Banking Financial Model Terms and Descriptions:

Efficiency ratio: Defined as Non-interest expenses as a percentage of total revenue (net interest income and non-interest income). Efficiency ratio is used as a measure of productivity and performance and treated like gross margin.

Adjusted efficiency ratio: Adjust the reported revenue and non-interest expenses to remove the impact of items of note and gross up tax-exempt revenue to bring it to a TEB (trading revenue), as applicable.

Loan loss ratio: The ratio is calculated as the provision for credit losses on impaired loans to average loans and acceptances, net of allowance for credit losses.

Return on common shareholders' equity: Net income attributable to equity shareholders expressed as a percentage of average common shareholders' equity.

Net interest margin: Defined as net interest income as a percentage of average assets.

Return on average assets or average interest-earning assets: Net income expressed as a percentage of average assets or average interest-earning assets.

Total shareholder return: The total return earned on an investment in bank's common shares. The return measures the change in shareholder value, assuming dividends paid are reinvested in additional shares.

Adjusted effective tax rate: We adjust our reported income before income taxes and reported income taxes to remove the impact of items of note to calculate the adjusted effective tax rate.

Economic capital: Economic capital provides a framework to evaluate the returns of each SBU, commensurate with risk assumed. The economic capital measure is based upon an estimate of equity capital required by the businesses to absorb unexpected losses consistent with our targeted risk rating over a one-year horizon. Economic capital comprises primarily credit, market, operational and strategic risk capital. The difference between our total equity capital and economic capital is held in Corporate and Other. There is no comparable GAAP measure for economic capital.

Economic profit: Net income attributable to equity shareholders, adjusted for a charge on economic capital, determines economic profit. This measures the return generated by each SBU in excess of our cost of capital, thus enabling users of our financial information to identify relative contributions to shareholder value. Reconciliation of net income attributable to equity shareholders to economic profit is provided with segmented information.

Risk-weighted assets (RWA): RWA consist of three components: (i) RWA for credit risk are calculated using the AIRB and standardized approaches. The AIRB RWA are calculated using PDs, LGDs, EADs, and in some cases maturity adjustments, while the standardized approach applies risk weighting factors specified in the OSFI guidelines to on- and off- balance sheet exposures; (ii) RWA for market risk in the trading portfolio are based on the internal models approved by OSFI with the exception of the RWA for traded securitization assets where we are using the methodology defined by OSFI; and (iii) RWA for operational risk relating to the risk of losses resulting from people, inadequate or failed internal processes, and systems or from external events are calculated under the AMA and standardized approaches. During the period beginning in the third quarter of 2014 to the fourth quarter of 2018, CET1 capital RWA, Tier 1 capital RWA, and Total capital RWA will differ due to the phase-in of the CVA capital charge. Since the introduction of Basel II in 2008, OSFI has prescribed a capital floor requirement for institutions that use the AIRB approach for credit risk. The capital floor is determined by comparing a capital requirement calculated by reference to the Basel II standardized approach against the Basel III calculation, as specified by OSFI. Any shortfall in the Basel III capital requirement is added to RWA.

Common Equity Tier 1 (CET1), Tier 1 and Total capital ratios: CET1, Tier 1 and total regulatory capital, divided by RWA, as defined by OSFI's Capital Adequacy Requirements Guideline, which is based on Basel Committee on Banking Supervision (BCBS) standards. During 2018, before any capital floor requirement, there were three different levels of RWA for the calculation of bank's CET1, Tier 1 and Total capital ratios. This occurred because of the option bank chose in 2014 for the phase-in of the credit valuation adjustment (CVA) capital charge. Beginning in 2019, the ratios are calculated by reference to the same level of RWA as the phase-in of the CVA capital charge has been completed.

Leverage ratio: Defined as Tier 1 capital divided by the leverage ratio exposure determined in accordance with guidelines issued by OSFI, which are based on BCBS standards. OSFI expects federally regulated deposit-taking institutions to have leverage ratios that meet or exceed 3.0%. This minimum may be higher for certain institutions at OSFI's discretion.

The leverage ratio exposure is defined under the OSFI rules as:

[on-balance sheet assets (unweighted) - Tier 1 capital regulatory adjustments + derivative exposures, securities financing transaction exposures with a limited form of netting under certain conditions, and other off-balance sheet exposures (such as commitments, direct credit substitutes, forward asset purchases, standby] / [trade letters of credit and securitization exposures)].

