succeeded by a substantially similar company (e.g., the surviving company of a merger or a newly formed parent company) the stock of the succeeding company will typically be added to the NKY as a replacement index stock, provided such company must be listed or will be listed within a short period in the TSE Prime

Market. When a company is split and multiple companies maintain listing in the TSE Prime Market, a stock of a company which succeeds the majority of the operations will typically be added to the NKY as a replacement index stock.

Generally, a deletion and a replacement are made effective on the same day to keep the number of constituents at 225. However, when necessary, additions are made after the deletions and during such period, the NKY may be calculated with less than 225 constituents.

Calculation of the NKY

The NKY is a modified, price-weighted index (i.e., an index 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 index stock by the corresponding price adjustment factor for such index stock, (ii) calculating the sum of all these products and (iii) dividing such sum by a divisor (the "divisor"). Usually, the last traded price of each index stock is used to calculate the index closing level. A "special quote" will be used instead of the last traded price, if one is declared by the TSE. If a stock did not trade on a given trading day and there is no special quote, then a "base price" is used. In most cases, the base price will be the last traded price on the immediately preceding trading day. 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.

The price adjustment factor of a stock to be added to the NKY is 1. However, a value other than 1 (0.1 to 0.9 in increments of 0.1) may be assigned when such stock's price per share at the end of January and July exceeds 1% of the sum of constituent prices, and the price adjustment factor is set at the highest value which will result in an adjusted stock price that is less than 1% of the sum of constituent prices. The price adjustment factor may be adjusted after a stock split to keep the price level of such constituent unchanged. Additionally, if an average daily trading value of a stock to be added is relatively low compared with its expected weight, the stock may be added with the price adjustment factor that is one-half (rounded up to the nearest 0.1) of the value set by the method described above. In such case, the price adjustment factor of the stock shall be raised to the planned value at the next periodic review in principle.

A capping ratio may be applied to temporally decrease the weight of a constituent when such weight exceeds a certain threshold ("weight cap threshold"). A weight cap threshold of 12% was introduced at the periodic review of October 2022. The weight cap threshold was reduced to 11% at the periodic review in October 2023 and will be further reduced to 10% at the periodic review October 2024. For a constituent to which a capping ratio is applied, the price of such a constituent is adjusted by a "capped price adjustment factor", calculated by multiplying the price adjustment factor by the capping ratio, the product of which is rounded down to the nearest 0.1.

The divisor is used to maintain index continuity over time in the NKY. When there is (a) a change of constituents, (b) certain corporate actions affecting an index stock, or (c) a capping ratio of a stock is applied, removed or modified or a price adjustment factor of a stock is increased to the planned value from one half of the planned value, the sum of stock prices used to calculate the level of the NKY (i.e., numerator) changes. If the divisor (i.e., the denominator) is not updated accordingly, the level of the NKY on the current day will be different from the level of the NKY on the previous day, even if the prices of all index stocks are the same. Accordingly, to keep the level of the NKY unchanged from such non-market events, the divisor is adjusted so that the level of the NKY is not impacted from the non-market event.

The level of the NKY is currently calculated once every 5 seconds during TSE trading hours.

License Agreement

We have entered into a non-exclusive license agreement with Nikkei, which will allow us and our affiliates, in exchange for a fee, to use the NKY in connection with this offering. We are not affiliated with Nikkei; the only relationship between Nikkei and us will be the licensing of the use of the NKY and trademarks relating to the NKY.

Nikkei is under no obligation to continue the calculation and dissemination of the NKY. The Securities are not sponsored, endorsed, sold or promoted by Nikkei. No inference should be drawn from the information contained in this document that Nikkei makes any representation or warranty, implied or express, to us, any holder of the Securities or any member of the public regarding the advisability of investing in securities generally, or in the Securities in particular, or the ability of the NKY to track general stock market performance.

Nikkei determines, composes and calculates the NKY without regard to the Securities. Nikkei has no obligation to take into account your interest, or that of anyone else having an interest, in the Securities in determining, composing or calculating the NKY. Nikkei is not responsible for, and has not participated in the determination of, the terms, prices or amount of the Securities and will not be responsible for, or participate in, any determination or calculation regarding the principal amount of the Securities payable at maturity. Nikkei has no obligation or liability in connection with the administration, marketing or trading of the Securities.

Nikkei disclaims all responsibility for any errors or omissions in the calculation and dissemination of the NKY or the manner in which the NKY is applied in determining any level of the NKY or any amount payable on the Securities.

NIKKEI DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF THE NKY OR ANY DATA INCLUDED IN THE NKY. NIKKEI ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS.

“Nikkei®” is a trademark of Nikkei. The Securities are not sponsored, endorsed, sold or promoted by Nikkei, and Nikkei makes no representation regarding the advisability of investing in the Securities.

Historical Information

The following graph sets forth the closing levels of the NKY from February 17, 2014 through February 16, 2024, 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.***



The FTSE® 100 Index

The FTSE® 100 Index (the “UKX”) 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 UKX 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 UKX is available from the following website: lse.com/en/ftse-russell. Information on that website is not included or incorporated by reference in this document. FTSE is under no obligation to continue to publish the UKX and may discontinue publication of the UKX at any time.

Index Composition and Selection Criteria

The UKX 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. 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 ICE Futures Europe futures and options contracts.

Security Inclusion Criteria

Only “premium listed” equity shares, as defined by the Financial Conduct Authority in its Listing Rules Sourcebook, which have been admitted to trading on the London Stock Exchange with a Sterling-denominated price on the Stock Exchange Electronic Trading Service (“SETS”), are eligible for inclusion in the UKX. Eligible stocks must pass the following screens before being included in the UKX. Additionally, a stock generally must have a minimum free float (as described below) of 10% and have its sole listing in the U.K. if the issuing company is U.K. incorporated, and greater than 25% if it is non-U.K. incorporated.

Price Screen — With regard to the price screen, there must be an accurate and reliable price for purposes of determining the market value of a company.

Voting Rights — In order to be included in the UKX, a company is required to have greater than 5% of the company's voting rights (aggregated across all of its equity securities, including, where identifiable, those that are not listed or trading) in the hands of unrestricted shareholders or they will be deemed ineligible for index inclusion. The voting rights screen is applied to any potential new constituents on a quarterly basis and existing constituents will be tested on an annual basis in conjunction with the June review.

