

Note 21: Employee Compensation – Share-Based Compensation

Stock Option Plan

We maintain a Stock Option Plan for designated officers and employees. Options are granted at an exercise price equal to the closing price of our common shares on the day before the grant date. Stock options granted on or after December 2013 vest in equal tranches of 50% on the third and fourth anniversaries of their grant date. Options granted prior to December 2013 vest in tranches over a four-year period starting from their grant date. Each tranche is treated as a separate award with a different vesting period. Certain options can only be exercised once certain performance targets are met. All options expire 10 years from their grant date.

We determine the fair value of stock options on their grant date and record this amount as compensation expense over the period that the stock options vest, with a corresponding increase to contributed surplus. When these stock options are exercised, we issue shares and record the amount of proceeds, together with the amount recorded in contributed surplus, in share capital. The estimated grant date fair value of stock options granted to employees who are eligible to retire is expensed at the date of grant.

The following table summarizes information about our Stock Option Plan:

(Canadian \$, except as noted)	2017		2016		2015	
	Number of stock options	Weighted-average exercise price (1)	Number of stock options	Weighted-average exercise price (1)	Number of stock options	Weighted-average exercise price (1)
Outstanding at beginning of year	9,805,299	77.41	12,111,153	80.19	13,337,765	79.29
Granted	723,431	96.90	754,714	77.23	641,875	78.09
Exercised	2,233,801	57.80	2,103,391	55.32	842,821	54.41
Forfeited/cancelled	13,243	66.89	104,606	71.76	71,281	64.49
Expired	756,390	195.02	852,571	179.53	954,385	151.68
Outstanding at end of year	7,525,296	72.05	9,805,299	77.41	12,111,153	80.19
Exercisable at end of year	4,584,375	67.42	5,605,485	83.34	6,959,569	91.16
Available for grant	3,811,157		4,151,676		4,275,858	
Outstanding stock options as a percentage of outstanding shares	1.16%		1.52%		1.88%	

(1) The weighted-average exercise prices reflect the conversion of foreign currency denominated options at the exchange rate as at October 31, 2017, October 31, 2016 and October 31, 2015, respectively. For foreign currency denominated options exercised or expired during the year, the weighted-average exercise prices are translated using the exchange rates as at the settlement and expiry date respectively.

Certain comparative figures have been reclassified to conform with the current year's presentation.

Employee compensation expense related to this plan for the years ended October 31, 2017, 2016 and 2015 was \$8 million, \$6 million and \$6 million before tax, respectively (\$7 million, \$6 million and \$6 million after tax, respectively).

The intrinsic value of a stock option grant is the difference between the current market price of our common shares and the strike price of the option. The aggregate intrinsic value of stock options outstanding at October 31, 2017, 2016 and 2015 was \$232 million, \$211 million and \$179 million, respectively. The aggregate intrinsic value of stock options exercisable at October 31, 2017, 2016 and 2015 was \$174 million, \$146 million and \$125 million, respectively.

Options outstanding and exercisable at October 31, 2017 and 2016 by range of exercise price were as follows:

Range of exercise prices	2017						2016					
	Options outstanding			Options exercisable			Options outstanding			Options exercisable		
	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)	Number of stock options	Weighted-average remaining contractual life (years)	Weighted-average exercise price (2)
\$30.01 to \$40.00	158,636	1.1	34.13	158,636	1.1	34.13	302,174	2.1	34.13	302,174	2.1	34.13
\$40.01 to \$50.00	-	-	-	-	-	-	5,683	1.4	45.00	5,683	1.4	45.00
\$50.01 to \$60.00	2,345,236	3.3	55.85	2,345,236	3.3	55.85	3,291,810	4.3	56.05	3,291,810	4.3	56.05
\$60.01 to \$70.00	2,637,146	5.1	64.25	1,753,324	5.0	62.70	4,157,498	5.1	64.05	1,291,352	5.2	60.36
\$70.01 and over (1)	2,384,278	7.2	99.13	327,179	1.0	191.74	2,048,134	6.2	145.34	714,466	1.4	271.75

(1) Certain options were issued as part of the acquisition of M&T.

