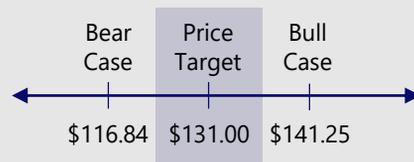




## RESEARCH REPORT

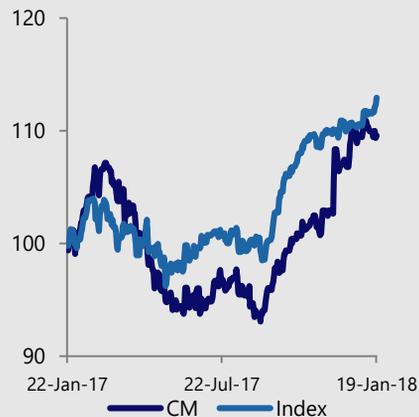
January 22, 2018

Stock Rating **HOLD**  
Price Target **\$131.00**



|                    |        |
|--------------------|--------|
| Ticker             | TSX:CM |
| Market Cap. (\$MM) | 49,888 |
| P/TBV              | 2.5x   |
| ROE                | 17.2%  |

### 52 Week Performance



### Financial Institutions

Neil Shah  
nshah@quiconline.com

Adam Carnicelli  
acarnicelli@quiconline.com

Irena Petkovic  
ipetkovic@quiconline.com

Liat Fainman-Adelman  
lfainman@quiconline.com

Linna Li  
lli@quiconline.com

Nick Gakena  
ngakena@quiconline.com

## Canadian Imperial Bank of Commerce Moving up in the World

### Introduction

The Canadian Imperial Bank of Commerce (CIBC) is one of the Canadian Big Five Banks, providing various financial services and products to over 11 million people and commanding a market share of 15%. In recent years, CIBC has focused on improving client experiences, growing both customer satisfaction and their overall customer base. The bank has also recently undergone several acquisitions, moving into the U.S. market and competing with other large Canadian banks in this new space. CIBC's continuous improvement has made them increasingly well-positioned to outperform Canadian peers.

### Investment Thesis

*Argument I: Building A Well-Diversified Bank through U.S. Expansion*

*Argument II: Leveraging Market Exposure to Grow Returns*

*Argument III: Improving Financials and Operating Efficiency*

### Valuation

When compared to the other Canadian banks, CIBC trades at a discount on a Price-to-Tangible Book Value and Price-to-Earnings basis. CIBC also boasts the highest dividend yield among its peers. Using a Dividend Discount Model, we arrived at a target price of \$131, implying a total return of 6.9%. Because of CIBC's strong business fundamentals and modest implied return, we recommend a hold rating.

The information in this document is for EDUCATIONAL and NON-COMMERCIAL use only and is not intended to constitute specific legal, accounting, financial or tax advice for any individual. In no event will QUIC, its members or directors, or Queen's University be liable to you or anyone else for any loss or damages whatsoever (including direct, indirect, special, incidental, consequential, exemplary or punitive damages) resulting from the use of this document, or reliance on the information or content found within this document. The information may not be reproduced or republished in any part without the prior written consent of QUIC and Queen's University.

QUIC is not in the business of advising or holding themselves out as being in the business of advising. Many factors may affect the applicability of any statement or comment that appear in our documents to an individual's particular circumstances.



## Table of Contents

---

|                       |    |
|-----------------------|----|
| Company Overview      | 2  |
| Industry Overview     | 3  |
| Investment Thesis I   | 5  |
| Investment Thesis II  | 6  |
| Investment Thesis III | 7  |
| Catalysts & Risks     | 8  |
| Valuation             | 9  |
| References            | 12 |

## Company Overview

### Background

CIBC is a leading Canadian-based global financial institution and commonly known as one of the Big Five Canadian banks. The company provides a range of financial products and services to over 11 million individuals, small businesses, commercial, corporate, and institutional clients in Canada, the U.S., and around the world. Founded in 1867, CIBC has 45,000 employees and 1,076 branches. The company holds approximately 15% of total market share by revenue, making CIBC the fourth most prominent bank in Canada.

### Business Lines

CIBC operates with four strategic business units: Personal Banking, Commercial Banking, Capital Markets, and Corporate & Other.

Personal Banking refers to financial advice, small loans, basic investment services, and debit and credit card issuance to both individuals and small businesses. CIBC generates income based on its net interest margins

and service fees. This segment comprises the majority of CIBC's revenues and income.