Liquidity Screen — With regard to liquidity, each security is tested for liquidity annually in June by calculating its monthly median daily trading volume. When calculating the monthly median daily trading volume of any security, the daily volume for each security is calculated as a percentage of the shares in issue for that day, adjusted by the free float at the end of the month. These daily values are then ranked in descending order and the median is taken by selecting the value for the middle-ranking day if there are an odd number of days and the mean of the middle two if there are an even number of days. Liquidity will be calculated from the first business day in May of the previous year to the last business day of April in the current year. When calculating the median of daily trading volume of any security for a particular month, a minimum of five trading days in that month must exist, otherwise the month will be excluded from the test. 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 UKX that does not turnover at least 0.025% of its shares in issue (after application of any investability weightings) based on its monthly median daily trading volume for 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 0.0150% of its shares in issue (after the application of any investability weightings) based on its monthly median daily trading volume for at least eight of the 12 months prior to the annual index review will be removed from the UKX and will not be eligible for inclusion until the next annual review. New issues or newly eligible securities that do not have a 12-month trading record must have a minimum 20-day trading record when reviewed and must have turned over at least 0.0250% of their shares in issue (after the application of any investability weightings) based on their monthly median daily trading volume on a pro-rata basis since premium listing or U.K. nationality assignment date if non-U.K. incorporated.

Market Capitalization Ranking — Eligible stocks that pass the price and liquidity screens are ranked by their full market capitalization (i.e., before the application of any investability weightings). Only listed equity shares of a constituent company will be included in the calculation of its market capitalization. Where a company has two or more classes of listed equity, the secondary lines will be included in the calculation of the market capitalization of the company based on the market price of that secondary line. A stock will be added 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 be deleted from the FTSE® 100 Index 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 Tuesday before the first Friday of the review month.

100 Constituent Limitation — The UKX 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 of the FTSE All-Share Index that are then not included in the UKX will be inserted to match the number of companies being removed, in order to maintain the total at 100.

Secondary Lines — A premium listed secondary line of a company will be considered for index inclusion if its total market capitalization before the application of any investability weightings 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 UKX unless its total market capitalization remains above the qualification level for continued inclusion as a constituent of the FTSE All-Share Index at that review.

Index Calculation

The UKX is a market capitalization weighted index. This means that the price movement of a larger company (that is, one representing a 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 UKX 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 is adjusted for any capital changes in the index constituents. To prevent discontinuities in the index in the event of a corporate action or change in constituents, the divisor is adjusted for any capital changes in the index constituents.

As noted above, a free float factor is applied to each index component. An index component's free float is the percentage of a company's shares that are considered to be freely available for public purchase. Determining a company's free float requires analysis and classification of the company's shareholders.

Index Maintenance

The UKX is reviewed on a quarterly basis in March, June, September and December. A full review of the UKX will be conducted in June. The index reviews will be based on data from the close of business on the Tuesday before the first Friday of the review month. Any constituent changes will be implemented after the close of business on the third Friday of the review month (i.e. effective Monday), following the expiry of the ICE Futures Europe futures and options contracts.

The UKX will be reviewed quarterly for updates to shares outstanding and to free floats used within the index calculation. The changes will be implemented quarterly, on the third Friday of the month (after the close), although the June reconstitution will continue to be implemented on the last Friday of June (unless the last Friday occurs on the 29th or 30th, when reconstitution will occur on the Friday prior).

In June the shares and free float updates will be implemented regardless of size (i.e. buffers will not be applied). The June updates will be implemented using data sourced primarily from company filings for all constituents.

In March, September and December, shares outstanding and free float will be updated to reflect the following: (a) cumulative share changes greater than 1%; (b) for constituents with a free float of 5% and less, cumulative free float changes greater than 0.25%; (c) for constituents with a free float greater than 5% but less than or equal to 15%, cumulative free float changes greater than 1%; (d) for constituents with a free float greater than 15%, cumulative free float changes greater than 3%.

Outside of the quarterly update cycle, shares and free float will be updated with at least two days' notice if occasioned by primary or secondary offerings if: (a) there is a US\$1 billion investable market cap change related to a primary/secondary offering measured by multiplying the change to index shares by the subscription price; or (b) there is a resultant 5% change in index shares related to a primary or secondary offerings and a US\$250 million investable market cap change measured by multiplying the change to index shares by the subscription price.

When a limit is placed on foreign ownership that is more restrictive than the free float adjustment, the security will be included in the index but with a weighting which reflects the maximum holding available by foreign investors.

Where a UKX company is scheduled to be deleted after the periodic review changes have been announced but before they have been implemented, the highest ranking constituent of the FTSE All-Share Index (which is not currently a member of the UKX) is selected as the replacement company. However, if that replacement company is already scheduled to be added as part of the index review then the next highest-ranking company is selected as the replacement. (The FTSE All-Share Index is designed represent 98% of the U.K.'s market capitalization.)

Where a company being deleted is already due to be replaced in the UKX as part of the periodic review, it will be replaced by the largest company previously announced as a review addition to the index. In other words, the review addition will be brought forward and implemented concurrent with the intra-quarter deletion.

If a constituent company is split to form two or more companies, then the resulting companies will be eligible for inclusion as UKX constituents, based on their respective full market capitalizations at close on the first day of trading of the spun-off companies (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 may be retained in the UKX for up to 20 business days and thereafter it will be removed. If a split results in the inclusion of an ineligible security, such security will remain in the UKX for two trading days and then be deleted at market price; the eligible company will be retained in the UKX as the replacement company and its continued index membership will be reviewed at the next quarterly index review. If a constituent is delisted or ceases to have a firm quotation or is subject to a takeover offer that has been declared wholly unconditional or has ceased to be an eligible constituent, it will be removed from the list of constituents and be replaced by the highest ranking eligible constituent of the FTSE All-Share Index (which is not currently a member of the UKX) as at the close of the index calculation two days prior to the deletion.

Corporate Actions and Events

The market capitalization of a company is adjusted to take account of various corporate actions. To prevent the value of the UKX from changing due to such an event, all corporate actions which affect the market capitalization of the UKX require an offsetting divisor adjustment. By adjusting the divisor, the value of the UKX 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
Splits (sub-division)/reverse splits (consolidation)	Share weighting and share price adjusted according to the terms of the split	No

Rights Issues — A rights issue is an entitlement issued to shareholders which give them the right to buy additional shares directly from the company in proportion to their existing holdings. FTSE will only adjust the UKX to account for a rights issuance if the subscription price of the rights is at a discount to the market price of the stock. Provided FTSE has been alerted to the rights offer prior to the ex date, a price adjustment and share increase proportionate to the terms of the offer will generally be implemented before the open on the ex date.