(2) The weighted-average exercise prices reflect the conversion of foreign currency denominated options at the exchange rate as at October 31, 2017 and October 31, 2016.

Certain comparative figures have been reclassified to conform with the current year's presentation.

The following table summarizes further information about our Stock Option Plan:

(Canadian \$ in millions, except as noted)	2017	2016	2015
Unrecognized compensation cost for non-vested stock option awards	5	4	4
Weighted-average period over which this cost will be recognized (in years)	2.7	2.5	2.3
Total intrinsic value of stock options exercised	90	55	18
Cash proceeds from stock options exercised	129	116	46
Weighted-average share price for stock options exercised (in dollars)	98.05	81.41	76.05

The fair value of options granted was estimated using a binomial option pricing model. The weighted-average fair value of options granted during the years ended October 31, 2017, 2016 and 2015 was \$11.62, \$7.60 and \$7.45, respectively. To determine the fair value of the stock option tranches on the grant date, the following ranges of values were used for each option pricing assumption:

	2017	2016	2015
Expected dividend yield	4.3%	5.5%	4.7% - 4.8%
Expected share price volatility	18.4% - 18.8%	19.8% - 20.0%	16.9% - 17.0%
Risk-free rate of return	1.7% - 1.8%	1.3% - 1.4%	1.9% - 2.0%
Expected period until exercise (in years)	6.5 - 7.0	6.5 - 7.0	6.5 - 7.0

Changes to the input assumptions can result in different fair value estimates.

Expected dividend yield is based on market expectations of future dividends on our common shares. Expected share price volatility is determined based on the market consensus implied volatility for traded options on our common shares. The risk-free rate is based on the yields of a Canadian swap curve with maturities similar to the expected period until exercise of the options. The weighted-average exercise price on the grant date for the years ended October 31, 2017, 2016 and 2015 was \$96.90, \$77.23 and \$78.09, respectively.

Other Share-Based Compensation

Share Purchase Plans

We offer various employee share purchase plans. The largest of these plans provides the employee the option of directing a portion of their gross salary toward the purchase of our common shares. We match 50% of employee contributions up to 6% of their individual gross salary to a maximum of \$100,000. Our contributions during the first two years vest after two years of participation in the plan, with subsequent contributions vesting immediately. The shares held in the employee share purchase plan are purchased on the open market and are considered outstanding for purposes of computing earnings per share. The dividends earned on our common shares held by the plan are used to purchase additional common shares on the open market.

We account for our contribution as employee compensation expense when it is contributed to the plan.

Employee compensation expense related to these plans for the years ended October 31, 2017, 2016 and 2015 was \$53 million, \$51 million and \$52 million, respectively. There were 18.3 million, 18.9 million and 19.0 million common shares held in these plans for the years ended October 31, 2017, 2016 and 2015, respectively.

Mid-Term Incentive Plans

We offer mid-term incentive plans for executives and certain senior employees. Payment amounts are adjusted to reflect reinvested dividends and changes in the market value of our common shares. Depending on the plan, the recipient receives either a single cash payment at the end of the three-year period of the plan, or cash payments over the three years of the plan. As the awards are cash settled, they are recorded as liabilities. Amounts payable under such awards are recorded as compensation expense over the vesting period. Amounts related to units granted to employees who are eligible to retire are expensed at the time of grant. Subsequent changes in the fair value of the liability are recorded in compensation expense in the period in which they arise.

Mid-term incentive plan units granted during the years ended October 31, 2017, 2016 and 2015 totalled 5.9 million, 6.4 million and 5.8 million, respectively.