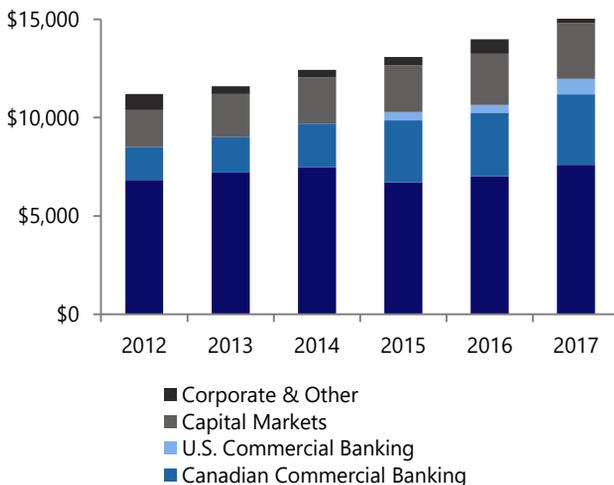
Commercial Banking pertains to relationship-oriented private banking and wealth management services catered to middle-market companies, entrepreneurs, high-net-worth individuals, and institutional clients. Income is fee-based and typically generated as a percentage of total assets under management.

Capital Markets is CIBC's investment banking advisory and execution and equity research arm. Clients include corporate, government, and institutional clients from around the world. Typically, CIBC is compensated through advisory fees

Corporate & Other involves income derived from administrative, audit, risk management, technology, operations, and other support groups. This segment is relatively insignificant and an instable revenue source.

### Exhibit I

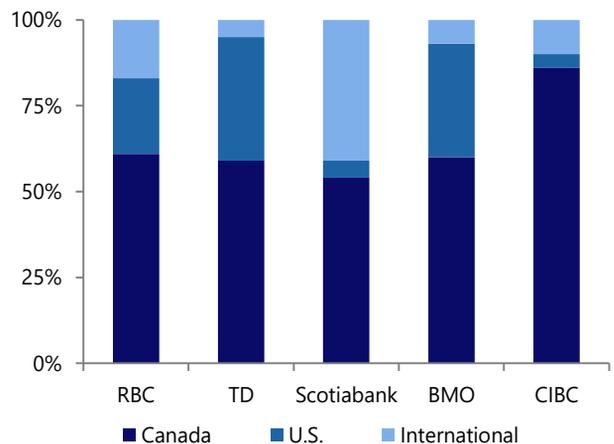
Revenue by Product Segment (MM)



Source(s): Capital IQ

### Exhibit II

Big Five Geographic Segmentation



Source(s): Capital IQ

## Industry Overview

Canadian banks have enjoyed a long stretch of enormous profitability since the Financial Crisis. Earnings growth has been fueled by ballooning consumer debt levels, strong housing markets, and strategic expansion into the U.S. financial services market. Low interest rates have allowed consumers to take on record levels of household debt to fuel consumption. This has been a boon for banks, but has raised concerns over Canadians' ability to repay their debts. A recent survey by Ipsos conducted on behalf of the insolvency trustee MNP Ltd. showed that 48% of Canadians are \$200 or less away from being unable to meet their monthly obligations. Rising rates, while good for earnings, have begun pressuring consumers' creditworthiness.

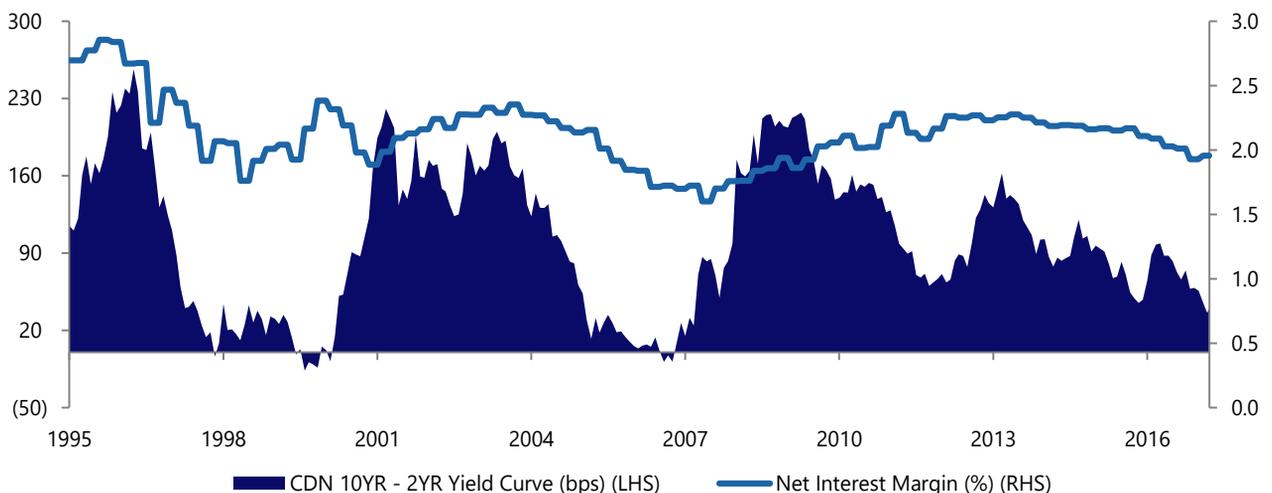
### The Rate Environment

Amidst the backdrop of a forecasted slower economic growth, rising rates have contributed to flattening yield curves in Canada and the U.S. This is significant for a number of reasons. A bank's profitability is