Market Disruption

Due to the unique nature of each market outage and unexpected closure, FTSE will review each situation on a case-by-case basis and will determine the best course of action following consultation with its external advisory committees or other internal and external stakeholders (as far as is reasonably practical).

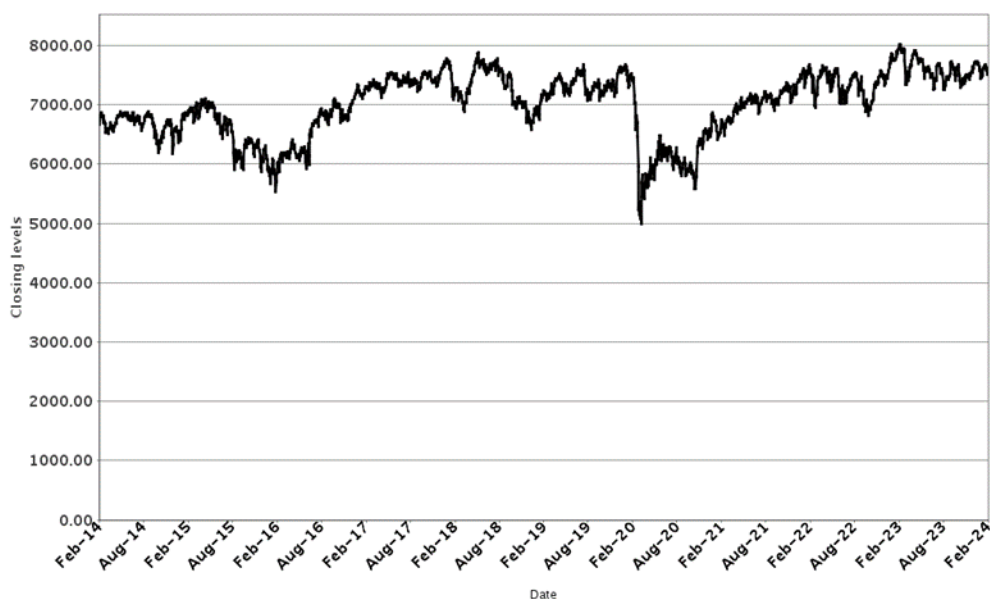
FTSE will follow the steps set out in the FTSE Russell Index Recalculation Guidelines when determining whether the UKX should be recalculated.

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Historical Information

The following graph sets forth the closing levels of the UKX from February 17, 2014 through February 16, 2024, 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 Swiss Market Index (the “SMI”):

- 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. (the “index sponsor”).

The SMI is a price return free float market capitalization-weighted index of the 20 largest and most liquid stocks traded on the SIX Swiss Exchange. The Index Team at the SIX Swiss Exchange is responsible for managing the SMI and is supported by an Index Commission (advisory board) that provides input on index-related matters, notably in connection with changes to the index rules and adjustments, inclusions and exclusions outside of the established review and acceptance period. The Index Commission meets at least twice annually.

SMI Composition and Selection Criteria

The SMI is comprised of the 20 highest ranked stocks traded on the SIX Swiss 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 SIX Swiss Exchange or investment companies that do not hold any shares of any other eligible company and that have a primary listing on the SIX Swiss Exchange may be included.

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

- average free-float market capitalization over the last 12-month period (compared to the total capitalization of the Swiss Performance Index, which serves as a benchmark for the overall Swiss equity market and as the index universe for the SMI), and
- cumulated order book turnover over the last 12-month period (compared to the total turnover of the Swiss Performance Index).

The SMI is reconstituted annually after prior notice of at least two months on the third Friday in September after the close of trading. For companies that were listed during the last 12-month period, the cumulated order book turnover is extrapolated and excludes the first five trading days after listing. The ordinary index reconstitution is based on data from the previous July 1 through June 30. Provisional interim selection (ranking) lists based on the average free-float market capitalization and cumulated order book turnover over the last 12-month period are also published as of the cut off dates of March 31, September 30 and December 31.

The 18 securities with the highest rank are selected for inclusion in the SMI. In order to reduce turnover, a buffer is applied for securities ranked 19 to 22. Out of the securities ranked 19 to 22 current components are selected with priority over the other securities. After that, new components are added based on the highest rank until 20 components have been reached.

If a company has primary listings on several exchanges and less than 50% of that company’s total turnover is generated on the SIX Swiss Exchange, it will not be included in the SMI unless it satisfies an additional liquidity criteria. For this purpose, all the components of the Swiss Performance Index are ranked based on their cumulated order book turnover over the last 12-month period relative to the total turnover of the Swiss Performance Index. Such a security must rank at least 18 or better in terms of the cumulated order book turnover over the last 12-month period in order to be selected for the SMI, and if it ranks 23 or lower, it will be automatically excluded from the SMI.

Maintenance of the SMI

Constituent Changes. In the case of major market changes as a result of corporate actions, the Swiss Index Committee can decide at the request of the Index Commission that a security should be admitted to the SMI outside of the annual review period as long as it clearly fulfills the criteria for inclusion. For the same reasons, a security can also be excluded if the requirements for admission to the SMI are no longer fulfilled. As a general rule, extraordinary acceptances into the SMI take place after a three-month period on a quarterly basis after the close of trading on the third Friday of March, June, September and December (for example, a security listed on or before the fifth trading day prior to the end of November cannot be included until the following March). If a delisting has been confirmed, it will be removed from the index at the next upcoming ordinary index review on the third Friday in March, June, September and December, with a notice period of at least five trading days. However, if the delisting would be effective before the ordinary index review, the security is excluded from the index on the effective date of the delisting. Similarly, an index component which no longer meets the criteria for remaining in the SMI due to a pending takeover may be excluded from the index ahead of time. If a company is removed before the ordinary index review, it will be replaced by the highest ranked candidate on the selection list which is not yet part of the index in order to maintain 20 components.

Number of Shares and Free Float. The securities included in the SMI are weighted according to their free float market capitalization, subject to the capping factor, as described below. Free float market capitalization is equal to the share price multiplied by the number of shares multiplied by the free float factor. The number of shares is the number of shares in circulation. They constitute the

total share capital, which is fully subscribed and fully or partially paid in and registered in the Commercial Register. The capital in circulation does not include conditional or authorized capital.

