

TRANSOCEAN INC
Form 10-Q
August 06, 2008

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark one)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended **June 30, 2008**

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number **333-75899**

TRANSOCEAN INC.

(Exact name of registrant as specified in its charter)

Cayman Islands
(State or other jurisdiction)

66-0582307
(I.R.S. Employer)

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of incorporation or organization)
4 Greenway Plaza, Houston, Texas

Identification No.)
77046

(Address of principal executive offices)

(Zip Code)

70 Harbour Drive, Grand Cayman, Cayman Islands

KY1-1003

(Address of principal executive offices)

(Zip Code)

Registrant's telephone number, including area code:(**713**) **232-7500**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of July 25, 2008, 319,029,423 ordinary shares, par value \$0.01 per share, were outstanding.

TRANSOCEAN INC.

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QUARTER ENDED JUNE 30, 2008

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PART I - FINANCIAL INFORMATION**Item 1. Financial Statements****TRANSOCEAN INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS**

(In millions, except per share data)

(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2008	2007	2008	2007
Operating revenues				
Contract drilling revenues	\$2,587	\$1,360	\$5,227	\$2,633
Contract drilling intangible revenues	190	—	414	—
Other revenues	325	74	571	129
	3,102	1,434	6,212	2,762
Costs and expenses				
Operating and maintenance	1,364	627	2,521	1,195
Depreciation, depletion and amortization	337	101	704	201
General and administrative	45	29	94	55
	1,746	757	3,319	1,451
Gain (loss) from disposal of assets, net	(6)	(1)	(3)	22
Operating income	1,350	676	2,890	1,333
Other income (expense), net				
Interest income	10	5	23	10
Interest expense, net of amounts capitalized	(111)	(33)	(248)	(70)
Other, net	(3)	(5)	(11)	8
	(104)	(33)	(236)	(52)
Income before income taxes and minority interest	1,246	643	2,654	1,281
Income tax expense	140	93	358	178
Minority interest	(1)	1	—	1
Net income	\$1,107	\$549	\$2,296	\$1,102
Earnings per share				
Basic	\$3.48	\$2.73	\$7.22	\$5.45
Diluted	\$3.45	\$2.63	\$7.15	\$5.24
Weighted average shares outstanding				
Basic	318	202	318	202
Diluted	321	210	321	211

See accompanying notes.

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TRANSOCEAN INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED BALANCE SHEETS

(In millions, except share data)

	June 30, 2008 (Unaudited)	December 31, 2007
ASSETS		
Cash and cash equivalents	\$ 976	\$ 1,241
Accounts receivable, net of allowance for doubtful accounts of \$62 and \$50 at June 30, 2008 and December 31, 2007, respectively	2,478	2,370
Materials and supplies, net of allowance for obsolescence of \$23 and \$22 at June 30, 2008 and December 31, 2007, respectively	414	333
Deferred income taxes, net	84	119
Assets held for sale	567	—
Other current assets	212	233
Total current assets	4,731	4,296

Property and equipment

Index

The NASDAQ-100® Index (“NDX”) is a modified market capitalization-weighted index of 100 of the largest stocks of both U.S. and non-U.S. non-financial companies listed on The Nasdaq Stock Market based on market capitalization. It does not contain securities of financial companies, including investment companies. The NASDAQ-100® Index, which includes companies across a variety of major industry groups, was launched on January 31, 1985, with a base index value of 250.00. On January 1, 1994, the base index value was reset to 125.00. The NASDAQ OMX Group, Inc. publishes the NDX. Current information regarding the market value of the NDX is available from NASDAQ OMX Group, Inc. (“NASDAQ OMX”) as well as numerous market information services.

The share weights of the component securities of the NDX at any time are based upon the total shares outstanding in each of those securities and are additionally subject, in certain cases, to rebalancing. Accordingly, each underlying stock’s influence on the level of the NDX is directly proportional to the value of its share weight.

Index Calculation

At any moment in time, the level of the NDX equals the aggregate value of the then-current share weights of each of the component securities, which are based on the total shares outstanding of each such component security, multiplied by each such security’s respective last sale price on The Nasdaq Stock Market (which may be the official closing price published by The Nasdaq Stock Market), and divided by a scaling factor (the “divisor”), which becomes the basis for the reported level of the NDX. The divisor serves the purpose of scaling such aggregate value to a lower order of magnitude, which is more desirable for reporting purposes.

Underlying Stock Eligibility Criteria and Annual Ranking Review**Initial Eligibility Criteria**

To be eligible for initial inclusion in the NDX, a security must be listed on The Nasdaq Stock Market and meet the following criteria:

- the security’s U.S. listing must be exclusively on the Nasdaq Global Select Market or the Nasdaq Global Market;
- the security must be issued by a non-financial company;
- the security may not be issued by an issuer currently in bankruptcy proceedings;

the security must generally be a common stock, ordinary share, American Depositary Receipt, or tracking stock (closed-end funds, convertible debentures, exchange traded funds, limited liability companies, limited partnership interests, preferred stocks, rights, shares or units of beneficial interests, warrants, units and other derivative securities are not included in the NDX, nor are the securities of investment companies);

·the security must have a three-month average daily trading volume of at least 200,000 shares;

·if the security is issued by an issuer organized under the laws of a jurisdiction outside the United States, it must have listed options on a recognized market in the United States or be eligible for listed-options trading on a recognized options market in the United States;

·the issuer of the security may not have entered into a definitive agreement or other arrangement which would likely result in the security no longer being eligible;

·the issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn; and

·the issuer of the security must have “seasoned” on the Nasdaq Stock Market or another recognized market (generally, a company is considered to be seasoned if it has been listed on a market for at least three full months, excluding the first month of initial listing).