determined by its net interest margin (NIM). There are a variety of factors that drive the NIM, including the overall interest rate environment, the quality of the bank's loan book, and its operating efficiency. The yield curve is another significant driver of the NIM. Yield curve flatness adversely affects the profitability of maturity transformation (the process of borrowing short-term and lending longer-term at higher rates). Looking at CIBC's NIM compared against the Canadian yield curve (spread between 10 and 2 year treasuries), we can see they show a positive correlation of 0.36. A regression of the same set of data shows an  $R^2$  value of ~0.13, meaning that for every 1% change in the yield curve, CIBC's NIM changes ~13bps in the same direction. The United States Federal Reserve published a study in 2017 that analyzed the connection between the U.S. yield curve and American banks' NIMs. They found a correlation between NIMs and the yield curve nearly identical to that of CIBC. The study found that for every 1% change in the yield curve, NIMs would change by 13bps in the same direction, on average.

### Exhibit III

Canadian 10-2 Year Yield Curve versus CIBC Net Interest Margin



Source(s): Bloomberg, Bank of Canada

## Industry Overview Cont.

The yield curve was found to have a greater impact on NIMs than rates overall. Many economists believe that the yield curve will continue flattening throughout 2018. If this is the case, CIBC will face greater pressure on its NIM, despite the rising rate environment.

### The Regulatory Environment

The Office of the Superintendent of Financial Regulations (OSFI) recently announced that it will begin transitioning Canadian banks to new capital adequacy standards outlined in Basel III. The standards were supposed to begin being phased in in 2022; however, OSFI believes that it is in Canadian banks' best interests to begin the transition earlier. Banks will have until the fourth quarter of this year to become compliant with the new regulations. The rules define the minimum acceptable level of a bank's risk-weighted assets (RWA) that are calculated using internal models relative to a standardized model. The so-called 'output floor' was set at 90% under the old

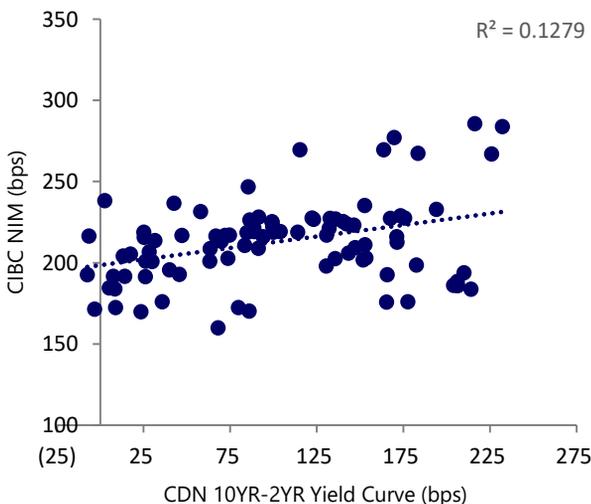
rules, meaning that the level of RWA calculated using internal models must exceed 90% of the level of RWA calculated using the standardized Basel model. OSFI is calling to bring this floor down to 75%. This should benefit banks by allowing them greater capital flexibility and relieving regulatory burdens. This move will also help position Canadian banks better as the world moves toward Basel III adoption in 2022.

### U.S. Expansion

With the Canadian market highly saturated, the Big Five banks have begun looking outside of Canada for growth opportunities. RBC and TD have built successful franchises in the U.S., while their peers have lagged. CIBC recently acquired PrivateBancorp, a Chicago-based lender, for \$5B. This marks a strong move for CIBC as it attempts to make up for years of under-investment in the U.S. International operations will be a key growth driver for Canadian banks moving forward.

#### Exhibit IV

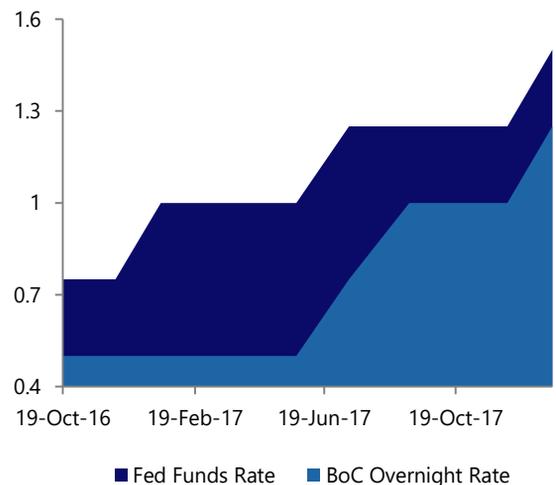
CIBC NIM Versus Canadian Yield Curve Regression



Source(s): Bloomberg, Bank of Canada

#### Exhibit V

Bank of Canada Overnight and U.S. Fed Funds Rate



Source(s): Bank of Canada

## Investment Thesis I: Building A Well-Diversified Bank

Historically, CIBC has performed relatively poorly amongst its banking peers. Investors are hesitant to invest due to the bank's undiversified portfolio and heavy exposure to the Canadian market versus its peers. However, recently CIBC has made acquisitions that will provide the company with significant opportunity to grow south of the border.