The free float factor represents the relative proportion of the number of shares that are not in fixed ownership and are therefore freely tradable. The free float factor is only calculated for shares with voting rights. Substantial shares that reach or exceed the threshold of 5% and are in fixed ownership are deducted from the market capitalization. Shares that meet the following conditions are considered to be in fixed ownership:

- Shares held by individual persons or groups of persons bound by a shareholders' agreement.
- Shares held by individual persons or groups of persons who, according to publicly known facts, have a long-term interest in the company.

Irrespective of the above provisions, shares held by the groups listed below are counted as free float:

- Administrators
- Trustees
- Investment fund companies
- Pension funds
- Investment companies

If a person or a group of persons cannot be clearly classified due to their area of activity or the lack of important information, the index sponsor will assess them at its own discretion.

For the calculation of the number of shares in fixed ownership, the SIX Swiss Exchange may use reports submitted to it as well as data gained from issuer surveys that it conducts itself.

If an issuer has listed different categories of shares, these are considered separately when calculating the free float factor.

The number of shares and the free float factors are adjusted after the close of trading on the third Friday of each March, June, September and December. Such changes are pre-announced at least one month before the adjustment date, although the index sponsor reserves the right to take account of recent changes before the adjustment date, so the definite new securities are announced five trading days before implementation.

In order to avoid frequent slight changes to the weighting and to maintain the stability of the SMI, extraordinary corporate actions may lead to an adjustment of the number of shares or the free float factor outside of the ordinary index review if:

- The corporate action leads to an adjustment of the number of shares of at least 10%
- The corporate action leads to an adjustment of the free float factor of at least 5%

Such an adjustment takes effect after a notification period of two trading days based on the information available.

Capped Weightings and Intra-Quarter Breaches. The weight of each index component is reset on a quarterly basis and is equal to its free float market capitalization, which is the number of shares of such index component multiplied by its free float factor, subject to a capping factor that limits the weight of an index constituent to 18% at each ordinary index review. The capping factor of an index constituent with a pro forma weight in the index (i.e., before the application of the capping factor) less than or equal to 18% based on its free float market capitalization is equal to 1 (i.e., the capping factor does not modify the pro forma weight of the index constituent). The capping factor of an index constituent with a pro forma weight in the index greater than 18% based on its free float market capitalization is equal to (a) 18% divided by (b) its pro forma weight in the index. The excess weight (the difference of the pro forma weight minus the capped weight) is distributed proportionally across the other index constituents. The index constituents are also capped to 18% between two ordinary index reviews as soon as two index components each exceed a weight of 20% (an "intra-quarter breach"). If an intra-quarter breach is observed after the close of the trading, the new capping factors are implemented after the close of the following trading day so that the weight of each such index component does not exceed 18% effective after the close of the following trading day. If an issuer is represented in the SMI by more than one security, the free float market capitalization of those securities is cumulated for the calculation of the capping factors.

Calculation of the SMI

The index sponsor calculates the SMI using the "Laspeyres formula," which is a formula that measures the change in value of a basket of goods relative to its initial value. The formula for calculating the index value can be expressed as follows:

SMI (SMI [®]) =	$\frac{\text{Free Float Market Capitalization of the SMI}}{\text{Divisor}}$
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The “free float market capitalization of the SMI” is equal to the sum of the product of the last-paid price, the number of shares, the free float factor, the capping factor and, if a foreign stock is included, the current CHF exchange rate as of the time the index value is being calculated. The index value is calculated in real time and is updated whenever a trade is made in a component stock. Where any SMI component stock price is unavailable on any trading day, the index sponsor will use the last available price for such index component. Only prices from the SIX Swiss Exchange’s electronic order book are used in calculating the SMI.

Divisor Value and Adjustments

The divisor is a technical number used to calculate the index and is adjusted to reflect changes in market capitalization due to corporate events.

Below are common corporate events and their impact on the divisor of the index.

Event	Divisor Change?
Regular cash dividend	No
Share split	No
Rights issue	If the rights issue is used to raise capital, the divisor increases. If the rights issue is used to return capital, the divisor decreases.

Merger & Acquisition Activities

Mergers and acquisitions are corporate actions in which the ownership structure of one or more companies is changed. This may result in the disappearance of the companies involved (delisting) and in the formation of a new company (merger) or the integration of one company into the other (acquisition). The corporate action may lead to a new listing or a delisting, resulting in an adjustment of the index composition. In both cases, a change in the number of shares or the free float factor of the companies involved is possible, which may also lead to an adjustment outside the regular review cycle. Such an adjustment will take effect on the basis of the interim and final results and considering a notice period of two trading days.

Spinoff

A spinoff occurs when a company sells parts of its business into a new company and lists its shares. The shares of this newly formed company are equally distributed to the shareholders of the existing company. Therefore, a spinoff is generally treated like an extraordinary payment. However, no market price is available on the ex-date of the spinoff. In order to obtain such a market price, the spun off company is added to the index with a reference price during the ex-date, meaning that the number of index components is temporarily increased by one. The index adjustments to market value are made on the trading day following the ex-date based on the closing price on the ex-date.

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* SIX Group, SIX Swiss Exchange, SPI, Swiss Performance Index (SPI), SPI EXTRA, SPI ex SLI, SMI, Swiss Market Index (SMI), SMI MID (SMIM), SMI Expanded, SXI, SXI Real Estate, SXI Swiss Real Estate, SXI Life Sciences, SXI Bio+Medtech, SLI, SLI Swiss Leader Index, SBI, SBI Swiss Bond Index, SAR, SAR SWISS AVERAGE RATE, SARON, SCR, SCR SWISS CURRENT RATE, SCRON, SAION, SCION, VSMI and SWX Immobilienfonds Index are trademarks that have been registered in Switzerland and/or abroad by SIX Group Ltd respectively SIX Swiss Exchange Ltd. Their use is subject to a license.

Historical Information

The following graph sets forth the closing levels of the SMI from February 17, 2014 through February 16, 2024, as reported by Bloomberg Financial Markets. ***The historical performance of the SMI should not be taken as an indication of future performance. We cannot give you assurance that the performance of the SMI will result in the return of any of your initial investment.***



The S&P®/ASX 200 Index

The S&P®/ASX 200 Index (the “AS51”):

- was first launched in 1979 by the Australian Securities Exchange and was acquired and re-launched by its current index sponsor on April 3, 2000; and
- is sponsored, calculated, published and disseminated by S&P Dow Jones Indices LLC.

