Canadian Banks 2016
Embracing the FinTech movement

Perspectives on the Canadian banking industry

Contents

Preface

Our 2016 report on Canada's banking sector finds Canada's Big Six banks generating strong revenues and posting solid returns. They also improved their 2016 first quarter results in relation to last year—despite low economic growth and falling commodity prices.

As these headwinds affect the Canadian economy and banking sector, the banks are working hard to respond to a growing and potentially profound shift in the financial services world. A host of new players have emerged, eager to use financial technology—FinTech—solutions to disrupt the global banking industry.

Capitalizing on the latest mobile, cloud and digital technologies, FinTech start-ups are targeting the intersection of profit pools and customer pain points with innovative, easy-to-use and cost-efficient solutions. The Canadian banks are not standing still and are devising strategies and initiatives to innovate and embrace the FinTech movement.

In our report, we explore how banks are collaborating with FinTechs to bring new solutions to market and help create a vibrant environment that combines the financial stability of banks with a creative and entrepreneurial spirit.

You can read more of our observations on the state of Canada's banks—and our perspectives—in the pages that follow.

Diane Kazarian
National Financial Services Leader

Bill McFarland
CEO and Senior Partner

Embracing the FinTech movement

Perspectives on the Canadian banking industry

Canada's banks delivered another strong performance in 2015, both in terms of revenue and profitability, a very impressive feat against a backdrop of low economic growth. Economically, 2016 doesn't look to be much better with lower demand and a potential continuation of slumping commodity prices. Unemployment has been climbing to a two-year high of 7.2%[1] *and may be tested in 2016, particularly in oil-producing provinces. These factors must be considered when coupled with the uncertainty of a low Canadian dollar and a forecasted modest increase in US demand for Canadian exports.*

The banks need to navigate these cool economic conditions and find profitable growth where household debt burden hit an all-time high of 163.7%[2] (debt to income ratio), coupled with a low interest rate environment. This will continue to impact the banks' net interest margins. Importantly, the banking industry is very focused on the potential disruption at the hands of a group of new companies that are using financial technology (FinTech) to target key aspects of the banks' value chain.

1. "Labour Force Survey, January 2016". Statistics Canada. February 5, 2016. http://www.statcan.gc.ca/daily-quotidien/160205/cg-a002-eng.htm. Retrieved February 26, 2016.
2. "National balance sheet and financial flow accounts, third quarter 2015". Statistics Canada. December 14, 2015. http://www.statcan.gc.ca/daily-quotidien/151214/dq151214a-eng.htm. Retrieved February 26, 2016.

The quickly growing number of smartphone users worldwide as well as an increasing middle class—all potential new banking customers—continue to work in favour of emerging financial companies that embrace the FinTech model. And with a credit card and access to the Internet, a start-up can be up and running in days. Developments such as these are reducing the barriers of entry, and we're seeing unprecedented levels of FinTech start-up activity around the world.

These new companies are well funded and they're relentlessly focused on delivering customer-centric solutions with innovative, inexpensive and simpler offerings. More importantly, FinTechs are smaller and more nimble, unencumbered by large, existing businesses and costly infrastructure. They aren't as constrained by the regulatory environment. And they can more easily capitalize on the latest cloud and open-source technologies, big data and analytics, and greenfield infrastructure.

FinTech upstarts aren't the only ones trying to shake up the banking value chain—technology giants such as Apple and Google also aim to seize market share from banks. These potential rivals can use their innovation know-how, global scale and powerful brands to make inroads into banks' traditional territory by extracting the most profitable aspects of banks' business. For example, Apple has launched Apple Pay, its mobile payment platform, broadly in the United States, United Kingdom and China. In Australia and Canada, the launch has been limited to date. Google has also looked into disrupting the financial services value chain by registering as a mortgage loan broker and providing mortgage search capabilities in the United Kingdom and select states in the United States. It's little wonder that 81% of global banking CEOs see the pace of technological change as a threat to growth; more than half (56%) view new market entrants such as FinTechs as a similar threat.[3] As the FinTech-driven movement gains momentum, Canada's banks are monitoring the evolution of this emerging ecosystem and actively pursuing opportunities to play an integral part in it. Banks recognize that they have much to gain from FinTechs' innovations: soon, many FinTech-driven offerings may become pivotal elements in banks' operating models, enabling banks to reduce costs, reach underserved markets and open up new products and revenue streams.

3. "Creating a platform for competitive regeneration." PwC 19th Annual global CEO survey—Key findings in the banking and capital markets sector. February 2016. http://www.pwc.com/gx/en/ceo-agenda/ceosurvey/2016/banking-and-capital-markets.html.

"[Digital] is no longer just technology or a cost centre . . . digital has now become a revenue generator and cost saver, a productivity play."

Cesar Rainusso
Vice President and Head of North American Digital Channels, Bank of Montreal
PwC Changing the game—The age of digital and disruptors event, November 3, 2015

To achieve this, a FinTech ecosystem needs to be embedded into the banks' transformation strategies to drive change across the organization—people, processes and technologies. It will challenge banks to really understand where FinTechs are succeeding and either prepare to collaborate and integrate them meaningfully or compete. In particular, recognizing that FinTech comprises three categories of companies will help banks devise response strategies. These categories are: financial service providers (where the FinTech provides a competing offering), accretive services and user experiences (where the FinTech provides a service atop incumbent financial services) and technology solution providers to financial institutions (where the FinTech provides a solution to incumbent banks).

This forms a spectrum of strategic responses that recognizes that not all FinTechs pose the same threats—or opportunities—to banks. In many cases, they can be viewed as *enablers* to traditional innovation and continuous improvement. It is important that banks continue to embrace a long-term approach to investment and risk taking that gives innovation the space it needs to flourish. In the end, these efforts will help build a Canadian FinTech ecosystem whose members are able to take on global competitors—and win.

The big picture: Canadian banks' 2015 performance

Despite low economic growth, falling commodity prices and the severe slump in the energy sector, Canada's Big Six banks[4] performed well, achieving strong revenues and posting solid returns.

The Big Six banks' average consolidated revenues were CA$21.4 billion in 2015, up 4.3% from CA$20.5 billion in 2014. However, average return on equity was 15.6%, down from 16.6% the year before, continuing the decline we've observed and commented on in recent years.

From a productivity perspective, the banks continued their efforts to increase efficiency and streamline their cost base; however, despite these efforts, the overall efficiency was 58.4% in 2015, up slightly from 57.9% in 2014. Among their Big Six peers, RBC and Scotiabank continued to post the lowest efficiency ratio.

As a whole, Canadian banks responded to the slowing economy, restructuring some operations to increase efficiencies, streamline their cost base and become fitter, faster organizations. They will most likely continue to do so by keeping their focus on core productivity measures and increased risk management. However, as they've reduced spending in some areas, many banks are making heavy investments in technology as they continue to transform their customer experience, automate processes, comply with regulatory demands and enhance digital capabilities.

To date, despite a number of headwinds affecting the Canadian economy and the banking sector, the Big Six as a group improved their 2016 first quarter results compared to the same quarter last year. From a revenue perspective, the banks grossed a total revenue of CA$34.5 billion compared to CA$33.2 billion achieved last year, which represents a growth of 3.9%, and managed to work this growth down to the bottom line, growing their net income attributable to common shareholders from CA$8.4 to CA$8.6 billion—an increase of 1.8% over the same quarter last year.

4. "Big Six" in this report refers to Canada's six major banks: National Bank of Canada (NBC), Royal Bank of Canada (RBC), the Bank of Montreal (BMO), Canadian Imperial Bank of Commerce (CIBC), the Bank of Nova Scotia (Scotiabank) and Toronto-Dominion Bank (TD).

Figure 1: 2015 at a glance summary—Key metrics as at or for the year ended October 31, 2015[1]

	BMO			BNS			CIBC			NBC			RBC			TD		
	2015	2014	2013	2015	2014	2013	2015	2014	2013	2015	2014	2013	2015	2014	2013	2015	2014	2013
Total market return[2]	-3.0%	16.8%	28.0%	-7.0%	12.9%	21.3%	1.6%	20.4%	17.7%	-13.9%	20.6%	21.6%	-2.7%	18.3%	27.4%	0.4%	19.8%	21.7%
Market capitalization ($ billions)	48.9	53.0	46.8	74.0	84.0	76.6	39.8	40.8	35.4	14.6	17.3	14.7	107.9	115.4	100.9	99.6	102.4	87.9
Net income ($ millions)	4,405	4,333	4,248	7,213	7,298	6,697	3,590	3,215	3,400	1,619	1,538	1,554	10,026	9,004	8,429	8,024	7,883	6,662
Efficiency ratio	64.2%	65.3%	63.3%	53.4%	52.6%	53.5%	63.9%	63.7%	59.6%	58.6%	58.6%	58.6%	52.8%	51.8%	52.6%	57.5%	55.1%	55.2%
Earnings per share	6.59	6.44	6.27	5.70	5.69	5.19	8.89	7.87	8.24	4.56	4.36	4.34	6.75	6.03	5.60	4.22	4.15	3.46
Gross impaired loans ($ millions)	1,959	2,048	2,544	4,658	4,200	3,701	1,419	1,434	1,547	457	486	395	2,285	1,977	2,201	3,244	2,731	2,962
Consolidated revenue[3] ($ millions)	18,135	16,718	16,263	24,049	23,604	21,343	13,856	13,376	12,783	5,746	5,464	5,163	35,321	34,108	30,867	31,426	29,961	27,262
Total non-interest expenses ($ millions)	12,182	10,921	10,297	13,041	12,601	11,587	8,861	8,525	7,614	3,665	3,423	3,165	18,638	17,661	16,227	18,073	16,496	15,042
Employee head count	46,353	46,778	45,631	89,214	86,932	83,874	44,201	44,424	43,039	17,014	17,056	16,675	72,839	73,498	74,247	81,483	81,137	78,748
Total capital ratio	14.4%	14.3%	13.7%	13.4%	13.9%	13.5%	15.0%	15.5%	14.6%	14.0%	15.1%	15.0%	14.0%	13.4%	14.0%	14.0%	13.4%	14.2%

Notes

1. Canadian banks' results are in CA$ and include The Bank of Montreal (BMO), The Bank of Nova Scotia (BNS), Canadian Imperial Bank of Commerce (CIBC), National Bank of Canada (NBC), Royal Bank of Canada (RBC) and Toronto-Dominion Bank (TD).
2. Calculated by change in share price plus dividends.
3. Consolidated revenue is net of insurance policyholder benefits, claims and acquisition expense.