### Acquisition 1: PrivateBancorp

On June 23rd, 2017, CIBC completed its \$5B acquisition of Chicago-based PrivateBancorp and its subsidiary, The PrivateBank. This PrivateBancorp acquisition, the largest in CIBC's 150-year history, gives the lender a commercial and private banking presence in Chicago and 11 additional U.S. markets. The firm, with approximately \$20.4B in assets, serves mostly middle-market companies, business owners and wealthy families in the U.S. Midwest. Since, PrivateBancorp's CEO change in October 2007 to Larry Richman, the firm has increased assets more than fourfold and more than doubled the number of its employees, ultimately catching CIBC's attention when it started hunting for a U.S. commercial bank to buy. Under the acquisition, Richman will become President and CEO of CIBC Bank USA.

### Acquisition 2: Geneva Advisors

On September 1st, 2017, CIBC completed its \$200M acquisition of Geneva Advisors, a Chicago-based firm. Geneva Advisors is an independent private wealth management firm with \$8.6B in assets under management and will bring approximately 100 employees to the Atlanta-based CIBC Atlantic Trust Private Wealth Management. This acquisition, in addition to the June acquisition of The PrivateBank, expands CIBC's private wealth management client-base and investment management capabilities in the U.S. CIBC now has approximately \$50B in assets under administration in the U.S.

### Impact

These two recent acquisitions have performed better

than CIBC's own high expectations. They give CIBC valuable exposure to a robust U.S. market to match that of rivals like TD and BMO. They also reduce CIBC's vulnerability to added pressure on mortgage holders due to the anticipated Bank of Canada rate hikes this year. Overall, not only will development of its U.S. operations help the bank grow sales, but it will help to diversify CIBC and make it less exposed to a single economy.

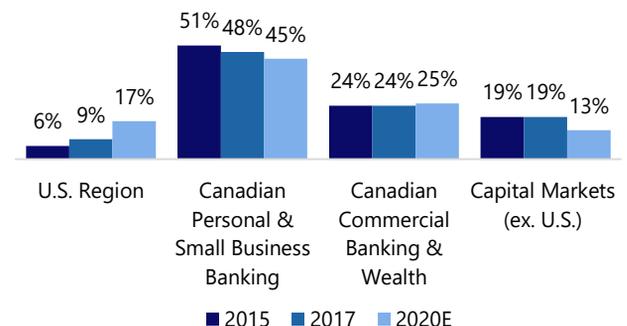
### Management Goals and Expectations

Both these acquisitions now allow CIBC to materially diversify its Canadian exposure. Management expects the US region's share of overall earnings to go from 9% actual (or 13% pro forma using Q4/F17 annualized results) to 17% by F2020. As a result, CIBC's largest business unit (Canadian Personal & Small Business Banking), which currently accounts for approximately half of the pie is expected to move down to 45% over the next three years. CIBC's earnings growth expectations certainly reflect this shift in business mix as the earnings CAGR in Canadian Personal & Small Business Banking is expected to be in the 5-7% range versus 10-12% in the US (on loan growth of 9-11%).

Ultimately, CIBC's recent acquisitions have given the company the U.S. exposure that it desperately needed to remain competitive with its peers.

### EXHIBIT VI

CIBC's Changing Earnings Mix



Source(s): Company Reports

## Thesis II: Leveraging Market Exposure to Return Cash to Shareholders

### Industry Positioning

CIBC is the least geographically diverse of the Big Five, generating over 80% of its revenue from within Canada. While many of its competitors focus on expanding their international footprint, CIBC has been capitalizing on Canadian banking's favorable industry dynamics. With tighter regulations and less competition, CIBC's greater Canadian exposure relative to its peers has enabled the company to realize higher dividends, EPS, and ROE.

### Sustainable Dividend Growth

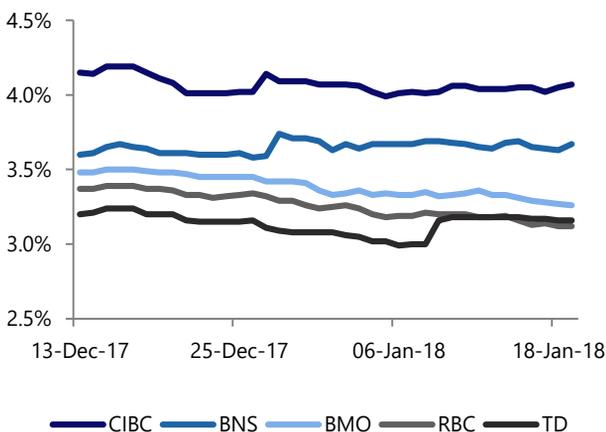
Often overlooked, a significant part of CIBC's appeal lies in its impressive dividend yield. Consistently averaging around 4.09%, CIBC is a strong dividend play as compared to its competitors. This has been a long-standing trend, where CIBC has delivered super dividend returns through history. In order to assess the sustainability of said dividend payments, they were compared to the company's EPS. Dividends grew with