Prior to 2015, we entered into agreements with third parties to assume our liabilities related to a portion of units granted for a fixed up-front payment. For units subject to such arrangements, we no longer have any obligation for future cash payments and as a result no liability is recorded related to these awards. All cash payments made under such arrangements are deferred in the Consolidated Balance Sheet as other assets and are recognized on a straight-line basis over the vesting period. Subsequent changes in the market value of our common shares do not affect the amount of compensation expense related to these awards. During the year ended October 31, 2017, all remaining deferred compensation relating to these arrangements was recognized.

Employee compensation expense related to plans where we entered into agreements with third parties for the years ended October 31, 2017, 2016 and 2015 was \$(7) million, \$26 million and \$81 million before tax, respectively (\$5) million, \$19 million and \$60 million after tax, respectively).

Mid-term incentive plan units for which we did not enter into agreements with third parties for the years ended October 31, 2017, 2016 and 2015 totalled 5.9 million, 6.4 million and 5.8 million units, respectively. The grant date fair value of these awards as at October 31, 2017, 2016 and 2015 was \$515 million, \$492 million and \$475 million, respectively, for which we recorded employee compensation expense of \$703 million, \$537 million and \$303 million before tax, respectively (\$516 million, \$397 million and \$224 million after tax, respectively). Beginning in November 2014, we no longer enter into agreements with third parties; however, we economically hedge the impact of the change in market value of our common shares by entering into total return swaps (equity contracts). Gains (losses) on total return swaps recognized for the years ended October 31, 2017, 2016 and 2015 were \$183 million, \$111 million and \$(27) million, respectively, resulting in net employee compensation expense of \$520 million, \$426 million and \$330 million, respectively.

A total of 17.0 million, 17.0 million and 16.1 million mid-term incentive plan units were outstanding as at October 31, 2017, 2016 and 2015, respectively, and the intrinsic value of those awards which had vested was \$1,253 million, \$883 million and \$497 million, respectively. Cash payments made in relation to these liabilities were \$343 million, \$131 million and \$127 million, respectively.

Deferred Incentive Plans

We offer deferred incentive plans for members of our Board of Directors, executives and key employees in BMO Capital Markets and Wealth Management. Under these plans, fees, annual incentive payments and/or commissions can be deferred as share units of our common shares. These share units are either fully vested on the grant date or vest at the end of three years. The value of these share units is adjusted to reflect reinvested dividends and changes in the market value of our common shares.

Deferred incentive plan payments are paid in cash upon the participant's departure from the bank.

Employee compensation expense for these plans is recorded in the year the fees, incentive payments and/or commissions are earned. Changes in the amount of the incentive plan payments as a result of dividends and share price movements are recorded as increases or decreases in employee compensation expense in the period of the change.

Deferred incentive plan units granted during the years ended October 31, 2017, 2016 and 2015 totalled 0.3 million, 0.4 million and 0.3 million, respectively, and the grant date fair value of these units was \$32 million, \$28 million and \$26 million, respectively.

Liabilities related to these plans are recorded in other liabilities in our Consolidated Balance Sheet and totalled \$499 million and \$414 million as at October 31, 2017 and 2016, respectively. Payments made under these plans for the years ended October 31, 2017, 2016 and 2015 were \$32 million, \$53 million and \$25 million, respectively.

Employee compensation expense related to these plans for the years ended October 31, 2017, 2016 and 2015 was \$91 million, \$67 million and \$(2) million before tax, respectively (\$67 million, \$50 million and \$(1) million after tax, respectively). We have entered into derivative instruments to hedge our exposure related to these plans. Changes in the fair value of these derivatives are recorded as employee compensation expense in the period in which they arise. Gains (losses) on these derivatives for the years ended October 31, 2017, 2016 and 2015 were \$78 million, \$57 million and \$(16) million before tax, respectively. These gains (losses) resulted in net employee compensation expense for the years ended October 31, 2017, 2016 and 2015 of \$13 million, \$10 million and \$14 million before tax, respectively (\$10 million, \$7 million and \$10 million after tax, respectively).

A total of 5.0 million, 4.8 million and 4.9 million deferred incentive plan units were outstanding as at October 31, 2017, 2016 and 2015, respectively.