The AS51 includes 200 of the largest and most liquid stocks listed on the Australian Securities Exchange (“ASX”) by float-adjusted market capitalization.

Listing

Only stocks listed on the ASX are considered for inclusion in the AS51.

Domicile

The AS51 draws from the entire universe of ASX listed stocks, which includes both primary and secondary listings on the ASX. A secondary listing occurs when the ASX is not the primary exchange and the stock is listed in multiple markets. This includes foreign-domiciled entities that are incorporated or registered overseas and have their primary listing on an exchange other than the ASX.

Eligible Securities

To be eligible, all common and equity preferred stocks (which are not of a fixed income nature) must be classified by the Global Industry Classification Standard (“GICS”). Hybrid stocks such as convertible stock, bonds, warrants and preferred stock that provide a guaranteed fixed return are not eligible. Listed investment companies and listed investment trusts that invest in a portfolio of securities are not eligible for inclusion. Equity and Mortgage REITs are eligible for inclusion. Companies that are currently the target of an acquisition are ineligible for inclusion.

Float-Adjusted Market Capitalization

Constituent companies for the AS51 are chosen based on float-adjusted market capitalization.

The float-adjusted market capitalization is determined based on the security’s ASX stock price history over the last six months (adjusted for price-adjusting corporate actions), the latest available number of shares and the investable weight factor (the “IWF”).

Number of Shares

When considering the index eligibility of securities for inclusion or promotion into the index, the number of index securities under consideration is based upon the latest available ASX quoted securities. For domestic securities (companies incorporated in Australia and traded on the ASX, companies incorporated overseas but exclusively listed on the ASX and companies incorporated overseas and traded on other overseas markets but most of its trading activity is on the ASX), this figure is purely based upon the latest available data from the ASX.

For foreign-domiciled securities, S&P will quote the number of index securities that are represented by CHESS Depositary Interests (“CDIs”) for a foreign entity. When CDIs are not issued, S&P will use the total securities held on the Australian register (CHESS and, where supplied, the issuer sponsored register). This quoted number for a foreign entity is representative of the Australian equity capital, thereby allowing the AS51 to be increasingly reflective of the Australian market.

The number of CDIs or shares of a foreign entity quoted on the ASX can experience more volatility than is typically the case for ordinary shares on issue. Therefore, an average number will be applied over a three-month period. For CDIs that have been on issue for less than three months, the available history will be applied.

Where CDI information is not supplied to the ASX by the company or the company’s share register, estimates for Australian equity capital will be drawn from CHESS data and, ultimately, registry-sourced data.

IWF

The index is float-adjusted, meaning that the share counts used in calculating the index reflect only those shares available to investors, rather than all of a company’s outstanding shares. S&P seeks to exclude shares held by long-term, strategic shareholders, a group that generally includes the following: officers and directors and related individuals whose holdings are publicly disclosed (“D&O shares”), private equity, venture capital, special equity firms, asset managers and insurance companies with direct board of director representation, holders of restricted shares (except for shares held as part of a lock-up agreement), company-sponsored employee share plans/trusts, defined contribution plans/savings, investment plans, foundations or family trusts associated with the company, government entities at all levels (except government retirement or pension funds), sovereign wealth funds and any individual person listed as a 5% or greater stakeholder in a company as reported in regulatory filings (collectively, “strategic holders”). To this end, S&P excludes all shareholdings with a position greater than 5% of the outstanding shares of a company from the float-adjusted share count to be used in index calculations (other than depositary banks, pension funds (including government pension and retirement funds), mutual funds, exchange traded fund providers, investment funds, asset managers that do not have direct board of director representation, investment funds of insurance companies and independent foundations not associated with

the company). D&O shares are excluded from the float even if, as a group, the total D&O shares is less than 5%, provided that there are other strategic holdings greater than 5%.

The exclusion is accomplished by calculating an investable weight factor (IWF) for each stock that is included in the index as follows:

$$\text{IWF} = (\text{available float shares}) / (\text{total shares outstanding})$$

where available float shares is defined as total shares outstanding less shares held by strategic holders. In most cases, an IWF is reported to the nearest one percentage point. For companies with multiple share class lines, a separate IWF is calculated for each share class line.

A company must have a minimum IWF of 0.3 to be eligible for inclusion in the index; however, an IWF at or above 0.3 is not necessary for ongoing index membership.

IWFs are reviewed annually as part of the September quarterly rebalancing. In addition to the annual IWF review, certain events may warrant an intra-quarter or quarterly IWF update.

Liquidity Test

Only stocks that are regularly traded are eligible for inclusion. Stocks require a minimum relative liquidity of 50% for inclusion in the index. Any stock's relative liquidity that drops below half of the 50% threshold becomes ineligible and is removed at the next quarterly review. The relative liquidity of a stock is calculated as follows:

$$\text{Relative liquidity} = \text{stock median liquidity} / \text{market liquidity}$$

where stock median liquidity is the stock's median daily value traded on the ASX divided by the stock's average float-adjusted market capitalization for the last six months and market liquidity is determined using the market capitalization weighted average of the stock median liquidities of the 500 constituents in the All Ordinaries index, which measures the performance of the total Australian equity market and is composed of the 500 largest securities listed on the ASX, with no liquidity screen or minimum IWF requirement.

Index Maintenance

S&P rebalances constituents quarterly to ensure adequate market capitalization and liquidity. The reference date used for the trading data is the second to last Friday of the month prior to the rebalancing. Quarterly review changes take effect after the market close on the third Friday of March, June, September and December. Eligible stocks are considered for index inclusion based on their float-adjusted market capitalization rank relative to the stated quota of 200 securities.

In order to limit the level of index turnover, an eligible non-constituent stock will generally only be considered for index inclusion once a current constituent stock is excluded due to a sufficiently low rank and/or liquidity, based on the float-adjusted market capitalization. Generally, an eligible non-constituent securities must rank 179th or higher to be added to the index and a current constituent stock must rank 221st or lower in order to be deleted from the index. These buffers aim to limit the level of index turnover that may take place at each quarterly rebalancing and serve as the guidelines for the Index Committee to arrive at any potential constituent changes to the index. However, the Index Committee has complete discretion to bypass these rules when circumstances warrant.

Between rebalancing dates, an index addition is generally made only if a vacancy is created by an index deletion. Index additions are made according to float-adjusted market capitalization and liquidity. When a company is added intra-quarter, it assumes the weight of the company it replaces. In all other cases, additions will be made only at quarterly rebalancings.