a CAGR of 7.2% from 2012 to 2017, while EPS grew 17.9%, serving as a positive indication of dividend health. This is because EPS are increasing at a faster rate, affording the company leeway to hike up its quarterly dividend payments accordingly. In absolute terms, CIBC once again trounces competitors. RBC, TD, Scotiabank, and BMO distributed dividends of \$3.48, \$2.35, \$3.05, and \$3.56, based on EPS of \$7.56, \$5.50, \$6.49, and \$7.92 in 2017, respectively. CIBC's ability to outperform has largely been tied to careful spending and diligent reinvestment.

In terms of profitability, once again CIBC emerges as the best play. CIBC boasts an impressive ROE of 17.2%, as compared to RBC's 15.7%, TD's 14.1%, Scotiabank's 13.8%, and BMO's 12.3% ratios. This is tied, in part, to the company's relatively high margins compared to its peers. However, it also serves as a benefit of CIBC's heightened exposure to the Canadian banking industry, given its overall positive environment.

**Exhibit VII**

Big Five Dividend Yield TTM



Source(s): YCharts

**Exhibit VIII**

CIBC Dividend Statistics



Source(s): Capital IQ

## Investment Thesis III: Improving Financials and Operating Efficiency

### Strengthening Financials

One of the main ways to gauge the strength of a bank's balance sheet is through the minimum capital requirements ratio. Between 2013 and 2016, CIBC improved its CET 1 ratio by 1.9%, ending 2016 with the highest capital ratio and the most improved. In CIBC's 2015 Investor Day presentation, the management team outlined four key financial metrics that they wanted to achieve. The metrics were to grow earnings by between 5% and 10% every year, achieve an efficiency ratio of 55% by 2019, have a ROE between 18% and 20%, and have a dividend payout ratio between 40% and 50%. The bank has achieved all of these goals by the end of 2017, growing revenue by 7.9% the first year and 8.7% the second and achieving an efficiency ratio of 58.8%, a ROE of 18.3%, and a dividend payout ratio of 46.2%.

### Improving Operating Efficiencies

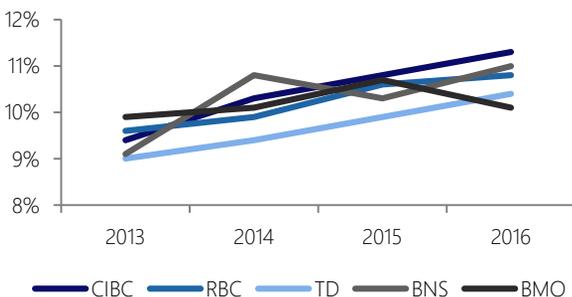
The strengthening financials of the company have been supported by improved operating efficiencies. The management team has emphasized two main ways the bank has improved its efficiency in the past few years as well as how the company is continuing to improve. The first method of improvement was through a simplification of the bank. A major part of

this initiative was Program Clarity, which was announced in 2015. The idea behind this program was to look at six main channels through which the bank could be simplified and where money could be more efficiently allocated. These channels included digitization, process simplification, workforce, demand management, data, and suppliers. In 2015, non-interest expenses were 64% of CIBC's revenue, in 2016 they were 60%, and in 2017 they were 54%.

In addition to cost savings, CIBC has used technology in different ways to improve the client experience as well as efficiencies of the bank. The bank has stressed the idea of sensible innovation in many discussions with management. Management indicates that this means they will focus on developing technology that has meaningful impacts for clients and shareholders. One example of the changes that CIBC has made is its global money transfer system that allows clients to transfer money to 50 countries around the world online, forgoing the previously existing \$35 fee incurred at branches. CIBC has also focused on launching Simplii Financial, a direct banking brand that will be proprietary to the bank. These changes in operating efficiency will help differentiate CIBC in the next few years through supporting their international expansion while improving their domestic customer retention.

Exhibit IX

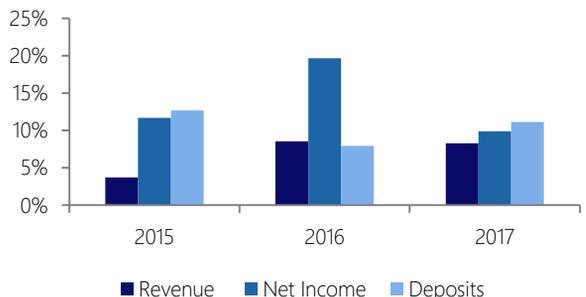
CET 1 Ratio Comparisons



Source(s): Company Reports

Exhibit X

Key Operating Results (% Change)