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.

Peter Aceto, Tangerine CEO

Tangerine Bank: *Perspectives from an original disruptor*

Today's new and emerging FinTech firms aren't the first to attempt to shake up the Canadian banking sector. In 1997, Tangerine Bank—then known as ING Direct—arrived in Canada with a very different view of what banking could be. With nearly 20 years of experience in bringing unconventional thinking to Canadian banking, Tangerine CEO Peter Aceto has a unique perspective on what's happening today.

Aceto believes the banking sector finds itself facing a confluence of social and technological revolutions. The social revolution is driven by consumers' loss of trust in corporations—not just financial institutions—over the last 10 years. This steady erosion of trust means that consumers now think very differently about who they want to work for, buy from and do business with, observes Aceto. Expectations have changed too: "Consumers are demanding a different experience," he says. "They're expecting experiences that simplify their lives, that make things easy."

The technology revolution, powered by huge advances in digital, mobile, analytics and the cloud, is the key to meeting consumers' new expectations, and that's created opportunities for today's FinTech firms to usurp banks' traditional territory. Aceto understands how technology can be used to disrupt the status quo—because technology has long been central to Tangerine's competitive strategy. Not that Tangerine invests in technology for technology's sake, he adds. "It's all about making things easy for our customers. That's what drives the test about what technology choices we make," he says.

Marvelling at the speed with which technology has transformed banking over the past 20 to 30 years, Aceto thinks it's virtually impossible to predict what banking will look like in 10 years. Will Canada's big banks be outplayed by newer, nimbler FinTechs? Aceto is positive about the banks' chances. The big players are thinking about technology in ways they never have before, he observes, and they're very focused on solving this problem. "I think the banks in this country solve whatever problems that they need to solve."

Canada's FinTech ecosystem: Evolving but not yet thriving

There's progress...

Amid the excitement over FinTech disruption, the banks' own innovations in financial technology are sometimes overlooked. Canada's banks have brought Canadians the Interac system, Moneris payments processing and email money transfers, along with web and mobile banking. ING Direct—now Tangerine—launched its branchless bank first in Canada. CIBC-backed PC Financial provided grocery giant Loblaws with the country's first 'white-label' bank and BMO launched Mbanx, the first direct-to-customer bank, in 1996.

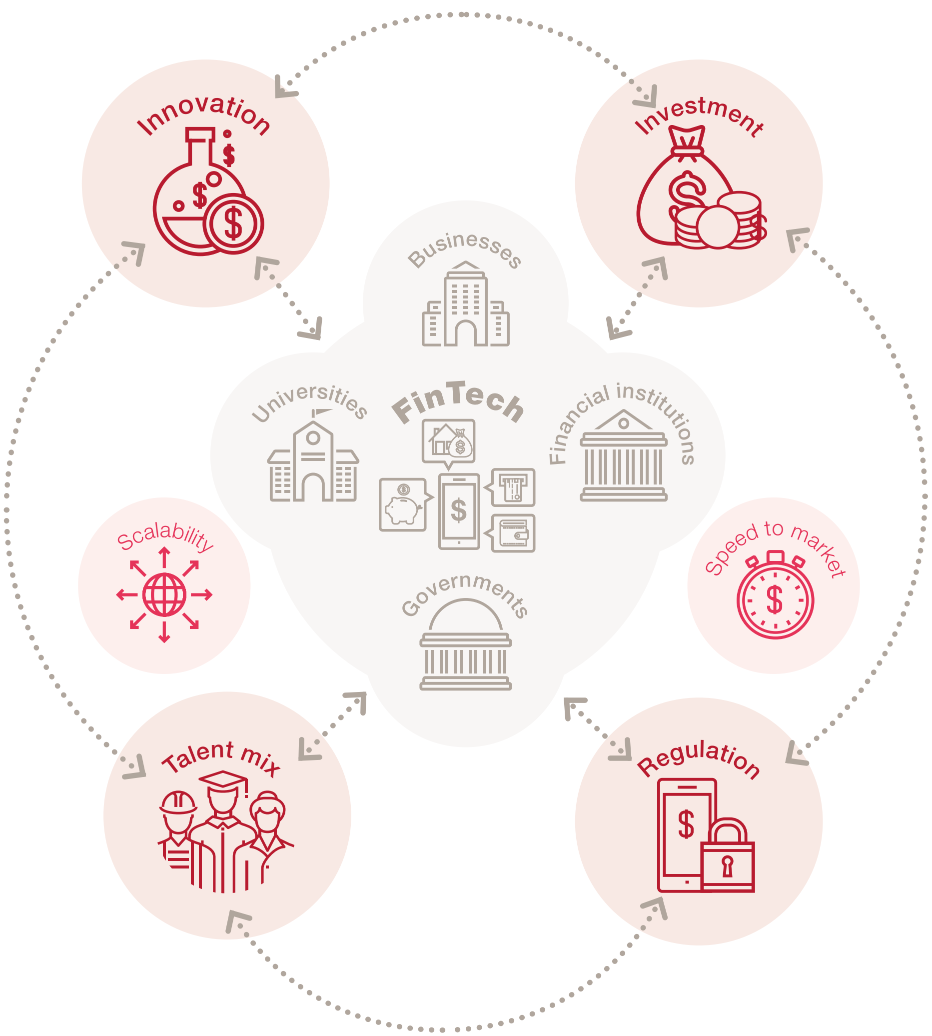
In early 2015, CIBC announced its partnership with MaRS to create a new corporate innovation hub, which would join MaRS's new FinTech cluster. In addition, it announced a referral partnership with Thinking Capital, a Canadian online small business lender.[5] Scotiabank has jumped into the small business lending space with an investment in Kabbage, a US-based online small business lender. Scotiabank also announced its internal Digital Factory—designed to focus on technology and mobile banking, often partnering with external FinTechs and other start-ups. TD has established an innovation lab at Communitech, announced a partnership with Moven, a mobile personal financial management platform, and announced that it would collaborate on technology solutions targeting customer and employee experience in Cisco's new Toronto Innovation Centre. RBC has also been active in developing partnerships by announcing testing of payments with Nymi Wristband technology and, more recently, an alliance with Uber for loyalty rewards. In early 2016, BMO entered the FinTech domain with the launch of SmartFolio, a digital portfolio management service, designed to compete with both traditional players and 'robo-advisers.'

...but more needs to happen

Canada's banks understand that innovation is critical. However, their long development cycles, legacy systems, organizational structures and other challenges may at times not allow them to keep pace with today's rapid shifts in technology and customer needs.

5. "CIBC forges 'fintech' partnership that will offer faster loans to compete with online lenders". November 18, 2015. http://business.financialpost.com/news/fp-street/cibc-forges-fintech-partnership-that-will-offer-faster-loans-to-compete-with-online-lenders. Retrieved February 26, 2016.

Figure 2: Components of the FinTech ecosystem



What's really needed is continued investment in building a healthy, holistic Canadian FinTech ecosystem—an environment that will produce the innovative offerings needed to compete in the years to come. If Canada's banks don't keep up, they run the risk that outside competitors will bring their proven, successful offerings to Canada and slowly erode market share. This is how the ecosystem could work.

Innovation. Canada is now home to more than 80 FinTech firms, and the number of highly promising developments in the country keeps growing.[6] The ecosystem, especially in the GTA-Waterloo and Vancouver areas, is already home to all the major banks, leading universities and a thriving technology start-up culture. The labs, incubators and accelerators are well situated to enable rapid, distraction-free innovation.

Talent mix. The foundations of an innovative environment are already in place. Continuing to embrace a talent mix, where creative millennials and experienced financial talent complement each other, can foster the connections, trust and understanding needed to move innovations forward quickly.

6. "OMERS snapshot shows how much Canadian FinTech sector has grown in six months". August 26, 2015. http://betakit.com/omers-snapshot-shoes-how-much-canadian-fintech-sector-has-grown-in-six-months/. Retrieved February 26, 2016.

Regulation. Canada's regulatory environment may have implications on the development of a FinTech ecosystem. Canada's regulators have done a tremendous job of protecting customers and ensuring the stability of our banking system. But there could be a sizable and growing disconnect between the regulators' focus on preserving stability and the need for market innovation. FinTechs' ambition to bring innovative new products to the market will remain challenged by evolving regulatory oversight. Some FinTech companies may find themselves outside the reach of certain regulators today. However, as they evolve and become integrated into Canada's banking system, the level of regulatory scrutiny will increase.