A company that is spun-off by an index constituent is added to the index at a zero price on the ex-date. Should the spun-off company not be considered eligible for the index on the basis of its float-adjusted market capitalization, then it will be removed from the index after at least one day of regular way trading.

An initial public offering is added to the AS51 only when an appropriate vacancy occurs or due to a rebalance, and is subject to proven liquidity for at least eight weeks. An exception may be made for extraordinary large offerings where sizeable trading volumes justify index inclusion.

Deletions can occur between index rebalancing dates due to acquisitions, mergers and spin-offs or due to suspension or bankruptcies. The decision to remove a stock from the AS51 will be made once there is sufficient evidence that the transaction will be completed. Stocks that are removed due to mergers and acquisitions are removed from the AS51 at the closing price of the security on the deletion date for cash-only offers. Otherwise, the best available price in the market is used.

The share count for each index constituent is reviewed quarterly, and is rounded to the nearest thousand.

Share updates for foreign-domiciled securities will take place at each quarterly rebalancing. The update to the number of shares outstanding will only take place when the three-month average of CDIs or the total securities held in the Australian branch of issuer sponsored register (where supplied) and in CHESS, on the rebalancing reference date, differs from the current number of shares

used by 5% or more. Where CDI information is not supplied to the ASX by the company or the company's share register, estimates for Australian equity capital will be drawn from CHESS data and, ultimately, registry-sourced data.

Intra-Quarter Changes to the Number of Shares of a Constituent

Certain mandatory actions, such as mergers or acquisition driven share/IWF changes, stock splits and mandatory distributions are not subject to a minimum threshold for implementation and are implemented when the transaction occurs. Material share/IWF changes resulting from certain non-mandatory corporate actions follow the accelerated implementation rule (defined below) with sufficient advance notification.

Accelerated Implementation Rule

1. Public offerings. Public offerings of new company-issued shares and/or existing shares offered by selling shareholders, including block sales and spot secondaries, will be eligible for accelerated implementation treatment if the size of the event meets the materiality threshold criteria:

- (a) at least US \$150 million, and
- (b) at least 5% of the pre-event total shares.

In addition to the materiality threshold, public offerings must satisfy the following conditions:

- be underwritten.
- have a publicly available prospectus, offering document, or prospectus summary filed with the relevant authorities.
- have a publicly available confirmation from an official source that the offering has been completed.

For public offerings that involve a concurrent combination of new company shares and existing shares offered by selling shareholders, both events are implemented if either of the public offerings represent at least 5% of total shares and US \$150 million. Any concurrent share repurchase by the affected company will also be included in the implementation.

2. Dutch Auctions, self-tender offer buybacks, and split-off exchange offers. These nonmandatory corporate action types will be eligible for accelerated implementation treatment regardless of size once their results are publicly announced and verified by S&P.

For companies with multiple share class lines, the criteria specified above applies to each individual multiple share class line rather than total company shares.

Exception to the Accelerated Implementation Rule

For non-mandatory corporate actions subject to the accelerated implementation rule with a size of at least US \$1 billion, S&P will apply the share change, and any resulting IWF change, using the latest share and ownership information publicly available at the time of the announcement, even if the offering size is below the 5% threshold. This exception ensures that very large events are recognized in a timely manner using the latest available information.

Any non-fully paid or non-fully settled offering such as forward sales agreements are not eligible for accelerated implementation. Share updates resulting from completion of subscription receipts terms or the settlement of forward sale agreements are updated at a future quarterly share rebalance.

All non-mandatory events not covered by the accelerated implementation rule (including but not limited to private placements, acquisition of private companies, and conversion of non-index share lines) will be implemented quarterly coinciding with the third Friday of the third month in each calendar quarter. In addition, events that were not implemented under the accelerated implementation rule but were found to have been eligible (e.g., due to lack of publicly available information at the time of the event) are implemented as part of a quarterly rebalancing.

Announcement Policy

For accelerated implementation, S&P will provide two (2) business days' notice for all non-U.S. listed stocks, U.S. listed depositary receipts and interlisted stocks, and one (1) business days' notice for all non-depository receipt U.S. listed stocks.

IWF Updates

Accelerated implementation for events less than US\$1 billion will include an adjustment to the company's IWF only to the extent that such an IWF change helps the new float share total mimic the shares available in the offering. To minimize unnecessary turnover, these IWF changes do not need to meet any minimum threshold requirement for implementation. Any IWF change resulting in an IWF of 0.96 or greater is rounded up to 1.00 at the next annual IWF review. For accelerated implementation of events of at least US\$1 billion, any change in a company's IWF will include the latest share and ownership information publicly available at the time of the announcement.

IWF changes will only be made at the quarterly review if the change represents at least 5% of total current shares outstanding and is related to a single corporate action that did not qualify for the accelerated implementation rule.

Quarterly share change events resulting from the conversion of derivative securities, acquisitions of private companies, or acquisitions of non-index companies that do not trade on a major exchange are considered to be available to investors unless there is explicit information stating that the new owner is a strategic holder.

Other than the situations described above, IWF changes are only made at the annual IWF review.

Rebalancing Guidelines – Share/IWF Freeze

A share/IWF freeze period is implemented during each quarterly rebalancing. The freeze period begins after the market close on the Tuesday prior to the second Friday of each rebalancing month (i.e. March, June, September, and December) and ends after the market close on the third Friday of the rebalancing month. Pro-forma files are generally released after the market close on the first Friday, two weeks prior to the rebalancing effective date. For illustration purposes, if rebalancing pro-forma files are scheduled to be released on Friday, March 5, the share/IWF freeze period will begin after the close of trading on Tuesday, March 9 and will end after the close of trading the following Friday, March 19 (i.e. the third Friday of the rebalancing month).

During the share/IWF freeze period, shares and IWFs are not changed, and the accelerated implementation rule is suspended, except for mandatory corporate action events (such as merger activity, stock splits, and rights offerings). The suspension includes all changes that qualify for accelerated implementation and would typically be announced or effective during the share/IWF freeze period. At the end of the freeze period all suspended changes will be announced on the third Friday of the rebalancing month, and implemented five business days after the quarterly rebalancing effective date.