Continued Eligibility Criteria

In addition, to be eligible for continued inclusion in the NDX the following criteria apply:

·the security’s U.S. listing must be exclusively on the Nasdaq Global Select Market or the Nasdaq Global Market;

·the security must be issued by a non-financial company;

·the security may not be issued by an issuer currently in bankruptcy proceedings;

·the security must have an average daily trading volume of at least 200,000 shares in the previous three-month trading period as measured annually during the ranking review process described below;

·if the issuer of the security is organized under the laws of a jurisdiction outside the United States, then such security

·must have listed options on a recognized market in the United States or be eligible for listed-options trading on a recognized options market in the United States, as measured annually during the ranking review process;

the issuer of the security may not have entered into a definitive agreement or other arrangement that would likely result in the security no longer being eligible;

the security must have an adjusted market capitalization equal to or exceeding 0.10% of the aggregate adjusted market capitalization of the NDX at each month-end. In the event that a company does not meet this criterion for two consecutive month-ends, it will be removed from the NDX effective after the close of trading on the third Friday of the following month; and

the issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn. These eligibility criteria may be revised from time to time by NASDAQ OMX without regard to the Notes.

Annual Ranking Review

The component securities are evaluated on an annual basis (the "Ranking Review"), except under extraordinary circumstances, which may result in an interim evaluation, as follows. Securities that meet the applicable eligibility criteria are ranked by market value. Eligible securities that are already in the NDX and that are ranked in the top 100 eligible securities (based on market capitalization) are retained in the NDX. A security that is ranked 101 to 125 is also retained, provided that such security was ranked in the top 100 eligible securities as of the previous Ranking Review or was added to the NDX subsequent to the previous Ranking Review. Securities not meeting such criteria are replaced. The replacement securities chosen are those eligible securities not currently in the NDX that have the largest market capitalization. The data used in the ranking includes end of October market data and is updated for total shares outstanding submitted in a publicly filed SEC document via EDGAR through the end of November.

Replacements are made effective after the close of trading on the third Friday in December. Moreover, if at any time during the year other than the Ranking Review, a component security is determined by NASDAQ OMX to become ineligible for continued inclusion in the NDX, the security will be replaced with the largest market capitalization security meeting the eligibility criteria listed above and not currently included in the NDX.

Index Maintenance

In addition to the Ranking Review, the securities in the NDX are monitored every day by NASDAQ OMX with respect to changes in total shares outstanding arising from corporate events, such as stock dividends, stock splits and certain spin offs and rights issuances. NASDAQ OMX has adopted the following quarterly scheduled weight adjustment procedures with respect to those changes. If the change in total shares outstanding arising from a corporate action is greater than or equal to 10%, that change will be made to the NDX as soon as practical, normally within ten days of such corporate action. Otherwise, if the change in total shares outstanding is less than 10%, then all such changes are accumulated and made effective at one time on a quarterly basis after the close of trading on the third Friday in each of March, June, September and December.

In either case, the share weights for those component securities are adjusted by the same percentage amount by which the total shares outstanding have changed in those securities. Ordinarily, whenever there is a change in the share weights, a change in a component security, or a change to the price of a component security due to spin-off, rights issuances or special cash dividends, NASDAQ OMX adjusts the divisor to ensure that there is no discontinuity in the level of the NDX that might otherwise be caused by any of those changes. All changes will be announced in advance.

Index Rebalancing

Under the methodology employed, on a quarterly basis coinciding with NASDAQ OMX's quarterly scheduled weight adjustment procedures, the component securities are categorized as either "Large Stocks" or "Small Stocks" depending on whether their current percentage weights (after taking into account scheduled weight adjustments due to stock repurchases, secondary offerings or other corporate actions) are greater than, or less than or equal to, the average percentage weight in the NDX (i.e., as a 100-stock index, the average percentage weight in the NDX is 1%).

This quarterly examination will result in an index rebalancing if it is determined that: (1) the current weight of the single largest market capitalization component security is greater than 24% or (2) the "collective weight" of those component securities, the individual current weights of which are in excess of 4.5%, when added together, exceed 48%. In addition, NASDAQ OMX may conduct a special rebalancing at any time if it is determined to be necessary to maintain the integrity of the NDX.

If either one or both of these weight distribution requirements are met upon quarterly review, or NASDAQ OMX determines that a special rebalancing is required, a weight rebalancing will be performed. First, relating to weight distribution requirement (1) above, if the current weight of the single largest component security exceeds 24%, then the weights of all Large Stocks will be scaled down proportionately towards 1% by enough of an amount for the

adjusted weight of the single largest component security to be set to 20%. Second, relating to weight distribution requirement (2) above, for those component securities whose individual current weights or adjusted weights in accordance with the preceding step are in excess of 4.5%, if their “collective weight” exceeds 48%, then the weights of all Large Stocks will be scaled down proportionately towards 1% by just enough amount for the “collective weight,” so adjusted, to be set to 40%.

The aggregate weight reduction among the Large Stocks resulting from either or both of the above rescalings will then be redistributed to the Small Stocks in the following iterative manner. In the first iteration, the weight of the largest Small Stock will be scaled upwards by a factor which sets it equal to the average Index weight of 1.0%. The weights of each of the smaller remaining Small Stocks will be scaled up by the same factor, reduced in relation to each stock’s relative ranking among the Small Stocks, such that the smaller the component security in the ranking, the less the scale-up of its weight. This is intended to reduce the market impact of the weight rebalancing on the smallest component securities in the NDX.