Investment. Finally, if Canada's FinTech ecosystem is to prosper, more investment will be needed. Pension plans have been among the most significant investors in FinTech in recent years, but more investment is needed from governments and private investors—and the banks themselves—to give the ecosystem the financial strength it needs to grow stronger. It's more significant when set against the level of investment globally, especially in the United Kingdom and United States. Canada's FinTech community has attracted CA$1 billion in capital since 2010,[7] versus US$12 billion invested globally and US$9 billion in the United States in 2014 alone.[8]

"Eighty percent of people at Nest Wealth have vast experience in the financial services industry. You really need to understand the distinction between starting a company in financial services and any other industry when it comes to using technology effectively."

Randy Cass
CEO and founder, Nest Wealth
Cantech Investment Conference, PwC FinTech panel session, January 26, 2016

There's no denying that Canada's FinTech ecosystem is in its early days and will take time to mature. While Silicon Valley took decades to become the powerful nexus of innovation, technology and money that it is today, Canada's FinTech ecosystem doesn't have that luxury of time. The key elements are there. Banks, businesses and other players must take conscious, deliberate action to create a stronger link between these elements in order to speed the pace of connection and hasten the ecosystem's maturity.

7. "A snapshot of next-gen financial technologies". OMERS Ventures. August 26, 2015. http://www.omersventures.com/next-gen-financial-technologies.aspx. Retrieved February 26, 2016.
8. "The fintech revolution—A wave of startups is changing finance—for the better". The Economist. May 9, 2015. http://www.economist.com/news/leaders/21650546-wave-startups-changing-financefor-better-fintech-revolution. Retrieved February 26, 2016.

What’s at stake?

Banks’ considerable profits—Canada’s Big Six alone achieved a combined net income of CA$34.9 billion[9] in 2015—offer a highly attractive target to players outside traditional banking. But how much of banks’ business is really at risk?

We looked at prior disruptions in banking and other industries to see their impact (see Figure 3). As these examples illustrate, a single disruption isn’t the chief threat to Canadian banks’ business. Instead, banks must pay attention to the combined impact of many disruptions—small and large—that build up over time.

Figure 3: Three examples of prior disruption[10]

Low disruption
Online banking in Canada

Over the years, more and more Canadians have moved some of their business to Canada’s online banks, such as Tangerine, PC Financial and Canadian Tire Bank. Yet by 2014, these three banks accounted for only 3% of Canadians’ total deposits.

Moderate disruption
Mortgage lending in the United States

In the US, QuickenLoans, PennyMac and Amerisave Mortgage Corporation launched to provide mortgage-seeking Americans with an alternative to traditional banks. By 2014, 9% of all US mortgages originated with them.

Significant disruption
Bookselling and publishing

We also looked at the book publishing industry and how the introduction of ereader technology has transformed the industry from being paper-based to becoming increasingly digital. The first generation of the Amazon Kindle was introduced in 2007, and seven years later ebooks accounted for 30% of all books sold in the United States.

9. As reported by the Big Six banks’ annual reports.
10. PwC analysis

Challenges new FinTech companies face in the Canadian market

New companies will have many challenges as they attempt to gain traction across the Canadian marketplace. Here are some of the tests they're likely to face in the near future.

1 *Winning the trust of Canadians isn't going to be easy*

While start-ups are seen as very appealing, there's a lack of business sophistication when it comes to dealing with an individual's money. Canadian banks have the brand recognition and broad trust factor that are still critical advantages when targeting consumers. Canadians have been loyal to these institutions that have worked hard to build a relationship with them. The start-ups will have to provide superior services at a lower cost to win the trust of Canadians before they can witness any shift. Currently, they lack brand recognition and consumer trust, which may be a key reason for their low adoption. Over a period of time and with word of mouth, adoption is bound to increase, but the question that remains is: Can a FinTech survive that long?

2 *The laws of start-up will catch up*

Regularly, new start-ups in financial services emerge pitching to angel investors and crowdfunding sites. Statistical facts in the past suggest that nine out of ten start-ups will fail.[11] Only those that have gone through all considerations and have a perfect—and not a minimum viable—product will emerge stronger. With the current economic outlook, there could be a slowdown in FinTech investment. The days of high valuations could be fewer and tech start-ups will be tested to **prove their mettle before they get the next round of financing**.

3 *Scrutiny of risk and regulation are imminent*

The risk models and algorithms (specifically using social data) that start-ups have created haven't been proven yet, especially in a downturn. It only takes a few changes in the business environment before defaults is seen and the authenticity of the models are questioned. In addition, financial services incumbents have to abide by very tight rules set by the regulator. Currently as peripheral players, some FinTechs are able to navigate without the same burdens. As they continue their evolution, the regulatory environment might evolve to bring constraints that will likely impact their progress.

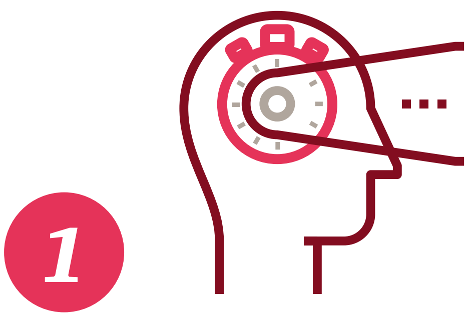
4 *Canadian banks are extremely competitive*

Canadian banks are sophisticated operators that can use their economies of scale, resources, brand and expertise to compete. They are already active participants in the FinTech ecosystem, have started to take notice and will continue to develop strategies to drive the shakeout in the Canadian FinTech sector by either investing in, buying, partnering or building their own capabilities.

11. "90% of startups fail: Here's what you need to know about the 10%". Forbes. January 16, 2015. http://www.forbes.com/sites/neilpatel/2015/01/16/90-of-startups-will-fail-heres-what-you-need-to-know-about-the-10/#7597942455e1. Retrieved February 26, 2016.

A way forward

The FinTech movement is only going to gain momentum in the years to come, and Canada's banks continue to take ownership of the reinvention of banking. Embracing FinTech isn't a short-term play. It requires patience, discipline and a commitment to realizing long-term results. Here's what's needed:



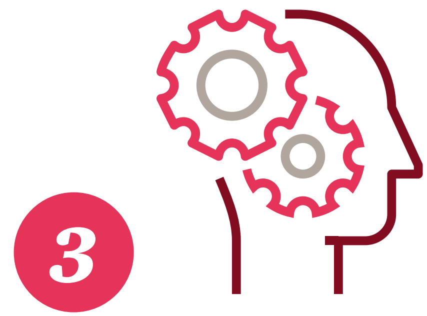
Act now —but think long term

It's time for the financial services sector to establish a clear, long-term FinTech strategy that not only allows for disruption, but embraces it. This long-term strategy should have two main thrusts:

- Focus on FinTech technologies and business models that are meaningful to the banks' business strategy and mature enough to act on.
- Explore, test and learn newer evolving technologies with a clear process to ramp up—or ramp off—as those technologies mature or fail.

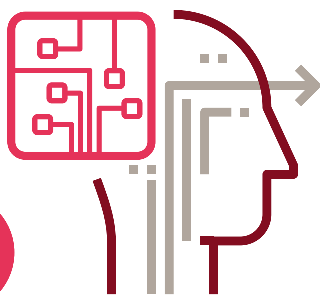
Think from the customer's perspective

Gen X and Gen Y will assume more significant roles in the global economy over the next decade, but millennials seem to be bringing radical shifts to consumer behaviour and expectations. It's vital that banks look at their own products and services from a customer's perspective to better understand the points of friction. They also need to continue to engage their customers to understand their rapidly shifting wants and pain points.



Adopt new thinking around getting concepts to market

The sector should strive to emulate the start-up model and culture to attract talent and rapidly develop products and bring them to market. Lean, agile organizations, design thinking and hackathons can all be part of this effort.



4

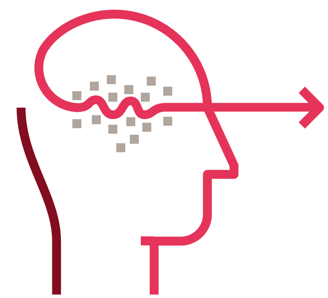
Invest in the future by investing in technology

Banks must continue to assess new technologies and invest in those that fit with their business strategy and help them become innovation leaders. They must also continue their efforts to reduce or remove their dependence on aging legacy systems, despite the complexity and cost of doing so. One of the keys to this is to leverage the new application programming interface (API) economy. It's important that banks view these key technology investments through a long-term lens.

5

Collaborate

Technology and customer expectations are changing quickly. It's about understanding what customers want and whether the banks have the skills and technology to get there. If not, they should look to partner or collaborate with FinTech disruptors—even engaging in a 'coopetition' strategy, where competitors cooperate for mutual benefits—to rapidly create new products and ideas to build new capabilities at the speed the market demands.



6

Stay the course —and don't slow down

There's very real risk that if the Canadian or global economies continue to stumble, banks might be tempted to rein in their investment in FinTech and other technologies. The industry must stay focused on the larger goal and increase their investments in analytics, omni-channel capabilities and FinTech—these are essential to meeting the needs of today's customers and tomorrow's.

The emerging API economy: A key FinTech facilitator

Banks continue to evolve and innovate in their response to the FinTech revolution. Application programming interfaces (APIs) have become an important element of a bank's strategy—they enable banks to embrace, work with and, in some cases, build their own disruptive FinTech.