Index Calculation

The AS51 is calculated using a base-weighted aggregate methodology. The value of the AS51 on any day for which an index value is published is determined by a fraction, the numerator of which is the aggregate of the price of each stock in the AS51 times the number of shares of such stock included in the AS51 times that stock's IWF, and the denominator of which is the divisor, which is described more fully below.

In order to prevent the value of the AS51 from changing due to corporate actions, all corporate actions may require S&P to make an index or divisor adjustment. This helps maintain the value of the index and ensures that the movement of the AS51 does not reflect the corporate actions of the individual companies that comprise the AS51.

The table below summarizes the types of index adjustments and their consequences under the index methodology:

Corporate Action	Treatment
Company addition/deletion	<p><u>Addition</u></p> <p>Companies are added at the float market capitalization weight. The net change to the index market capitalization causes a divisor adjustment.</p> <p><u>Deletion</u></p> <p>The weights of all stocks in the index will proportionally change. Relative weights will stay the same. The index divisor will change due to the net change in the index market capitalization.</p>
Change in shares outstanding	Increasing (decreasing) the shares outstanding increases (decreases) the market capitalization of the index. The change to the index market capitalization causes a divisor adjustment.
Split/reverse split	Shares outstanding are adjusted by split ratio. The stock price is adjusted by the split ratio. There is no change to the index market capitalization and no divisor adjustment.
Spin-off	<p>The spin-off is added to the index on the ex-date at a price of zero. The spin-off index shares are based on the spin-off ratio. On the ex-date, the spin-off will have the same attributes as its parent company, and will remain in the index for at least one trading day. As a result, there will be no change to the index divisor on the ex-date.</p> <p>If the spin-off is ineligible for continued inclusion, it will be removed after the ex-date. The weight of the spin-off being deleted is reinvested across all the index components</p>

	proportionally such that the relative weights of all index components are unchanged. The net change in index market capitalization will cause a divisor change.
Change in IWF	Increasing (decreasing) the IWF increases (decreases) the market capitalization of the index. A net change to the index market capitalization causes a divisor adjustment.
Ordinary dividend	When a company pays an ordinary cash dividend, the index does not make any adjustments to the price or shares of the stock. As a result, there are no divisor adjustments to the index.
Special dividend	The stock price is adjusted by the amount of the dividend. The net change to the index market capitalization causes a divisor adjustment.
Rights offering	All rights offerings that are in the money on the ex-date are applied under the assumption the rights are fully subscribed. The stock price is adjusted by the value of the rights and the shares outstanding are increased by the rights ratio. The net change in market capitalization causes a divisor adjustment.

Recalculation Policy

S&P reserves the right to recalculate and republish the AS51 at its discretion in the event one of the following occurred:

- incorrect or revised closing price of one or more constituent securities;
- missed or misapplied corporate event;
- incorrect application of corporate action or index methodology;
- late announcement of a corporate action; or
- incorrect calculation or data entry error.

The decision to recalculate the index is made at the discretion of S&P's index manager and/or the S&P's Australian Index Committee (the "ASX Committee"), as further discussed below. The potential market impact or disruption resulting from a recalculation is considered when making any such decision. In the event of one of the above events, other than as described in the third bullet, is discovered within two trading days of its occurrence, generally the index is recalculated. If such event is discovered beyond the two-trading day period, the ASX Committee shall decide whether the index should be recalculated. In the event of an incorrect application of the methodology that results in the incorrect composition and/or weighting of index constituents, the ASX Committee shall determine whether or not to recalculate the index following specified guidelines. If the index is recalculated, it shall be done within a reasonable timeframe following the detection and review of the issue.

Calculations and Pricing Disruptions

Prices used to calculate the index are obtained from ICE and Refinitiv. If the primary vendor experiences a disruption or failure, S&P will switch to the alternate vendor. Real-time calculated and published values will be disrupted until the vendor switch is implemented. If the exchange suffers a failure or interruption, real-time calculations for the index including relevant securities will be impacted until the issue is resolved. During such disruption events, S&P will continue to calculate and publish index values with the latest available prices. This may result in the index flat-lining (e.g., no change in value) in a complete outage or partially updating in the event some constituent securities are not impacted by the disruption. In extreme circumstances, S&P may decide to delay index adjustments or not publish the index.

Unexpected Exchange Closures

An unexpected market/exchange closure occurs when a market/exchange fully or partially fails to open or trading is temporarily halted. This can apply to a single exchange or to a market as a whole, when all of the primary exchanges are closed and/or not trading. Unexpected market/exchange closures are usually due to unforeseen circumstances, such as natural disasters, inclement weather, outages, or other events.

In the event of an unexpected exchange closure, S&P uses the following guidelines:

- if an unexpected exchange closure occurs prior to the open of trading and it is indicated that trading will not open for a given day, S&P will treat the day as an unscheduled market holiday.
- if a market disruption occurs intraday, S&P will wait for the impacted exchange to publish a list of closing prices, which will then be used to calculate the closing index values. If no list is published, the last trade for each security before the interruption is

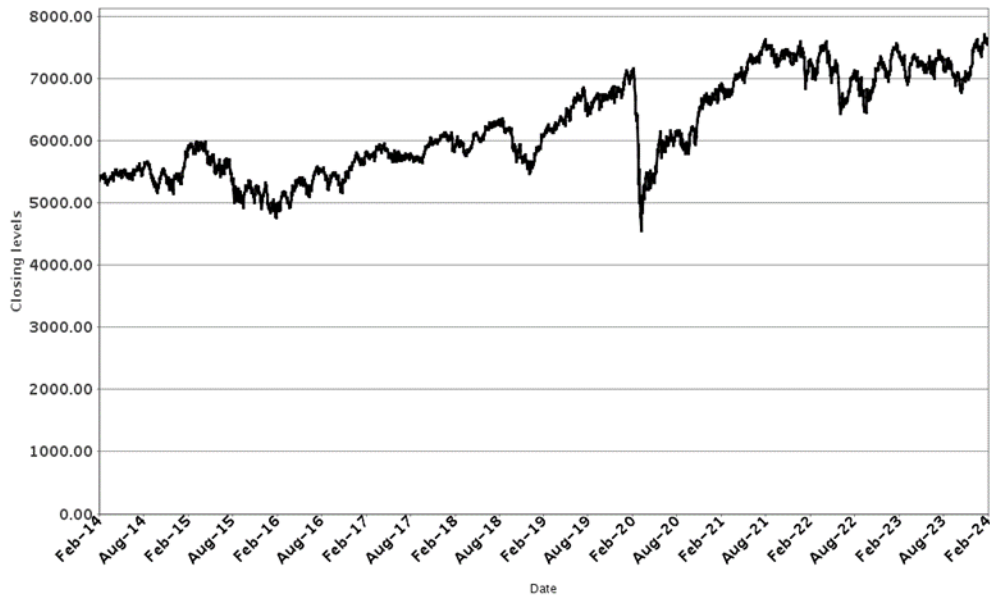
used to calculate the index closing value. If no trades were reported for a security, the previous closing price, adjusted for corporate actions, is used for index calculation.