In the second iteration, the weight of the second largest Small Stock, already adjusted in the first iteration, will be scaled upwards by a factor which sets it equal to the average index weight of 1%. The weights of each of the smaller remaining Small Stocks will be scaled up by this same factor, reduced in relation to each stock’s relative ranking among the Small Stocks, such that, once again, the smaller the component stock in the ranking, the less the scale-up of its weight.

Additional iterations will be performed until the accumulated increase in weight among the Small Stocks exactly equals the aggregate weight reduction among the Large Stocks from rebalancing in accordance with weight distribution requirement (1) and/or weight distribution requirement (2).

Then, to complete the rebalancing procedure, once the final percent weights of each of the component securities are set, the share weights will be determined anew based upon the last sale prices and aggregate capitalization of the NDX at the close of trading on the last day in February, May, August and November. Changes to the share weights will be made effective after the close of trading on the third Friday in March, June, September and December, and an adjustment to the divisor will be made to ensure continuity of the NDX.

Ordinarily, new rebalanced weights will be determined by applying the above procedures to the current share weights. However, NASDAQ OMX may from time to time determine rebalanced weights, if necessary, by instead applying the above procedure to the actual current market capitalization of the component securities. In those instances, NASDAQ OMX would announce the different basis for rebalancing prior to its implementation.

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The graph below illustrates the performance of this Underlying Index from February 26, 2009 to February 26, 2019, reflecting its Initial Level of 7,123.216. The solid line represents its Coupon Barrier and Downside Threshold of 4,986.251, which is equal to 70.00% of its Initial Level (rounded to three decimal places).

n Coupon Barrier / Downside Threshold = 70% of its Initial Level

HISTORIC PERFORMANCE IS NOT AN INDICATION OF FUTURE PERFORMANCE

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

The Russell 2000® Index

The Russell 2000® Index

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

Selection of Stocks Comprising the RTY

All companies eligible for inclusion in the RTY must be classified as a U.S. company under the index sponsor’s country-assignment methodology. If a company is incorporated, has a stated headquarters location, and trades in the same country (American Depositary Receipts and American Depositary Shares are not eligible), then the company is assigned to its country of incorporation. If any of the three factors are not the same, the index sponsor defines three Home Country Indicators (“HCIs”): country of incorporation, country of headquarters, and country of the most liquid exchange (as defined by a two-year average daily dollar trading volume) (“ADDTV”) from all exchanges within a country. Using the HCIs, the index sponsor compares the primary location of the company’s assets with the three HCIs. If the primary location of its assets matches any of the HCIs, then the company is assigned to the primary location of its assets. If there is insufficient information to determine the country in which the company’s assets are primarily located, the index sponsor will use the primary country from which the company’s revenues are primarily derived for the comparison with the three HCIs in a similar manner. The index sponsor uses the average of two years of assets or revenues data to reduce potential turnover. If conclusive country details cannot be derived from assets or revenues data, the index sponsor will assign the company to the country of its headquarters, which is defined as the address of the company’s principal executive offices, unless that country is a Benefit Driven Incorporation “BDI” country, in which case the company will be assigned to the country of its most liquid stock exchange. BDI countries include: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Channel Islands, Cook Islands, Curacao, Faroe Islands, Gibraltar, Guernsey, Isle of Man, Jersey, Liberia, Marshall Islands, Panama, Saba, Sint Eustatius, Sint Maarten, and Turks and Caicos Islands. For any companies incorporated or headquartered in a U.S. territory, including countries such as Puerto Rico, Guam, and U.S. Virgin Islands, a U.S. HCI is assigned.

All securities eligible for inclusion in the RTY must trade on a major U.S. exchange. Stocks must have a closing price at or above \$1.00 on their primary exchange on the last trading day in May to be eligible for inclusion during annual reconstitution. However, in order to reduce unnecessary turnover, if an existing member’s closing price is less than \$1.00 on the last day of May, it will be considered eligible if the average of the daily closing prices (from its primary exchange) during the month of May is equal to or greater than \$1.00. Initial public offerings are added each quarter and must have a closing price at or above \$1.00 on the last day of their eligibility period in order to qualify for index inclusion. If an existing stock does not trade on the “rank day” (typically the last trading day in May, but a confirmed timetable is announced each Spring) but does have a closing price at or above \$1.00 on another eligible U.S. exchange, that stock will be eligible for inclusion.

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

May.

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

Annual reconstitution is a process by which the RTY is completely rebuilt. On the rank last trading day of May, all eligible securities are ranked by their total market capitalization. The largest 4,000 become the Russell 3000E Index, and the other of the index sponsor’s indexes are determined from that set of securities. Reconstitution of the RTY occurs on the last Friday in June or, when the last Friday in June is the 29th or 30th, reconstitution occurs on the prior Friday. In addition, the index sponsor adds initial public offerings to the RTY on a quarterly basis based on total market capitalization guidelines ranking within the market-adjusted capitalization breaks established during the most recent reconstitution.

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

License Agreement

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

FTSE Russell does not guarantee the accuracy and/or the completeness of the RTY or any data included in the RTY and has no liability for any errors, omissions, or interruptions in the RTY. FTSE Russell makes no warranty, express or implied, as to results to be obtained by the calculation agent, holders of the Notes, or any other person or entity from the use of the RTY or any data included in the RTY in connection with the rights licensed under the license agreement described in this document or for any other use. FTSE Russell makes no express or implied warranties, and hereby expressly disclaims all warranties of merchantability or fitness for a particular purpose with respect to the RTY or any data included in the RTY. Without limiting any of the above information, in no event will FTSE Russell have any liability for any special, punitive, indirect or consequential damages, including lost profits, even if notified of the possibility of these damages.