APIs are architecturally flexible and can extend functionally, enabling new product development and co-creation and collaboration with third party developers. Similar to online or mobile banking today, every financial institution is expected to provide external APIs in the future. By 2016, 75% of the top 50 global banks will have launched an API platform, and 25% will have launched a customer-facing app store showcasing apps that use their APIs.[12]

Many Canadian banks have already begun API enablement and implementation. Being innovative with the business model in the API journey will help make more strategic technology decisions and align with the still-emerging API economy, where value chain and revenue generators are being reinvented.

12. "Hype cycle for open banking APIs, apps and app stores". Gartner. July 6, 2015.

"Leadership has to accept that this is a cultural shift. It's easy to hide behind legacy systems and archaic back-end systems. The reality is, it's an opportunity. You either step up or step out."

Rizwan Khalfan
Senior Vice President and Chief Digital Officer, TD Bank Group
PwC Changing the game—The age of digital and disruptors event, November 3, 2015

We believe that it is a misconception that the emergence of FinTech spells the end of banking as we know it. However, there's no denying the fact that they—along with technology, telecom and other companies that are keen to seize a portion of banks' profitable market share—will transform the banking landscape. Canada's banks are not standing still. They're devising strategies and initiatives, innovating and embracing the FinTech movement.

How can regulators address FinTech?

We believe regulators are waiting to see how FinTech's impact develops before introducing new rules or amending old ones. At this point, it's difficult to say anyone—regulatory bodies included—understands FinTech's impact well enough to know what they should regulate, much less how. As Canada's FinTech ecosystem matures, regulators can make more informed decisions. As an analogy, consider the recent rise of Uber. The technology emerged ahead of any new rules; now, having had ample time to better understand how it fits into the transportation ecosystem, regulators are beginning to step in. The same will undoubtedly be true as self-driving cars become more common.

We've seen global regulators take actions to understand the implications of FinTech. For example, in 2015 The US Department of the Treasury (The Treasury) submitted a public Request for Information to understand the impact of online marketplace lending on small businesses, consumers and the broader economy. The Treasury was seeking information to help policymakers better understand the various business models and products offered, the potential to expand access to credit to historically underserved market segments and how the financial regulatory framework should evolve alongside the online lending marketplace to support the safe growth of the industry.[13]

In the United Kingdom, the Financial Conduct Authority (FCA) launched Project Innovate in late 2014 to "develop and foster competition and growth in financial services by supporting both small and large businesses that are developing new products and services that could benefit consumers." A year later, the FCA announced the creation of a regulatory sandbox, "a safe space in which businesses can test innovative products, services, business models and delivery mechanisms without immediately incurring all the normal regulatory consequences of pilot activities."[14]

Once the dust settles and a clearer picture of FinTech's impact emerges, regulators will be in a far better position to develop the right regulations. Regulators need to think about how they regulate to allow innovations to get to market rapidly. They may need to work alongside banks, and possibly others in the banking space, to develop and offer guidance in real time to ensure companies adhere to broad regulatory principles in the absence of official rules.

"The regulatory barrier scares people away. It shouldn't. The regulators are open-minded and looking for partners to help them understand how to react to a world that is changing very quickly. It's a great time to start a business in regulated industry."

Mike Katchen
CEO, WealthSimple
PwC Changing the game—The age of digital and disruptors event, November 3, 2015

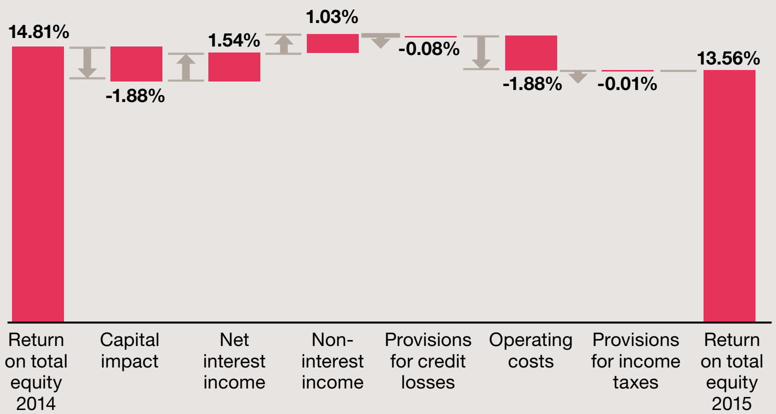
13. "Will marketplace lending be ready for increased regulatory scrutiny?" PwC. July 2015. https://www.pwc.com/us/en/consumer-finance/publications/assets/pwc-marketplace-lending.pdf.
14. "Regulatory sandbox". Financial Conduct Authority. November 10, 2015. https://www.fca.org.uk/news/regulatory-sandbox. Retrieved February 26, 2016.

Continued ROE and margin compression pressure

The ROE pressure on the Canadian banking industry has entered its third year unabated. To assess these impacts in a holistic manner, we analyzed them based on an ROE measure for the Big Six that included all forms of income and equity, as opposed to the ROE attributable to common shareholders. By that measure, the ROE for the Big Six banks decreased from 14.81% in 2014 to 13.56% in the 2015 financial year (Figure 4), under pressure from a number of sources.

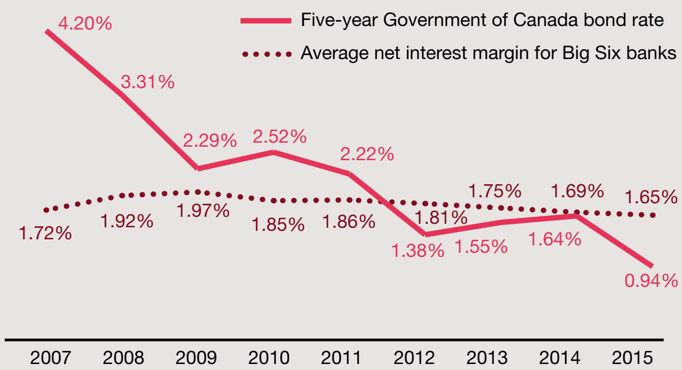
Capital adequacy requirements continue their negative impact on the Big Six's returns as the increased capital base accounts for a 188 basis points (bps) negative impact on return on total equity. In response, the banks continue to improve their revenue through asset growth, which has allowed them to increase net interest income by CA$3.97 billion (6.4%) despite continued margin compression (Figure 5), contributing to a 154 bps positive ROE impact.

Figure 4: Factors affecting Canadian banks' return on total equity



Source: Big Six banks' annual reports and PwC analysis

Figure 5: Deeper analysis into net interest income

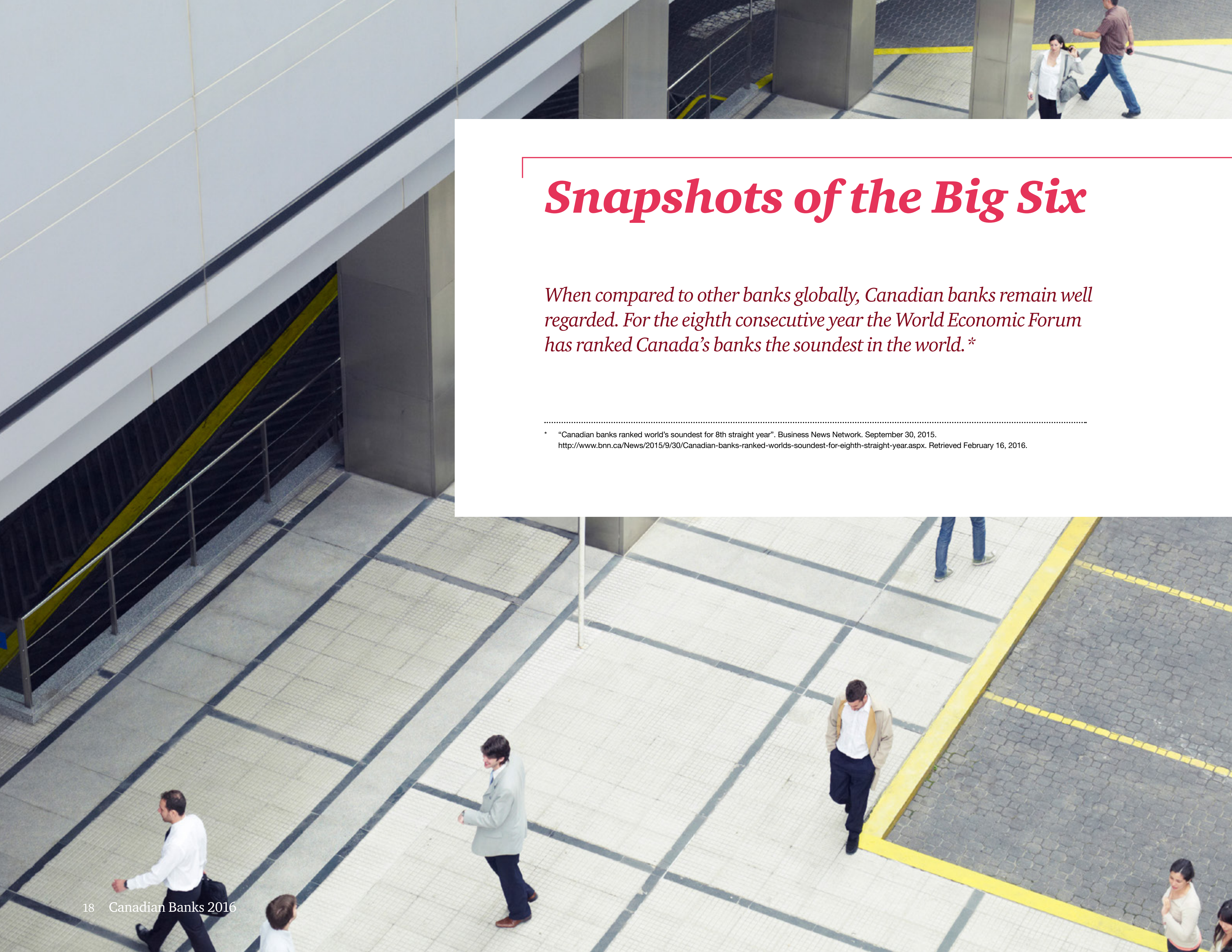


Source: Bloomberg and Bank of Canada

Note: For the purpose of this analysis we have used the difference in the opening and closing balance of the bank's equity, inclusive of all components of equity such as preferred shares and non-controlling interests. We've also used all income, including that attributable to preferred shareholders and non-controlling interests.