License Agreement

The AS51 is published and maintained by the S&P Australian Index Committee (the “ASX Committee”), a team of representatives from both Standard & Poor’s and the Australian Stock Exchange. The AS51 is composed of the S&P®/ASX 100 stocks plus an additional 100 stocks selected by the ASX Committee. The AS51 essentially covers large-cap and mid-cap stocks evaluated for liquidity and size. Additional information concerning the AS51 may be obtained from the Australian Stock Exchange website at www.asx.com.au. We are not incorporating by reference the website or any material it includes in this document.

Historical Information

The following graph sets forth the closing levels of the AS51 from February 17, 2014 through February 16, 2024, as reported by Bloomberg Financial Markets. ***The historical performance of the AS51 should not be taken as an indication of future performance. We cannot give you assurance that the performance of the AS51 will result in the return of any of your initial investment.***



Supplemental Plan of Distribution (Conflicts of Interest)

We have agreed to indemnify UBS and RBCCM against liabilities under the Securities Act of 1933, as amended, or to contribute payments that UBS and RBCCM may be required to make relating to these liabilities as described in the prospectus supplement and the prospectus. We have agreed that UBS may sell all or a part of the Securities that it will purchase from us to investors or its affiliates at the price indicated on the cover page of this pricing supplement. UBS may allow a concession not in excess of the underwriting discount set forth on the cover page of this pricing supplement to its affiliates for distribution of the Securities.

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

We or our affiliates may enter into swap agreements or related hedge transactions with one of our other affiliates or unaffiliated counterparties in connection with the sale of the Securities and RBCCM and/or an affiliate may earn additional income as a result of payments pursuant to the swap or related hedge transactions. See “Use of Proceeds and Hedging” in the accompanying product prospectus supplement UBS-IND-1.

The value of the Securities shown on your account statement may be based on RBCCM’s estimate of the value of the Securities if RBCCM or another of our affiliates were to make a market in the Securities (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Securities in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately thirteen months after the issue date, the value of the Securities that may be shown on your account statement may be higher than RBCCM’s estimated value of the Securities at that time. This is because the estimated value of the Securities will not include the underwriting discount or our hedging costs and profits; however, the value of the Securities shown on your account statement during that period may be a higher amount, reflecting the addition of the underwriting discount and our estimated costs and profits from hedging the Securities. Any such excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Securities, it expects to do so at prices that reflect their estimated value. This period may be reduced at RBCCM’s discretion based on a variety of factors, including but not limited to, the amount of the Securities that we repurchase and our negotiated arrangements from time to time with UBS.

For additional information as to the relationship between us and RBCCM, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated December 20, 2023.

Structuring the Securities

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

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

The lower implied borrowing rate is a factor that reduced the economic terms of the Securities to you. The initial offering price of the Securities also reflects the underwriting discount and our estimated hedging costs. These factors resulted in the initial estimated value for the Securities on the Trade Date being less than their public offering price. See “Key Risks—The Initial Estimated Value of the Securities Is Less than the Price to the Public” above.

Terms Incorporated in the Master Note

The terms appearing above under the caption “Final Terms of the Securities” and the provisions in the accompanying product prospectus supplement UBS-IND-1 dated December 20, 2023 under the caption “General Terms of the Securities,” are incorporated into the master note issued to DTC, the registered holder of the Securities.

Validity of the Securities

In the opinion of Norton Rose Fulbright Canada LLP, as Canadian counsel to the Bank, the issue and sale of the Securities has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Securities have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Securities will be validly issued and, to the extent validity of the Securities is a matter governed by the laws of the Province of Ontario or Québec, or the federal laws of Canada applicable therein, will be valid obligations of the Bank, subject to the following limitations: (i) the enforceability of the Indenture may be limited by the Canada Deposit Insurance Corporation Act (Canada), the Winding-up and Restructuring Act (Canada) and bankruptcy, insolvency, reorganization, receivership, moratorium, arrangement or winding-up laws or other similar laws of general application affecting the enforcement of creditors’ rights generally; (ii) the enforceability of the Indenture is subject to general equitable principles, including the principle that the availability of equitable remedies, such as specific performance and injunction, may only be granted at the discretion of a court of competent jurisdiction; (iii) under applicable limitations statutes generally, including that the enforceability of the Indenture will be subject to the limitations contained in the Limitations Act, 2002 (Ontario), and such counsel expresses no opinion as to whether a court may find any provision of the Indenture to be unenforceable as an attempt to vary or exclude a limitation period under such applicable limitations statutes; (iv) rights to indemnity and contribution under the Securities or the Indenture which may be limited by applicable law; and (v) courts in Canada are precluded from giving a judgment in any currency other than the lawful money of Canada and such judgment may be based on a rate of exchange in existence on a day other than the day of payment, as prescribed by the Currency Act (Canada). This opinion is given as of the date hereof and is limited to the laws of the Provinces of Ontario and Québec and the federal laws of Canada applicable therein. In addition, this opinion is subject to customary assumptions about the Trustee’s authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel’s reliance on the Bank and other sources as to certain factual matters, all as stated in the opinion letter of such counsel dated December 20, 2023, which has been filed as Exhibit 5.3 to the Bank’s Form 6-K filed with the SEC dated December 20, 2023.

In the opinion of Ashurst LLP, when the Securities have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Securities will be valid, binding and enforceable obligations of the Bank, entitled to the benefits of the Indenture, subject to applicable bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and similar laws of general applicability relating to or affecting creditors’ rights and subject to general principles of equity, public policy considerations and the discretion of the court before which any suit or proceeding may be brought. This opinion is given as of the date hereof and is limited to the laws of the State of New York. This opinion is subject to customary

assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel's reliance on the Bank and other sources as to certain factual matters, all as stated in the legal opinion dated December 20, 2023, which has been filed as Exhibit 5.4 to the Bank's Form 6-K dated December 20, 2023.