Source(s): Company Reports

## Catalysts & Risks

### Catalysts

#### 1. Further Acquisitions in the U.S.

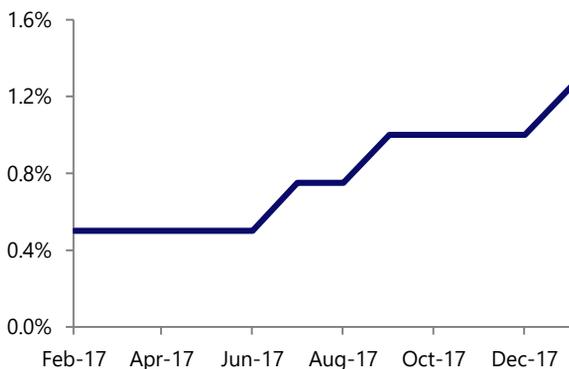
Further complementary acquisitions in the U.S., for example, capital markets, will provide CIBC with greater opportunity to build its U.S. operations completely. Potential synergistic acquisitions could lead to increases in share price.

#### 2. Rising Interest Rates

An interest rate hike within this year, would increase CIBC's bottom line. As the Canadian economy continues to rebound, the Bank of Canada will look to increase interest rates before the end of the year, which would drive CIBC's net interest margins and income on new investments. As a result, a growth in the P/TBV ratio could lead to share price appreciation.

### Exhibit XI

Canadian Interest Rate Hikes 2017 – 2018



Source(s): Trading Economics

### Risks

#### 1. Canadian Mortgage and Real Estate Market

The continued increase in home values has many, including the Bank of Canada and The Office of the Superintendent of Financial Institutions (OSFI), concerned that Canada is in a housing bubble and could potentially face a mortgage meltdown. Due to these concerns, mortgage regulators have tightened mortgage criteria's seven times since 2008.

In fact, a new set of stricter mortgage rules will come into effect in January. It is expected to negatively impact the volume of loan growth. According to the Bank of Canada, around 10% of all mortgages granted between mid-2016 and mid-2017 would not have qualified under the new guidelines. The impact is, however, likely to be less severe for banks such as CIBC and seems likely to have a greater impact on non-prime lenders such as Home Capital Group.

#### 2. Most Exposure to Consumer Debt

With individuals continually living outside their means and interest rates expected to rise, consumers may struggle to service their debt in the future. Therefore, CIBC's earnings and stock price could take a hit in the future.

#### 3. Strategic Fit of PrivateBancorp Acquisition

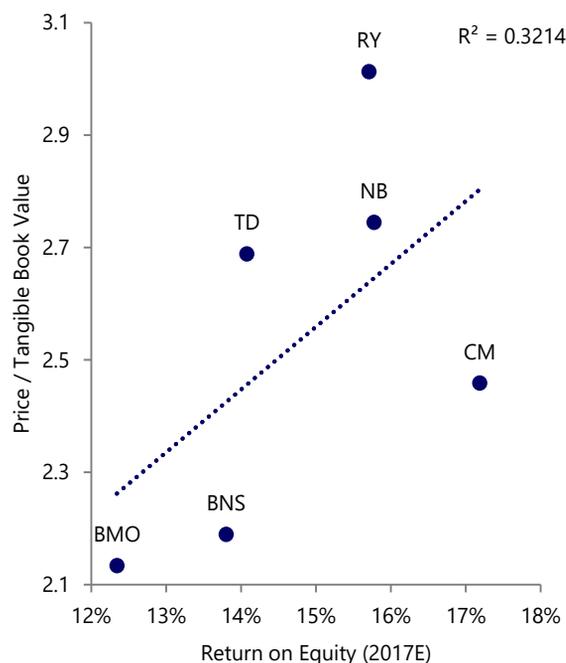
Investors struggle to understand the synergies between what CIBC has acquired (a Midwest commercial bank) and what it already has in the U.S. (an East Coast wealth management business in Atlantic Trust).

## Valuation I

CIBC currently trades a 8.5% and 11.6% discount to its large Canadian peers on a P/TBV and forward P/E basis, respectively. While this discount appears attractive relative to peers, this valuation gap has always existed. Over the past decade, CIBC has consistently traded at a discount to peers. A bank's provisions for loan losses is a critical driver of its P/E ratio; a more conservative bank will have a higher P/E due to lower earnings, and vice versa. CIBC has a lower allowance for loan losses as a percentage of total loans than its peers. This may explain the P/E discount. The current valuation discount reflects CIBC's high risk exposure to the Canadian mortgage market and investors' concerns about future growth. We believe that the market is overly concerned about these factors and is underestimating the value of the PrivateBancorp acquisition. CIBC's ROE is ~3.2 percentage points higher than the Canadian median, and has a net interest margin ~20bps higher than the Canadian median. There is a relatively strong correlation between a bank's ROE and its P/TBV. Damadoran performed a similar analysis for U.S. financial institutions in 2009, in the aftermath of the GFC, and found a correlation between these variable in excess of 0.70. Banks below the regression line are considered undervalued.