In addition, the Big Six grew their non-interest income by CA$2.64 billion (4.8%), resulting in an extra 103 bps improvement in their ROE position compared to the prior financial year.

Still, the banks' gains in revenue were partially offset by a CA$203 million (3.3%) increase in provision for credit losses, accounting for an 8 bps erosion in ROE and a CA$4.8 billion (6.9%) combined increase in operating costs, which took an additional 188 bps off the combined ROE for the Big Six.



Snapshots of the Big Six

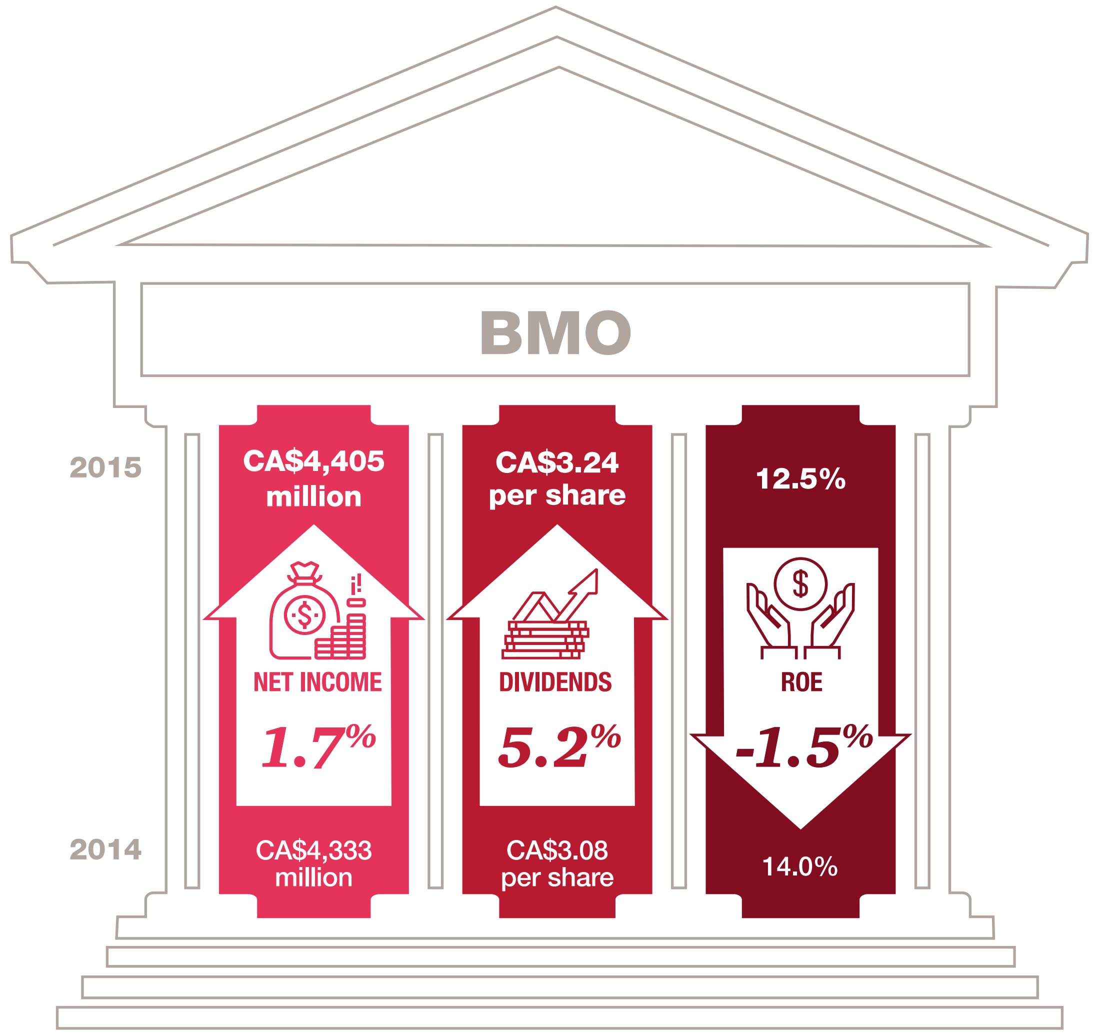
*When compared to other banks globally, Canadian banks remain well regarded. For the eighth consecutive year the World Economic Forum has ranked Canada's banks the soundest in the world.**

* "Canadian banks ranked world's soundest for 8th straight year". Business News Network. September 30, 2015. http://www.bnn.ca/News/2015/9/30/Canadian-banks-ranked-worlds-soundest-for-eighth-straight-year.aspx. Retrieved February 16, 2016.

BMO highlights[1]

BMO's net income grew 1.7% to CA$4,405 million in 2015 compared to CA$4,333 million in 2014. Return on equity fell to 12.5% from 14.0% in 2014. Annual dividends were CA$3.24 per share in 2015, up 5.2% from CA$3.08 in 2014. BMO's common equity Tier 1 ratio went up to 10.7% from 10.1% in 2014. The 2014 acquisition of F&C Asset Management plc (F&C), rebranded as BMO Global Asset Management, provided a full-year benefit to the bank. The bank made key organization changes in the United States, naming David Casper as the new CEO for Harris Bank. The bank also announced it had signed an agreement to acquire General Electric Capital Corporation's Transportation Finance business with net earning assets on closing of CA$11.9 billion. This enhanced BMO's position in the United States by further diversifying its net income, adding scale and enhancing profitability and margins.

Canadian Personal and Commercial (P&C) income grew 4% to CA$2,104 million due to continued revenue growth, partially offset by higher expenses. Revenue grew 4% to CA$6,640 million as a result of higher balances and improved non-interest revenue, with a stable net interest margin. Non-interest expenses rose 5% to CA$3,340 million due to continued investment in the business and higher costs associated with a changing business and regulatory environment. Lower provisions in both consumer and commercial portfolios resulted in credit losses declining 6% to CA$496 million. In **Personal Banking**, personal lending (excluding retail cards) and deposit growth increased 2% and 6%, respectively, while in **Commercial Banking**, commercial lending and deposits both achieved 7% growth.



1. As reported in Bank of Montreal's annual report.

US P&C net income grew 26% to CA$827 million (9% on a US dollar basis), primarily due to lower provisions for credit losses, which improved by CA$58 million, or 33%. Revenue grew 15% to CA$3,609 million; however, it remained stable on a US dollar basis, as higher balances and increased mortgage banking revenue offset the effects of lower net interest margins. Average current loans and acceptances increased 6% to US$58.5 billion, and the commercial and industrial loan portfolio grew 16% to US$30.9 billion, offsetting decreases in home equity and mortgage loans. Average deposits increased 4% to US$62.0 billion, as growth in commercial business and personal chequing accounts was partially offset by a reduction in higher cost personal money market and time deposit accounts.

The **Wealth Management** segment recorded growth in client assets despite softer equity markets, with 9% growth to CA$864 billion in assets under management and administration, driven by favourable foreign exchange movements and market appreciation. The overall investment climate was unfavourable during the latter part of 2015, and this was reflected in low levels of client trading activity. Net income grew 9% to CA$850 million due to organic growth in the traditional wealth segment, a gain on the sale of BMO's US Retirement Services business and the full-year benefit from the F&C business acquired in 2014. This increase was offset partly by decreases in the Insurance segment due to higher taxes in 2015 and higher actuarial benefits in 2014. Total revenue grew 8% to CA$5,763 million; however, on the basis that nets insurance claims, commissions and changes in policy benefit liabilities with insurance revenue, revenue was up 18% to CA$4,509 million. This increase includes growth in traditional wealth of 20% to CA$4,057 million and a 2% decrease in insurance revenue to CA$452 million.

BMO Capital Markets net income decreased 4% to CA$1,032 million, as the benefit of the stronger US dollar was more than offset by provisions that were CA$44 million higher compared with net recoveries in 2014. Revenue increased 4% to CA$3,873 million; however, revenue remained stable in US dollars, as higher trading and lending revenues were offset by lower investment banking fees and reduced securities gains.

Average assets of CA$290.3 billion increased CA$30.6 billion from 2014, CA$16.9 billion of which was due to the impact of the stronger US dollar. Higher levels of net loans and acceptances due to increases in corporate banking activity and higher repurchase agreement and derivative financial assets were partially offset by decreases in securities and cash balances.