The Notes are not sponsored, endorsed, sold or promoted by FTSE Russell. FTSE Russell makes no representation or warranty, express or implied, to the owners of the Notes or any member of the public regarding the advisability of investing in securities generally or in the Notes particularly or the ability of the RTY to track general stock market performance or a segment of the same. FTSE Russell’s publication of the RTY in no way suggests or implies an opinion by FTSE Russell as to the advisability of investment in any or all of the stocks upon which the RTY is based. FTSE Russell’s only relationship to Royal Bank of Canada is the licensing of certain trademarks and trade names of FTSE Russell and of the RTY, which is determined, composed and calculated by FTSE Russell without regard to Royal Bank of Canada or the Notes. FTSE Russell is not responsible for and has not reviewed the Notes nor any associated literature or publications and FTSE Russell makes no representation or warranty express or implied as to their accuracy or completeness, or otherwise. FTSE

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The graph below illustrates the performance of this Underlying Index from February 26, 2009 to February 26, 2019, reflecting its Initial Level of 1,577.483. The solid line represents its Coupon Barrier and Downside Threshold of 1,104.238, which is equal to 70.00% of its Initial Level (rounded to three decimal places).

n Coupon Barrier / Downside Threshold = 70.00% of its Initial Level

HISTORIC PERFORMANCE IS NOT AN INDICATION OF FUTURE PERFORMANCE

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

Correlation of the Underlying Indices

The graph below illustrates the daily performance of the Underlying Indices from February 26, 2009 through February 26, 2019. For comparison purposes, each Underlying Index has been normalized to have a closing level of 100.00 on February 26, 2009 by dividing the closing level of that Underlying Index on each day by the closing level of that Underlying Index on February 26, 2009 and multiplying by 100.00. We obtained the closing levels used to determine the normalized closing levels set forth below from Bloomberg L.P., without independent verification. Past performance of the Underlying Indices is not indicative of their future performance.

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

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

General Terms of the Notes

The following description of the terms of the Notes supplements the description of the general terms of the debt securities set forth under the headings “Description of the Notes We May Offer” in the accompanying prospectus supplement and “Description of Debt Securities” in the accompanying prospectus. Capitalized terms used but not defined in this pricing supplement have the meanings assigned in the accompanying prospectus supplement, prospectus. The term “Note” refers to \$10 in principal amount of the Notes.

General

The Notes are senior unsecured debt obligations of Royal Bank of Canada that are linked to the Underlying Indices. The Notes will be issued under an indenture dated October 23, 2003, as it may be amended or supplemented from time to time, between us and The Bank of New York Mellon (as successor to JPMorgan Chase Bank, N.A.), as trustee.

The Notes are unsecured debt obligations and are not savings accounts or deposits of a bank. The Notes are not insured or guaranteed by the Canada Deposit Insurance Corporation, the U.S. Federal Deposit Insurance Corporation, or any other governmental agency of Canada or the United States.

The Notes are our unsecured and unsubordinated obligations and will rank pari passu with all of our other unsecured and unsubordinated obligations.

The Notes will be issued in denominations of \$10 and integral multiples thereof. The principal amount of each Note is \$10. The Notes will be represented by one or more permanent global securities registered in the name of The Depository Trust Company, or DTC, or its nominee, as described under “Description of Debt Securities—Ownership and Book-Entry Issuance” and “—Considerations Relating to DTC” in the prospectus.

All references to the “debt securities” in the accompanying prospectus and all references to the “notes” in the accompanying prospectus supplement shall be read as and shall apply to the “Notes” for the purpose of this pricing supplement. Unless the context otherwise requires, references to the “debt securities,” “notes” and the “Notes” in the prospectus, prospectus supplement and this document can be read interchangeably and are synonymous.

If any required payment on the Notes is due on a day that is not a business day, the payment will be paid on the next business day, and no interest will accrue in respect of that postponement.

A “closing level” will be the official closing level of the applicable Underlying Index on the applicable trading day, as determined by the calculation agent.

A “trading day” is a day, as determined by the calculation agent, on which trading is generally conducted on (i) the relevant exchanges (as defined below) for the applicable Underlying Index or the successor index and (ii) the exchanges on which futures or options contracts related to that Underlying Index or the successor index are traded, other than a day on which trading on such relevant exchange or exchange on which such futures or options contracts are traded is scheduled to close prior to its regular weekday closing time.

If any Coupon Observation Date or Call Observation Date (each, an “Observation Date”) is not a trading day or if there is a market disruption event on that day, the applicable Observation Date will be postponed to the immediately succeeding trading day during which no market disruption event shall have occurred or be continuing. In no event, however, will an Observation Date be postponed more than ten business days following the date originally scheduled. If the tenth business day following the date originally scheduled to be the applicable Observation Date is not a trading day, or if there is a market disruption event on that date, the calculation agent will determine the closing level for the applicable Underlying Index in accordance with the formula for and method of calculating that Underlying Index last in effect prior to commencement of the market disruption event (or prior to the non-trading day), using the closing price (or, if trading in the relevant securities has been materially suspended or materially limited, the calculation agent’s good faith estimate of the closing price that would have prevailed but for such suspension or limitation or non-trading day) on that tenth scheduled business day of each security most recently constituting that Underlying Index.