### Exhibit XII

Canadian Bank Regression Analysis



Source(s): Capital IQ

### Exhibit XIII

#### CIBC Comparable Companies Analysis

| Company Name  | Market Cap (\$MM) | P / TBV     |              | P / BV      | P / E         |               | ROE (%)      | NIM (%)      | Div. Yield (%) | CET 1 Ratio  |
|---|-------------------|-------------|--------------|-------------|---------------|---------------|--------------|--------------|----------------|--------------|
|   |                   | Current     | 5-yr         |             | LTM           | 2018E         |              |              |                |              |
| Royal Bank of Canada  | \$156,123         | 3.0x        | 4.0x         | 2.3x        | 14.2x         | 13.1x         | 15.7%        | 1.72%        | 3.4%           | 11.3%        |
| The Toronto-Dominion Bank                                       | \$136,490         | 2.7x        | 3.5x         | 2.0x        | 13.4x         | 12.3x         | 14.1%        | 1.96%        | 3.2%           | 10.7%        |
| The Bank of Nova Scotia   | \$98,357          | 2.2x        | 2.8x         | 1.7x        | 12.5x         | 11.6x         | 13.8%        | 1.83%        | 3.9%           | 11.9%        |
| Bank of Montreal  | \$67,661          | 2.1x        | 2.6x         | 1.7x        | 13.1x         | 12.0x         | 12.3%        | 1.55%        | 3.6%           | 11.4%        |
| National Bank of Canada   | \$22,244          | 2.7x        | 3.5x         | 2.1x        | 12.0x         | 11.0x         | 15.8%        | 1.39%        | 3.7%           | 11.2%        |
| <b>Mean</b>   |                   | <b>2.6x</b> | <b>3.3x</b>  | <b>2.0x</b> | <b>13.1x</b>  | <b>12.0x</b>  | <b>14.3%</b> | <b>1.69%</b> | <b>3.5%</b>    | <b>11.3%</b> |
| <b>Median</b>   |                   | <b>2.7x</b> | <b>3.5x</b>  | <b>2.0x</b> | <b>13.1x</b>  | <b>12.0x</b>  | <b>14.1%</b> | <b>1.72%</b> | <b>3.6%</b>    | <b>11.3%</b> |
| Canadian Imperial Bank of Commerce (Discount)/Premium to Median | \$54,141          | 2.5x (8.5%) | 3.0x (13.3%) | 1.8x (6.2%) | 10.9x (17.2%) | 10.6x (11.6%) | 17.2%        | 1.85%        | 4.2%           | 11.2%        |

Source(s): Capital IQ

## Valuation II

### Dividend Discount Model Assumptions

Net income in the model is calculated by applying return on tangible common equity assumptions to average tangible common equity balances. Dividends are calculated as excess capital after minimum capital assumptions are satisfied. Return on tangible common equity assumptions are based on peer averages and historical company performance. Projected annual share buybacks are projected based on the past three

years. Assumptions in growth in risk-weighted assets, stock issuances, and disallowed intangibles are based on averages of the past three years, taking into account one-time significant events. The exit price-to-tangible-book multiple is a conservative estimate of the bank's value at termination.

Our model results in share price target of \$130.77, which implies a return of 6.93% based on the January 19<sup>th</sup> close price of \$122.53.