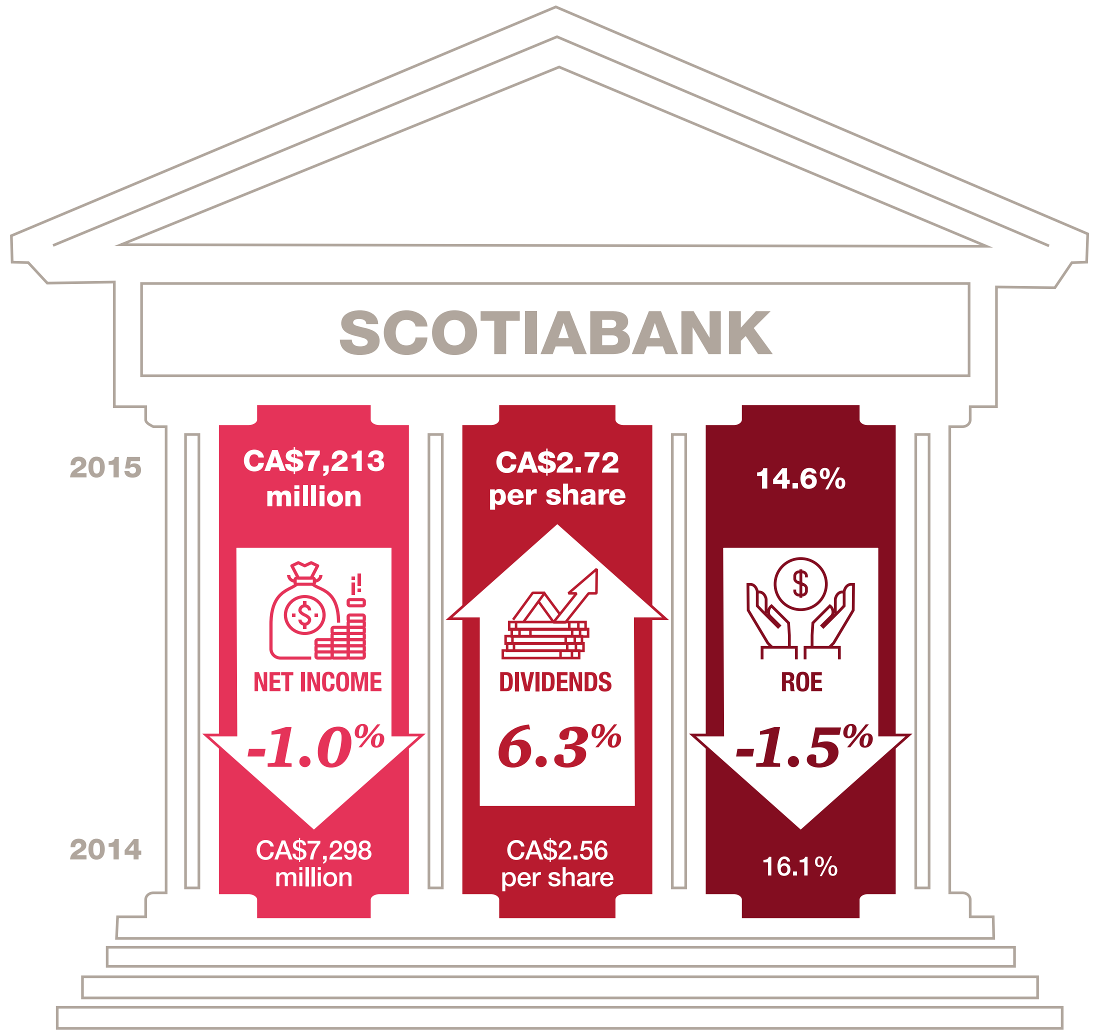
The bank made several technological investments in 2015. It launched Touch ID log-in in Canada and the United States, enabling customers to log into the BMO mobile banking application using fingerprint recognition. It introduced Mobile Cash in the United States, allowing customers to withdraw money from a BMO Harris ABM using their smartphones. The bank also announced the development of a new robot adviser capability to be rolled out in 2016. The bank launched a new BMO Banking and InvestorLine portal, becoming the first major Canadian bank to provide customers with access to personal banking and self-directed investment accounts in one place. It also enhanced cash management offerings with the launch of BMO DepositEdge in Canada, enabling business customers to deposit cheques remotely, and BMO Spend Dynamics, giving corporate card clients convenient access to their transaction data and the ability to analyze their program spending. BMO will likely continue to enhance technology to drive revenue growth in 2016.

Scotiabank highlights[1]

Scotiabank delivered solid results, driven by a strong and growing foundation in Canada, diversified through Scotiabank's priority international markets of Mexico, Peru, Colombia and Chile.

Scotiabank saw net income of CA$7,213 million, down 1% compared to CA$7,298 million last year. Adjusting for the 2014 notable items totalling CA$290 million—from sale of holdings in CI Financial Corporation and subsidiary by Thanachart Bank, restructuring charges, provisions for credit losses and valuation adjustments—net income increased CA$205 million, or 3%. Diluted earnings per share remained steady at CA$5.67 compared to CA$5.66 in 2014; adjusting for the notable items above, diluted earnings per share growth was 4.4%. Return on equity was 14.6% compared to 16.1% last year.

The bank's total assets at October 31, 2015 were CA$856 billion, up CA$51 billion, or 6%, from FY14. The total provision for credit losses was CA$1,942 million in 2015, up CA$239 million from last year, primarily due to increased provisions in the Canadian and international retail portfolios, as well as higher Global Banking and Markets corporate loan provisions in Canada and Europe. These higher provisions were partially offset by lower commercial provisions in Canadian Banking.



1. As reported in Scotiabank's annual report.

In the **Canadian Banking** segment, net income decreased 9% from 2014 to CA$3,344 million. The decrease is largely a reflection of one-time gains in FY14 as a result of the sale of the majority of the bank's holding in CI Financial Corporation. Adjusting for this notable FY14 item, net income increased CA$307 million, or 10%, from last year. The increase was due to solid asset and deposit growth and a widening margin driven mainly by credit cards, mortgages and credit lines, as well as higher non-interest income. Partly offsetting were higher provision for credit losses and non-interest expenses. The CA$8 billion, or 3%, rise in average assets reflected an increase in personal loans, primarily in consumer automotive lending and credit cards, residential mortgages and business loans and acceptances. Assets under management of CA$135 billion increased by CA$11 billion, or 9%, from last year, driven by improved financial markets and strong net sales. Assets under administration increased CA$14 billion, or 5%, to CA$310 billion, driven by new customer assets and improved financial markets. In 2016, priorities for these services will include growing Tangerine to become the leading everyday bank in Canada, targeting double-digit growth in Wealth Management and reducing structural costs to drive greater efficiencies.

Global Banking and Markets reported net income of CA$1,553 million, a decrease of CA$117 million from last year. Lower results in investment banking, Asia lending and precious metals, as well as lower securities gains in US lending were slightly offset by growth in other business. Average assets increased by CA$31 billion, or 10%, to CA$342 billion in FY15, mainly due to foreign currency translation adjustments, growth of CA$9 billion of derivative-related assets, CA$4 billion of securities purchased under resale agreements and CA$4 billion of corporate loans and acceptances, partly offset by reductions in trading assets and lower trade finance balances in Asia. The provision for credit losses was up CA$51 million from FY2014 to CA$67 million, primarily due to higher provisions in Canada and Europe.

In 2016, Global Banking and Markets will continue to focus on its diversified business platform in an effort to combat an environment where revenue growth may face continued challenges due to market volatility.

In the **International Banking** segment, net income grew 15% from 2014 to CA$1,853 million. Results benefited from strong asset growth in Latin America, higher fees and contributions from associated corporations and the positive impact of foreign currency translation. Partly offsetting were margin compression, lower securities gains and higher provision for credit losses.

Net interest income increased 11%, driven by strong loan growth and the 2015 acquisition of Cencosud's credit card business in Chile and Citibank Peru, partly offset by a 1% decline in net interest margin from 4.75% to 4.71%.

Average assets of CA$128 billion increased CA$13 billion, or 12%, driven by strong retail and commercial loan growth, especially in Latin America, where underlying retail and commercial assets increased by 14% and 11%, respectively.

The provision for credit losses increased CA$104 million to CA$1,128 million. In the retail portfolio, acquisitions and related benefits accounted for two-thirds of the increase in provisions. In the commercial portfolio, provisions were primarily lower in the Caribbean, mostly as Q4 2014 included CA$83 million in provisions primarily relating to a small number of accounts in the hospitality portfolio.