For the avoidance of doubt, if an Underlying Index is subject to a non-trading day or market disruption event only the closing level of that Underlying Index shall be postponed; the closing level of any Underlying Index that is not so affected shall be determined on the scheduled Observation Date.

If, due to a market disruption event or otherwise, an Observation Date is postponed, the applicable Call Settlement Date or Coupon Payment Date will be postponed by the same number of business days. However, if the Final

Valuation Date is postponed so that it falls less than three business days prior to the scheduled maturity date, the maturity date will be the third business day following the Final Valuation Date, as so postponed.

If a Coupon Payment Date or the maturity date is not a business day, then such date will be postponed to the next succeeding business day following the scheduled Coupon Payment Date or maturity date.

A “business day” is any day other than a day on which banking institutions in The City of New York are authorized or required by law, regulation or executive order to close or a day on which transactions in dollars are not conducted. Subject to the foregoing and to applicable law (including, without limitation, U.S. federal laws), we or our affiliates may, at any time and from time to time, purchase outstanding Notes by tender, in the open market or by private agreement.

Calculation Agent

RBC Capital Markets, LLC will act as the calculation agent. The calculation agent will determine, among other things, the level of each Underlying Index on the trade date and on each Observation Date, and the payments to be made, if any, on the Notes. In addition, the calculation agent will determine whether there has been a market disruption event or a discontinuation of either Underlying Index and whether there has been a material change in the method of calculating an Underlying Index. All determinations made by the calculation agent will be at the sole discretion of the calculation agent and will, in the absence of manifest error, be conclusive for all purposes and binding on you and on

us. We may appoint a different calculation agent from time to time after the date of this document without your consent and without notifying you.

All calculations with respect to the level of each Underlying Index will be rounded to the nearest one hundred-thousandth, with five one-millionths rounded upward (e.g., .876545 would be rounded to .87655); all dollar amounts related to determination of the payment per \$10 in principal amount of the Notes, if any, will be rounded to the nearest one ten-thousandth, with five one hundred-thousandths rounded upward (e.g., .87645 would be rounded up to .8765); and all dollar amounts paid, if any, on the aggregate principal amount of Notes per holder will be rounded to the nearest cent, with one-half cent rounded upward.

Market Disruption Events

Certain events may prevent the calculation agent from determining the closing level of each Underlying Index, and consequently, the amount, if any, that we will pay to you on the Notes. These events may include disruptions or suspensions of trading on the markets as a whole. We refer to each of these events individually as a “market disruption event.”

With respect to either Underlying Index and any relevant successor index, a “market disruption event,” means: a suspension, absence or material limitation of trading of equity securities then constituting 20% or more of the level of the Underlying Index (or the relevant successor index) on the relevant exchanges (as defined below) for such securities for more than two hours of trading during, or during the one hour period preceding the close of, the principal trading session on such relevant exchange; or a breakdown or failure in the price and trade reporting systems of any relevant exchange as a result of which the reported trading prices for equity securities then constituting 20% or more of the level of the Underlying Index (or the relevant successor index) during the one hour preceding the close of the principal trading session on such relevant exchange are materially inaccurate; or a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to the Underlying Index (or the relevant successor index) for more than two hours of trading during, or during the one hour period preceding the close of, the principal trading session on such exchange or market; or a decision to permanently discontinue trading in the relevant futures or options contracts; in each case as determined by the calculation agent in its sole discretion; and a determination by the calculation agent in its sole discretion that the event described above materially interfered with our ability or the ability of any of our affiliates to adjust or unwind all or a material portion of any hedge with respect to the Notes.

For purposes of determining whether a market disruption event with respect to either Underlying Index (or the relevant successor index) exists at any time, if trading in a security included in the Underlying Index (or the relevant successor index) is materially suspended or materially limited at that time, then the relevant percentage contribution of that security to the level of the Underlying Index (or the relevant successor index) will be based on a comparison of the portion of the level of the Underlying Index (or the relevant successor index) attributable to that security relative to the overall level of the Underlying Index (or the relevant successor index), in each case immediately before that suspension or limitation.

For purposes of determining whether a market disruption event with respect to any Underlying Index (or the relevant successor index) has occurred:

a limitation on the hours or number of days of trading will not constitute a market disruption event if it results from an announced change in the regular business hours of the relevant exchange, or the primary exchange or market for trading in futures or options contracts related to the Underlying Index (or the relevant successor index); limitations pursuant to the rules of any relevant exchange similar to NYSE Rule 80B (or any applicable rule or regulation enacted or promulgated by any other self-regulatory organization or any government agency of scope similar to NYSE Rule 80B as determined by the calculation agent) on trading during significant market fluctuations will constitute a suspension, absence or material limitation of trading; a suspension of trading in futures or options contracts on the Underlying Index (or the relevant successor index) by the primary exchange or market trading in such contracts by reason of a price change exceeding limits set by such exchange or market,

·an imbalance of orders relating to such contracts, or

·a disparity in bid and ask quotes relating to such contracts

will, in each such case, constitute a suspension, absence or material limitation of trading in futures or options contracts related to the Underlying Index (or the relevant successor index); and

a “suspension, absence or material limitation of trading” on any relevant exchange or on the primary exchange or market on which futures or options contracts related to the Underlying Index (or the relevant successor index) are traded will not include any time when such exchange or market is itself closed for trading under ordinary circumstances.