Leverage ratio exposure: Leverage ratio exposure is defined under the rules as the sum of:

(i) On-balance sheet assets less Tier 1 capital regulatory adjustments;

(ii) Derivative exposures;

(iii) Securities financing transaction exposures; and

(iv) Off-balance sheet exposures (such as commitments, direct credit substitutes, letters of credit, and securitization exposures).

Liquidity coverage ratio (LCR): The objective of the LCR is to promote short-term resilience of a bank's liquidity risk profile, ensuring that it has adequate unencumbered high quality liquid resources (adequate stock of unencumbered High Quality Liquid Assets (HQLA) that consists of cash or assets that can be converted into cash at little or no loss of value in private markets) to meet its liquidity needs in a 30-day acute stress scenario. Canadian banks are required to achieve a minimum LCR value of 100%.

In accordance with the calibration methodology contained in OSFI's liquidity adequacy requirements (LAR) guidelines, bank reports the LCR to OSFI on a monthly basis. The ratio is calculated as follows:

Total High Quality Liquid Assets (HQLA) / Total net cash outflows over the next 30 calendar days $\geq$ 100%

The LCR's numerator consists of unencumbered HQLA, which follow an OSFI-defined set of eligibility criteria that considers fundamental and market related characteristics, and relative ability to operationally monetize assets on a timely basis during a period of stress. Bank's centrally-managed liquid asset portfolio includes those liquid assets reported in the HQLA, such as central government treasury bills and bonds, central bank deposits and high-rated sovereign, agency, provincial, and corporate securities. Asset eligibility limitations inherent in the LCR metric do not necessarily reflect bank's internal assessment of its ability to monetize its marketable assets under stress.

The ratio's denominator reflects net cash outflows expected in the LCR's stress scenario over the 30-calendar-day period. Expected cash outflows represent LCR-defined withdrawal or draw-down rates applied against outstanding liabilities

and off-balance sheet commitments, respectively. Significant contributors to bank's LCR outflows include business and financial institution deposit run-off, draws on undrawn lines of credit and unsecured debt maturities. Cash outflows are partially offset by cash inflows, which are calculated at LCR-prescribed inflow rates, and include performing loan repayments and maturing non-HQLA marketable assets."

Regulatory capital:

Regulatory capital consists of CET1, Tier 1 and Tier 2 capital. The tiers of regulatory capital indicate increasing quality/permanence and the ability to absorb losses. The major components of our regulatory capital are summarized as follows:

CET1 capital

- Common equity (retained earnings, common shares and stock surplus)
- Accumulated other comprehensive income (AOCI)[1]
- Qualifying instruments issued by a consolidated banking subsidiary to third parties
- Less regulatory deductions for items such as:
  - Goodwill and other intangible assets
  - Deferred tax assets
  - Net assets related to defined benefit pension plans ➢ Certain investments

Additional Tier 1 (AT1) capital

- Non-viability contingent capital (NVCC) preferred shares
- Qualifying instruments issued by a consolidated subsidiary to third parties
- Innovative Tier 1 notes subject to phase-out rules for capital instruments

Tier 2 capital

- NVCC subordinated indebtedness
- Non-qualifying subordinated indebtedness subject to phase-out rules for capital instruments
- Eligible general allowance under the standardized approach

Tier 1 capital

Total capital

- Qualifying instruments issued by a consolidated subsidiary to third parties

(1) Excluding Accumulated Other Comprehensive Income (AOCI) relating to cash flow hedges and changes to FVO liabilities attributable to changes in own credit risk.

In the event of crisis, equity is first taken from Tier 1 Capital. If this tier falls below the required threshold, a re-building phase starts and during this phase, regulators can prevent banks from paying dividends and bonuses.

Provision for Credit Losses to Loans ratio: PCL ratio is defined as provisions for credit losses divided by Loans.

General: Banks assets and balance sheets and financial statements are marked to market and recorded at FmV. Loan are raw material to bank and part of their asset base.

Wholesale Funding: Revolving credit facilities are used to represent Wholesale funding. A revolver allows for calculation of excess cash or cash shortfall in each year.

Provision for Loan Losses and Allowance for Loan Losses: PLCs are expenses on the income statement which reflect the loan losses. These expenses are anticipated and expected. The unanticipated credit losses are reflected and taken from capital reserves and regulatory capital.

Allowance for loan losses is a balance sheet item, a contra asset account that is netted out of the gross loans balance. It increases by the amount of PCLs and decreases by the amount of net charge-offs. Net charge-offs are write off of loans that are tax deductible and decrease the loan balance as well as allowance for loan losses. Provisions are automatically adjusted once the loan balance is adjusted for net charge-offs.

Source: Canadian Imperial Bank of Commerce 2019 Financial Statements