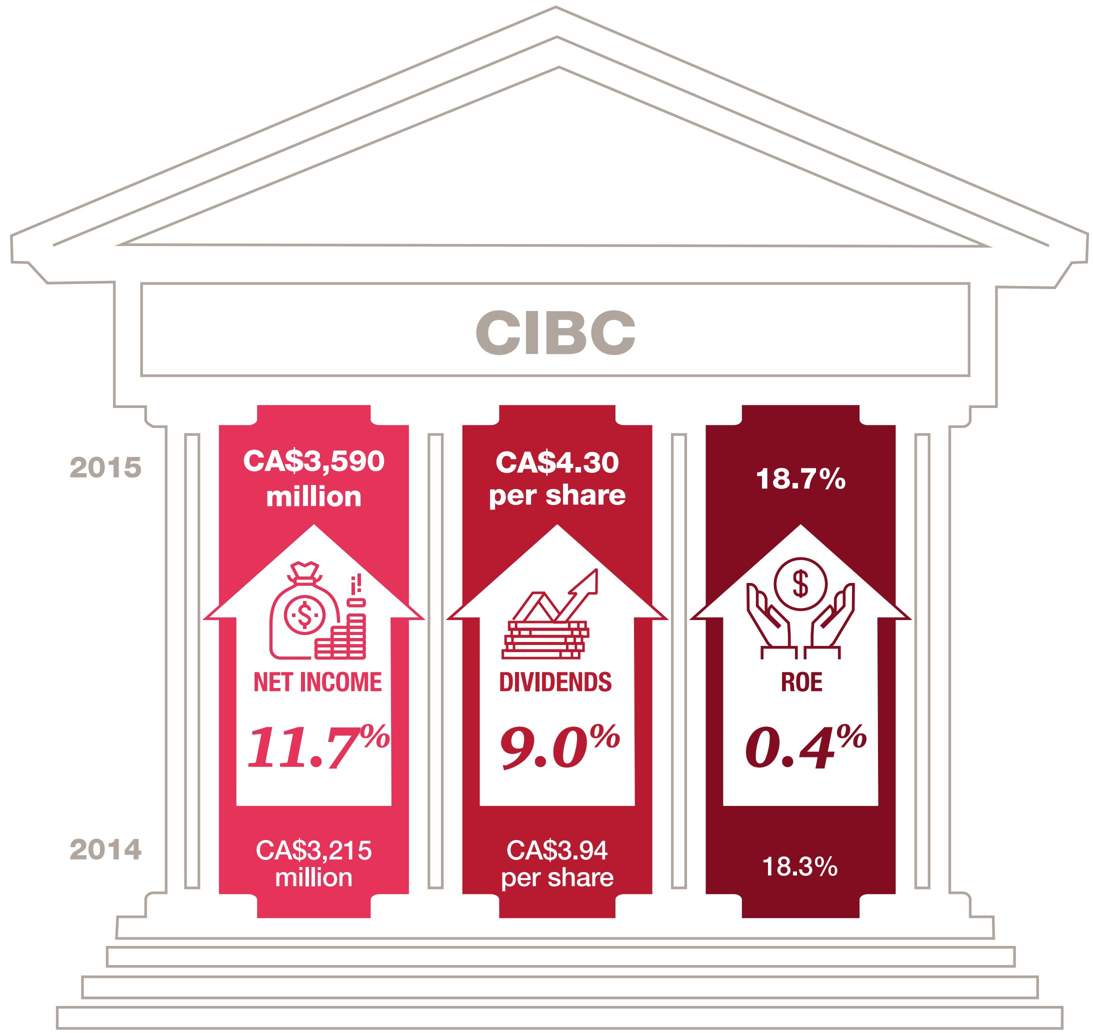
International Banking expects to continue to deliver solid results in FY16. Key priorities for FY16 will include investing in Mexico to drive growth and targeting higher profitability business across the Pacific Alliance countries to become the primary bank in select segments. The bank plans to focus on organic growth but has also noted that it will continue to consider acquisition opportunities that are strategically aligned with current operations.

Scotiabank is seeing rapidly evolving customer expectations, innovative digital technologies and new service models. The bank anticipates an increase in its net interest income in 2016, mainly from growth in core banking assets. And it expects the quality of its credit portfolio to remain strong, given its broad global diversification and low exposure to areas and regions of concern.

CIBC highlights[1]

CIBC saw an increase in reported net income of approximately 11.7%, bringing this figure from CA$3,215 million in 2014 to CA$3,590 million in 2015, mainly due to an increase in net interest income and a reduction in provision for credit losses. CIBC has also seen an increase in non-interest expenses due to cumulative restructuring charges primarily relating to employee severance. In 2015, return on equity was 18.7% (19.9% on an adjusted basis). Dividends paid totalled CA$4.30 per share, up from CA$3.94 in 2014, an increase of 9%. The reported dividend payout ratio also saw a decrease from 50.0% in 2014 to 48.4% in 2015. The bank maintained a strong common equity Tier 1 ratio of 10.8% in 2015, up from 10.3% in 2014.

The **Retail and Business Banking** saw an increase in both revenue and net income between 2014 and 2015. Revenue increased 2% to CA$8.4 billion in 2015, while net income increased 1.7% to CA$2.5 billion in 2015. Revenue growth was driven by a 6% growth in **Personal Banking** revenue, due to volume growth, higher fees, along with a gain arising from accounting adjustments on credit card-related balance sheet amounts, and a 6% growth in **Business Banking** revenue arising from volume growth and higher fees partially offset by narrower spreads. Provision for credit losses decreased by 3% from 2014 due to lower loan losses in the card portfolio, an initiative to enhance account management practices and the selling of the Aeroplan portfolio.



1. As reported in CIBC's annual report.

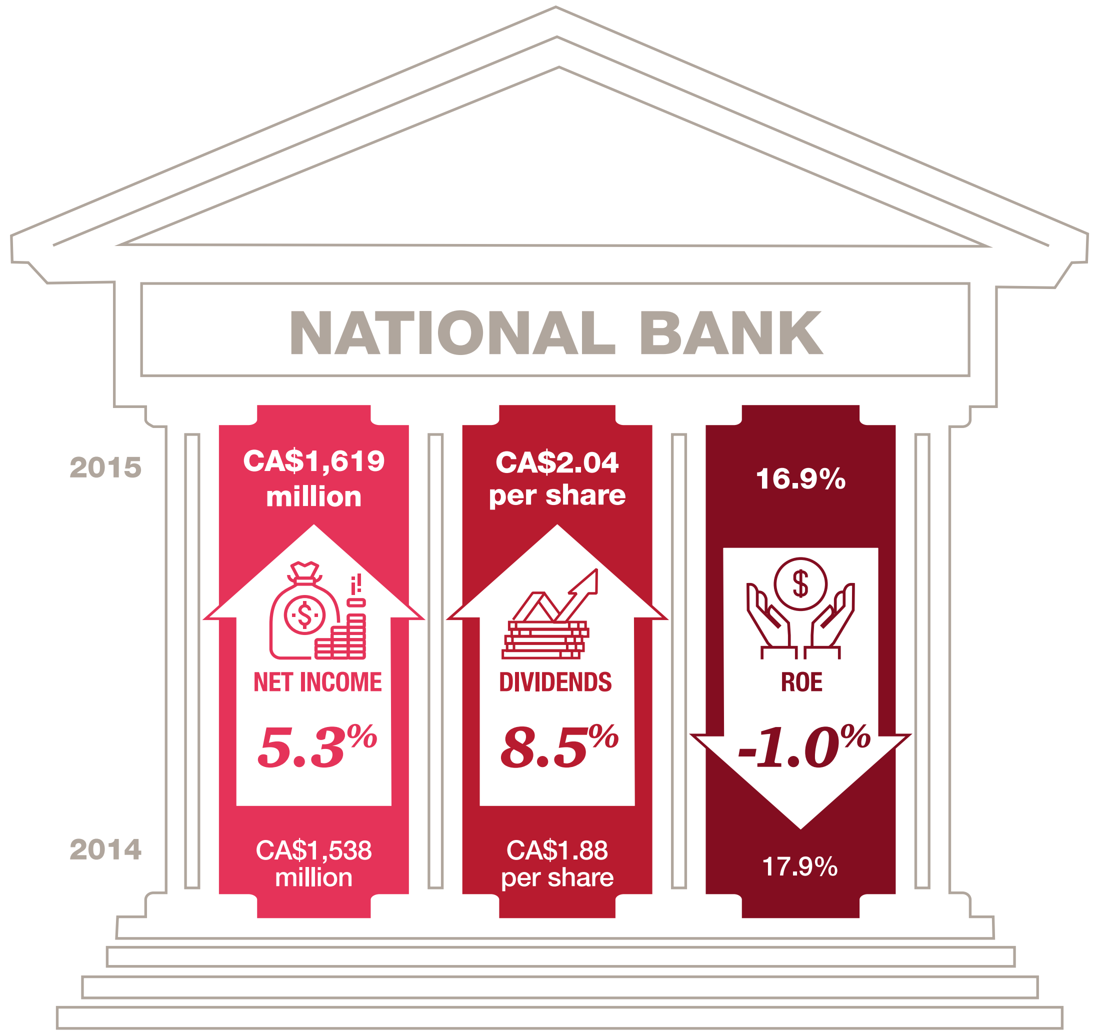
The **Wealth Management** business saw an increase in total revenue from CA$2,202 million in 2014 to CA$2,471 million in 2015, or an increase of 12%. This is attributable to a number of factors. Retail brokerage revenue increased 4% from higher investment management and custodial fees driven by higher assets under management (AUM) and assets under administration. Asset management revenue increased 16% due to higher AUM, record net sales of long-term mutual funds and market appreciation, and higher contribution from equity-accounting investment in ACI. And private wealth management revenue increased 38% due to higher AUM, the inclusion of a full year of Atlantic Trust results (versus 10 months in 2014) and annual performance fees earned in Atlantic Trust. Though slightly offset by an increase of CA$202 million, or 13%, in non-interest expenses, net income in Wealth Management grew from CA$471 million in 2014 to CA$520 million in 2015, an increase of 10.4%.