“Relevant exchange” means, with respect to any Underlying Index or any relevant successor index, the primary exchange or market of trading for any security (or any combination thereof) then included in that Underlying Index or such successor index, as applicable.

Discontinuation of an Underlying Index; Alteration of Method of Calculation

If the index sponsor of an Underlying Index discontinues publication of that Underlying Index and the index sponsor or another entity publishes a successor or substitute index that the calculation agent determines, in its sole discretion, to be comparable to the discontinued Underlying Index (such index being referred to herein as a “successor index”), then the closing levels of that Underlying Index will be determined by reference to the level of such successor index at the close of trading on the relevant exchange for the successor index on such day.

Upon any selection by the calculation agent of a successor index, the calculation agent will cause written notice to be promptly furnished to the trustee, to us and to the holders of the Notes.

If an index sponsor discontinues publication of an Underlying Index prior to, and that discontinuation is continuing on or prior to the Final Valuation Date, and the calculation agent determines, in its sole discretion, that no successor index is available at that time or the calculation agent has previously selected a successor index and publication of that successor index is discontinued prior to, and that discontinuation is continuing on, the applicable trading day, then the calculation agent will determine the closing level of that Underlying Index for that date. The closing level will be computed by the calculation agent in accordance with the formula for and method of calculating that Underlying Index or successor index, as applicable, last in effect prior to the discontinuation, using the closing price (or, if trading in the relevant securities has been materially suspended or materially limited, the calculation agent’s good faith estimate of the closing price that would have prevailed but for the suspension or limitation) at the close of the principal trading session on that date of each security most recently included in the Underlying Index or successor index, as applicable. Notwithstanding these alternative arrangements, discontinuation of the publication of the Underlying Index or successor index, as applicable, may adversely affect the value of the Notes.

If at any time the method of calculating an Underlying Index or a successor index, or the level thereof, is changed in a material respect, or if an Underlying Index or a successor index is in any other way modified so that the Underlying Index or successor index does not, in the opinion of the calculation agent, fairly represent the level of the Underlying Index or successor index had those changes or modifications not been made, then the calculation agent will, at the close of business in New York City on the date on any date on which the closing level of the Underlying Index is to be determined, make any calculations and adjustments as, in the good faith judgment of the calculation agent, may be necessary in order to arrive at a level of a stock index comparable to the Underlying Index or successor index, as the case may be, as if those changes or modifications had not been made, and calculate the closing level with reference to the Underlying Index or such successor index, as adjusted. Accordingly, if the method of calculating an Underlying Index or a successor index is modified so that the level of the Underlying Index or such successor index is a fraction of what it would have been if there had been no such modification (e.g., due to a split in the Underlying Index), then the calculation agent will adjust its calculation of the Underlying Index or such successor index in order to arrive at a level of the Underlying Index or such successor index as if there had been no such modification (e.g., as if such split had not occurred).

Payment of Additional Amounts

We will pay any amounts to be paid by us on the Notes without deduction or withholding for, or on account of, any and all present or future income, stamp and other taxes, levies, imposts, duties, charges, fees, deductions or withholdings (taxes) now or hereafter imposed, levied, collected, withheld or assessed by or on behalf of Canada or any Canadian political subdivision or authority that has the power to tax, unless the deduction or withholding is required by law or by the interpretation or administration thereof by the relevant governmental authority. At any time a Canadian taxing jurisdiction requires us to deduct or withhold for or on account of taxes from any payment made under or in respect of the Notes, we will pay such additional amounts (“Additional Amounts”) as may be necessary so that the net amounts received by each holder (including Additional Amounts), after such deduction or withholding, shall not be less than the amount the holder would have received had no such deduction or withholding been required. However, no Additional Amounts will be payable with respect to a payment made to a holder of a Note or of a right to receive payments in respect thereto (a “Payment Recipient”), which we refer to as an “Excluded Holder,” in respect of a beneficial owner or Payment Recipient:

- (i) with whom we do not deal at arm’s length (within the meaning of the Income Tax Act (Canada)) at the time of making such payment;
- (ii) who is subject to such taxes by reason of the holder being connected presently or formerly with Canada or any province or territory thereof otherwise than by reason of the holder’s activity in connection with purchasing the

- Notes, the holding of Notes or the receipt of payments thereunder;
- who is, or who does not deal at arm's length with a person who is, a "specified shareholder" (within the meaning of subsection 18(5) of the Income Tax Act (Canada)) of Royal Bank of Canada (generally a person will be a
- (iii) "specified shareholder" for this purpose if that person, either alone or together with persons with whom the person does not deal at arm's length, owns 25% or more of (a) our voting shares, or (b) the fair market value of all of our issued and outstanding shares);
- who presents such Note for payment (where presentation is required, such as if a Note is issued in definitive form)
- (iv) more than 30 days after the relevant date; for this purpose, the "relevant date" in relation to any payments on any Note means:
- a. the due date for payment thereof (whether at maturity or upon an earlier acceleration), or
- if the full amount of the monies payable on such date has not been received by the trustee on or prior to such due
- b. date, the date on which the full amount of such monies has been received and notice to that effect is given to holders of the Notes in accordance with the indenture;
- who could lawfully avoid (but has not so avoided) such withholding or deduction by complying, or procuring that
- (v) any third party comply with, any statutory requirements necessary to establish qualification for an exemption from withholding or by making, or procuring that any third party make, a declaration of non-residence or other similar claim for exemption to any relevant tax authority; or
- who is subject to deduction or withholding on account of any tax, assessment, or other governmental charge that is imposed or withheld by reason of the application of Section 1471 through 1474 of the United States Internal
- (vi) Revenue Code of 1986, as amended (the "Code") (or any successor provisions), any regulation, pronouncement, or agreement thereunder, official interpretations thereof, or any law implementing an intergovernmental approach thereto, whether currently in effect or as published and amended from time to time.