### Exhibit XIV

| <b>CIBC Dividend Discount Model</b>                                |                   |                  |                  |                  |                  |                  |
|--|-------------------|------------------|------------------|------------------|------------------|------------------|
| (\$ in Millions Except Per Share Data)                             |                   |                  |                  |                  |                  |                  |
|  | <b>Historical</b> |                  | <b>Projected</b> |                  |                  |                  |
|  | <b>2017</b>       | <b>2018</b>      | <b>2019</b>      | <b>2020</b>      | <b>2021</b>      | <b>2022</b>      |
| <b>Normalized Net Income to Common:</b>                            | \$ 4,699          | \$ 6,353         | \$ 6,564         | \$ 6,781         | \$ 7,003         | \$ 7,230         |
| % Growth:  |                   | 35.2%            | 3.3%             | 3.3%             | 3.3%             | 3.2%             |
| <b>Common Dividends:</b>   | <b>2,121</b>      | <b>6,353</b>     | <b>6,564</b>     | <b>6,781</b>     | <b>7,003</b>     | <b>7,230</b>     |
| % Growth:  |                   | 199.5%           | 3.3%             | 3.3%             | 3.3%             | 3.2%             |
| Payout Ratio:  | <b>45.1%</b>      | 100.0%           | 100.0%           | 100.0%           | 100.0%           | 100.0%           |
| Beginning Common Equity:   | \$ 21,610         | \$ 28,714        | \$ 29,695        | \$ 30,700        | \$ 31,731        | \$ 32,787        |
| Plus: Net Income to Common:  | 4,699             | 6,353            | 6,564            | 6,781            | 7,003            | 7,230            |
| Plus: Stock Issuances:   | 3,569             | -                | -                | -                | -                | -                |
| Plus: Stock-Based Comp.:   | 957               | 981              | 1,005            | 1,031            | 1,056            | 1,083            |
| Less: Share Repurchase:  | -                 | -                | -                | -                | -                | -                |
| Less: Common Dividends:  | (2,121)           | (6,353)          | (6,564)          | (6,781)          | (7,003)          | (7,230)          |
| <b>Ending Common Equity:</b>                                       | <b>\$ 28,714</b>  | <b>\$ 29,695</b> | <b>\$ 30,700</b> | <b>\$ 31,731</b> | <b>\$ 32,787</b> | <b>\$ 33,870</b> |
| Avg. Risk-Weighted Assets:   | 203,321           | 220,603          | 239,355          | 259,700          | 281,774          | 305,725          |
| % Growth:  |                   | 8.5%             | 8.5%             | 8.5%             | 8.5%             | 8.5%             |
| Tier 1 Common Ratio:   | 10.6%             | 14.6%            | 13.9%            | 13.3%            | 12.6%            | 12.0%            |
| Return on Tangible Common Equity:                                  | 18.1%             | 20.0%            | 20.0%            | 20.0%            | 20.0%            | 20.0%            |
| <b>Tangible Common Equity / Tier 1 Common Capital Calculation:</b> |                   |                  |                  |                  |                  |                  |
| Ending Common Equity:  | \$ 28,714         | \$ 29,695        | \$ 30,700        | \$ 31,731        | \$ 32,787        | \$ 33,870        |
| Less: Disallowed Intangibles:                                      | (7,729)           | (7,768)          | (7,806)          | (7,846)          | (7,885)          | (7,924)          |
| Plus: Other Adjustments:   | 10,256            | 10,359           | 10,462           | 10,567           | 10,672           | 10,779           |
| <b>Total Tier 1 Common Capital:</b>                                | <b>\$ 31,241</b>  | <b>\$ 32,286</b> | <b>\$ 33,356</b> | <b>\$ 34,452</b> | <b>\$ 35,575</b> | <b>\$ 36,725</b> |
| Discount Period:   | 0.3               | 1.3              | 2.3              | 3.3              | 4.3              | 5.3              |
| Mid-Year Discount Period:  |                   | 0.5              | 1.5              | 2.5              | 3.5              | 4.5              |
| PV of Dividends:   |                   | \$ 6,119         | \$ 5,867         | \$ 5,624         | \$ 5,389         | \$ 5,163         |

### Exhibit XV

#### Dividend Discount Model Assumptions

| DDM Assumptions: Exit Multiple Method |                  |
|---------------------------------------|------------------|
| Mid-Year Convention:                  | 0.50             |
| Minimum Tier 1 Common Ratio:          | 6.00%            |
| Return on Tangible Common Equity:     | 20.00%           |
| Risk-Weighted Assets Growth:          | 8.50%            |
| Cost of Equity:                       | 7.38%            |
| <b>Terminal Value:</b>                |                  |
| Sum of PV of Dividends:               | 28,412           |
| Terminal P / TBV:                     | 1.00 x           |
| Terminal Value (Multiple):            | 36,725           |
| PV of Terminal Value:                 | 25,727           |
| PV of Terminal Value as % of Total PV | 47.52%           |
| <b>Present Value of Equity:</b>       | <b>\$ 54,139</b> |
| Diluted Shares:                       | 414.0            |
| <b>Implied Share Price:</b>           | <b>\$ 130.77</b> |
| <b>Implied Return</b>                 | <b>6.93%</b>     |

### Exhibit XVI

#### Cost of Equity Calculation

| Discount Rate Calculation - Assumptions   |       |
|---|-------|
| 10-Year Canada Treasury (Risk-Free Rate): | 2.24% |
| Equity Risk Premium:                      | 5.94% |

| Comparable Companies - Levered Beta Calculation |                   |              |
|---|-------------------|--------------|
| Name  | Equity Value      | Levered Beta |
| RBC   | \$ 146,554        | 1.14         |
| TD  | 134,900           | 1.17         |
| BNS   | 99,872            | 1.14         |
| BMO   | 67,661            | 0.89         |
| <b>Median</b>                                   | <b>\$ 117,386</b> | <b>1.14</b>  |

|             |                  |             |
|-------------|------------------|-------------|
| <b>CIBC</b> | <b>\$ 49,888</b> | <b>0.59</b> |
|-------------|------------------|-------------|

|   |              |
|---|--------------|
| <b>Cost of Equity Based on Comparables:</b>     | <b>9.01%</b> |
| <b>Cost of Equity Based on Historical Beta:</b> | <b>5.74%</b> |
| <b>Blended Cost of Equity:</b>                  | <b>7.38%</b> |

## References

---

1. Bank of Canada
2. Bloomberg
3. Capital IQ
4. Company Reports
5. Financial Times
6. Mergent Online
7. Seeking Alpha
8. The Wall Street Journal
9. Trading Economics
10. Ycharts