For the purposes of clause (iii) above, if a Note is presented for payment more than 30 days after the relevant date, we shall only be required to pay such Additional Amounts as shall have accrued as of such 30th day, and no further Additional Amounts shall accrue or become payable after such date.

For the avoidance of doubt, we will not have any obligation to pay any holders Additional Amounts on any tax which is payable otherwise than by deduction or withholding from payments made under or in respect of the Notes.

We will also make such withholding or deduction and remit the full amount deducted or withheld to the relevant authority in accordance with applicable law. We will furnish to the trustee, within 30 days after the date the payment of any taxes is due pursuant to applicable law, certified copies of tax receipts evidencing that such payment has been made or other evidence of such payment satisfactory to the trustee. We will indemnify and hold harmless each holder of Notes (other than an Excluded Holder) and upon written request reimburse each such holder for the amount of (x) any taxes so levied or imposed and paid by such holder as a result of payments made under or with respect to the Notes, and (y) any taxes levied or imposed and paid by such holder with respect to any reimbursement under (x) above, but excluding any such taxes on such holder's net income or capital.

For additional information, see the section entitled "Canadian Taxation" in the accompanying prospectus.

Events of Default

Under the heading "Description of Debt Securities—Events of Default" in the accompanying prospectus is a description of events of default relating to debt securities including the Notes.

Payment upon an Event of Default

If an event of default with respect to the Notes shall have occurred and be continuing, the amount declared due and payable per \$10 in principal amount of the Notes upon any acceleration of the Notes will be determined by the calculation agent and will be an amount in cash equal to the amount payable at maturity per \$10 in principal amount of the Notes as described above, calculated as if the date of acceleration were the Final Valuation Date. The calculation agent will also determine if the final Contingent Coupon is payable, calculated on a 30/360 day basis.

If the maturity of the Notes is accelerated because of an event of default as described above, we will, or will cause the calculation agent to, provide written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, and to DTC of the cash amount due with respect to the Notes as promptly as possible and in no event later than two business days after the date of acceleration.

Defeasance

The provisions described in the accompanying prospectus under the heading "Description of Debt Securities—Defeasance" are not applicable to the Notes.

Registrar, Transfer Agent and Paying Agent

Payment of amounts due at maturity on the Notes will be payable and the transfer of the Notes will be registrable at the principal corporate trust office of The Bank of New York Mellon in The City of New York.

The Bank of New York Mellon or one of its affiliates will act as registrar and transfer agent for the Notes. The Bank of New York Mellon will also act as paying agent and may designate additional paying agents.

Registration of transfers of the Notes will be effected without charge by or on behalf of The Bank of New York Mellon, but upon payment (with the giving of such indemnity as The Bank of New York Mellon may require) in respect of any tax or other governmental charges that may be imposed in relation to it.

Governing Law

The Notes will be governed by and interpreted in accordance with the laws of the State of New York.

Supplemental Plan of Distribution (Conflicts of Interest)

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

UBS may allow a concession not in excess of the underwriting discount set forth on the cover of this pricing supplement to its affiliates for distribution of the Notes. UBS may allow a concession not in excess of the underwriting discount set forth on the cover of this pricing supplement to its affiliates for distribution of the Notes. Subject to regulatory constraints and market conditions, RBCCM intends to offer to purchase the Notes in the secondary market, but it is not required to do so.

We or our affiliates may enter into swap agreements or related hedge transactions with one of our other affiliates or unaffiliated counterparties in connection with the sale of the Notes and RBCCM and/or an affiliate may earn additional income as a result of payments pursuant to the swap or related hedge transactions. See “Use of Proceeds and Hedging” above.

The value of the Notes shown on your account statement may be based on RBCCM’s estimate of the value of the Notes if RBCCM or another of our affiliates were to make a market in the Notes (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Notes in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately 8 months after the issue date of the Notes, the value of the Notes that may be shown on your account statement may be higher than RBCCM’s estimated value of the Notes at that time. This is because the estimated value of the Notes will not include the underwriting discount and our hedging costs and profits; however, the value of the Notes shown on your account statement during that period may be a higher amount, reflecting the addition of the underwriting discount and our estimated costs and profits from hedging the Notes. Any such excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Notes, it expects to do so at prices that reflect their estimated value. This period may be reduced at RBCCM’s discretion based on a variety of factors, including but not limited to, the amount of the Notes that we repurchase and our negotiated arrangements from time to time with UBS. For additional information as to the relationship between us and RBCCM, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated September 7, 2018.

No action has been or will be taken by us, RBCCM, UBS or any other dealer that would permit a public offering of the Notes or possession or distribution of this document or the accompanying prospectus supplement and prospectus, other than in the United States, where action for that purpose is required. No offers, sales or deliveries of the Notes, or distribution of this document, or the accompanying prospectus supplement, prospectus or any other offering material relating to the Notes, may be made in or from any jurisdiction except in circumstances which will result in compliance with any applicable laws and regulations and will not impose any obligations on us, UBS or any dealer.

Each of RBCCM and UBS has represented and agreed, and each dealer through which we may offer the Notes has represented and agreed, that it (i) will comply with all applicable laws and regulations in force in each non-U.S. jurisdiction in which it purchases, offers, sells or delivers the Notes or possesses or distributes this document and the accompanying prospectus supplement and prospectus and (ii) will obtain any consent, approval or permission required by it for the purchase, offer or sale by it of the Notes under the laws and regulations in force in each non-U.S. jurisdiction to which it is subject or in which it makes purchases, offers or sales of the Notes. We shall not have responsibility for any broker-dealer’s compliance with the applicable laws and regulations or obtaining any required consent, approval or permission.

No Prospectus (as defined in Directive 2003/71/EC (as amended, the “Prospectus Directive”)) will be prepared in connection with the Notes. Accordingly, the Notes may not be offered to the public in any member state of the European Economic Area (the “EEA”), and any purchaser of the Notes who subsequently sells any of the Notes in any EEA member state must do so only in accordance with the requirements of the Prospectus Directive, as implemented in that member state.

The Notes are not intended to be offered, sold or otherwise made available to, and should not be offered, sold or otherwise made available to, any retail investor in the EEA. For these purposes, the expression “offer” includes the

communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe the Notes, and a “retail investor” means a person who is one (or more) of: (a) a retail client, as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); or (b) a customer, within the meaning of Insurance Distribution Directive 2016/97/EU, as amended, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (c) not a qualified investor as defined in the Prospectus Directive. Consequently, no key information document required by Regulation (EU) No 1286/2014 (as amended, the “PRIIPs Regulation”) for offering or selling the Notes or otherwise making them available to retail investors in the EEA has been prepared, and therefore, offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

Structuring the Notes

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

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

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

Employee Retirement Income Security Act

This section is only relevant to you if you are an insurance company or the fiduciary of a pension plan or an employee benefit plan (including a governmental plan, an IRA or a Keogh Plan) proposing to invest in the Notes.

The Employee Retirement Income Security Act of 1974, as amended (“ERISA”), imposes certain requirements on “employee benefit plans” (as defined in Section 3(3) of ERISA) subject to ERISA, including entities such as collective investment funds and separate accounts whose underlying assets include the assets of such plans (collectively, “ERISA Plans”) and on those persons who are fiduciaries with respect to ERISA Plans. Each fiduciary of an ERISA Plan should consider the fiduciary standards of ERISA in the context of the ERISA Plan’s particular circumstances before authorizing an investment in the covered bonds. Accordingly, among other factors, the fiduciary should consider whether the investment would satisfy the prudence and diversification requirements of ERISA and would be consistent with the documents and instruments governing the ERISA Plan.

In addition, Section 406 of ERISA and Section 4975 of the Internal Revenue Code prohibit certain transactions involving the assets of an ERISA Plan, as well as those plans that are not subject to ERISA but which are subject to Section 4975 of the Internal Revenue Code, such as individual retirement accounts, including entities whose underlying assets include the assets of such plans (together with ERISA Plans, “Plans”) and certain persons (referred to as “parties in interest” or “disqualified persons”) having certain relationships to such Plans, unless a statutory or administrative exemption is applicable to the transaction. Governmental plans may be subject to similar prohibitions. Therefore, a plan fiduciary considering purchasing Notes should consider whether the purchase or holding of such instruments might constitute a “prohibited transaction.”

Royal Bank of Canada and certain of its affiliates each may be considered a “party in interest” or a “disqualified person” with respect to many employee benefit plans by reason of, for example, Royal Bank (or its affiliate) providing services to such plans. Prohibited transactions within the meaning of ERISA or the Internal Revenue Code may arise, for example, if Notes are acquired by or with the assets of a Plan, and with respect to which Royal Bank or any of its affiliates is a “party in interest” or a “disqualified person,” unless those Notes are acquired under an exemption for transactions effected on behalf of that Plan by a “qualified professional asset manager” or an “in-house asset manager,” for transactions involving insurance company general accounts, for transactions involving insurance company pooled separate accounts, for transactions involving bank collective investment funds, or under another available exemption. Section 408(b)(17) provides an additional exemption for the purchase and sale of Notes and related lending transactions where neither the issuer of the Notes nor any of its affiliates have or exercise any discretionary authority or control or render any investment advice with respect to the assets of any Plan involved in the transaction and the Plan pays no more than “adequate consideration” in connection with the transaction. The person making the decision on behalf of a Plan or a governmental plan shall be deemed, on behalf of itself and any such plan, by purchasing and holding the Notes, or exercising any rights related thereto, to represent that (a) such purchase, holding and exercise of the Notes will not result in a non-exempt prohibited transaction under ERISA or the Internal Revenue Code (or, with respect to a governmental plan, under any similar applicable law or regulation) and (b) neither Royal Bank nor any of its affiliates is a “fiduciary” (within the meaning of Section 3(21) of ERISA) with respect to the purchaser or holder in connection with such person’s acquisition, disposition or holding of the Notes, or any exercise related thereto or as a result of any exercise by Royal Bank or any of its affiliates of any rights in connection with the Notes, and no advice provided by Royal Bank or any of its affiliates has formed a primary basis for any investment decision by or on behalf of such purchaser or holder in connection with the Notes and the transactions contemplated with respect to the Notes. If you are an insurance company or the fiduciary of a pension plan or an employee benefit plan, and propose to invest in the Notes, you should consult your legal counsel.

Terms Incorporated in Master Note

The terms appearing above under the captions “Final Terms of the Notes” and “General Terms of the Notes” are incorporated into the master note issued to DTC, the registered holder of the Notes.

Validity of the Notes

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Notes has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Notes have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Notes will be validly issued and, to the extent validity of the Notes is a matter governed by the laws of the Province of

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