The **Capital Markets** business (renamed from Wholesale Banking in November 2015) recorded a 9% increase in total revenue from CA$2,424 million in 2014 to CA$2,642 million in 2015. This was driven by a 29% growth in global markets revenue due to a prior year charge of funding valuation adjustments and higher revenue from foreign exchange, equity derivatives, interest rates and commodities trading, offset by a 1% decrease in corporate and investment banking revenue and a 104% decrease in other revenue. The reduction in other revenue was a result of the prior year inclusion of the gain on the sale of an equity investment in the bank’s exited European leveraged finance portfolio. Meanwhile, provision for credit losses decreased by CA$26 million, or 60%, from 2014, as the prior year included loan losses in the bank’s US leveraged finance portfolio. This decrease was also due to lower losses in the corporate lending portfolio. Coupled with an increase of CA$110 million, or 9%, in non-interest expenses, net income for the Capital Markets business was up CA$109 million, or 12%, to CA$1,004 million in 2015.

NBC highlights[1]

In 2015, NBC recorded CA$1,619 million in net income compared to CA$1,538 million in 2014. Diluted earnings per share for 2015 stood at CA$4.51 versus CA$4.32 in 2014, and return on common shareholder's equity was 16.9% in 2015 versus 17.9% in 2014. The bank's common equity Tier 1 ratio was 9.9%, up from 9.2% in 2014. The increase is due to net income, net of dividends and a common share issuance for gross proceeds of CA$300 million, partly offset by an increase in risk-weighted assets.

In the **Personal and Commercial (P&C)** segment, net income grew 1% from 2014 to CA$690 million. Revenues increased by 5% to CA$2,816 million, mostly from growth in net interest income, driven mainly by growth in personal and commercial loan and deposit volumes, tempered by a smaller net interest margin. **Personal Banking** revenues grew 5% to CA$1,792 million, driven by increases in loan volumes, particularly mortgages and home equity lines of credit. Growth in non-interest income came from loan transaction revenues and internal commission revenues generated by the distribution of wealth management products. **Commercial Banking** revenues grew 4% to CA$1,024 million. Net interest income was up, mainly due to growth in loan and deposit volumes, and non-interest income increased by CA$22 million due to increases in revenues from loan transactions, acceptances and foreign exchange transactions.



1. As reported in National Bank of Canada's annual report.

In the **Wealth Management** segment, net income grew 20% to CA$326 million. Specific acquisition charges in 2014 accounted for 15% of the increase, and the remaining 5% was driven by an increase in fee-based revenues. Excluding a CA$25 million gain on disposal of Fiera Capital shares realized in 2015, the segment's total revenues grew 5% to CA$1,391 million, mainly due to higher revenues from fee-based services, which grew 14%, and to net interest income growth that was partly driven by higher volumes and improved margins in banking activity among high-net-worth individuals. Conversely, brokerage commission revenues on share and bond transactions and revenues from new issuances decreased from 2014.

In the **Financial Markets** segment, net income grew 16% to CA$697 million, and total revenues increased by 13% to CA$1,720 million. Growth was mainly the result of higher trading activity revenues, which rose 32% to CA$834 million, largely due to strong business in equities, commodities and foreign exchange contracts. In addition, banking service revenues grew by 14%, due to more robust credit activity. Financial market fees declined 5% on lower revenues from new issuances, which were particularly strong in 2014. Gains on available-for-sale securities also decreased as higher impairment losses were recorded in 2015.

The bank's strong presence in Quebec remains a source of sustained revenue growth; however, the bank highlighted geographic diversification as an important factor for its long-term growth. The bank will continue to build targeted niches both in Canada and internationally. While the bank has not referenced any specific acquisitions, it's made reference to the fact that it's well positioned to carry out acquisitions and enter into strategic partnerships.

The bank made several technological investments in 2015 to support growth in the P&C segment. In particular, it implemented a new marketing model that allows it to deploy segmented marketing campaigns with more personalized offerings. This new model is supported by data analytics teams, technology and tools to help the sales force better understand its clients in order to provide them with tailored services at the right time and through the right channel. The bank also launched an application for iPad and Android tablets, with its iPad application ranked number one by users in the financial services category.

In 2016, the **P&C** segment plans to upgrade its deposit and cash management product and service offerings and use a more efficient credit-granting platform to standardize the credit-granting process to businesses. The bank will also pursue the development of optimized technology tools and processes that will facilitate multi-channel access to its products and services while implementing a customer relationship management platform to foster the proactivity of its sales force with its clients.

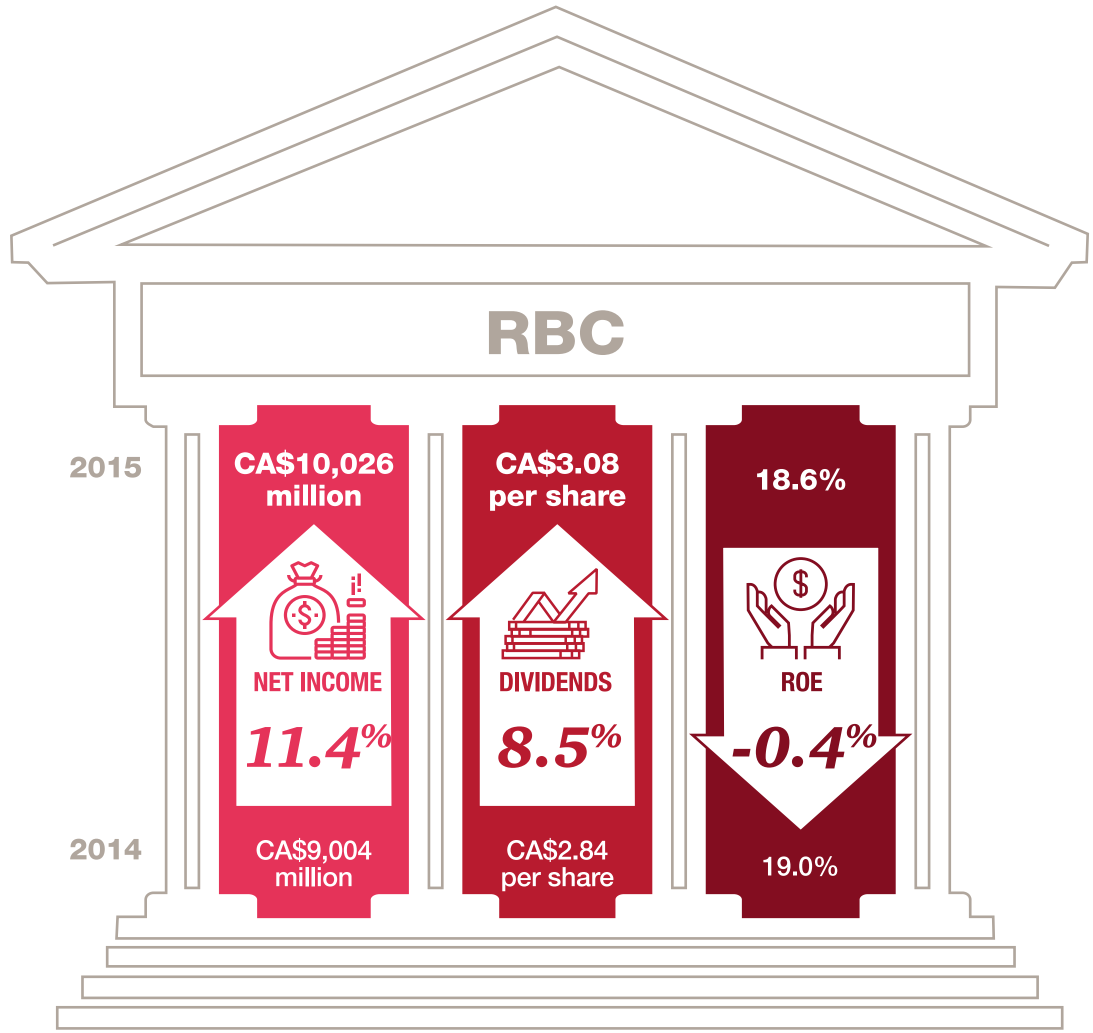
The **Wealth Management** segment's priority for 2016 is a major build-out of its private banking capabilities, with an emphasis on Western Canada. The bank also intends to use the positioning of NBCN Inc. as a market leader in the area of third party clearing services to expand this business, encouraged by growth in the Investment Counsellor/Portfolio Manager space. It plans to continue launching new products in partnership with leading asset managers and to refine operational procedures to increase efficiency and integration of acquisitions.

The **Financial Markets** segment will continue building market share in corporate debt, infrastructure and power finance, with a focus on larger corporate clients, continuing to expand specialty finance capabilities through the Credigy Ltd. subsidiary and strengthen the group's capacity to distribute Canadian investment products to investors globally.

RBC highlights[1]

RBC's net income of CA$10,026 million was up CA$1,022 million, or 11.4%, from FY14. Diluted earnings per share of CA$6.73 was up CA$0.73, and return on equity of 18.6% was down 40 basis points from 19.0% last year. Overall results were driven by higher earnings in Personal and Commercial Banking, Capital Markets and Investor and Treasury Services, partially offset by lower earnings in Insurance and Wealth Management. Total assets and liabilities were up CA$134 billion, or 14%, and CA$124 billion, or 14%, respectively, from FY14, primarily reflecting the impact of foreign exchange translation as a result of the Canadian dollar.

Serving 13.5 million clients globally, the **Personal and Commercial Banking** business saw net income increase CA$531 million, or 12%. Excluding the FY14 loss of CA$100 million (before and after tax) related to the sale of RBC Jamaica and a provision of CA$40 million (CA$32 million after tax) related to post-employment benefits and restructuring charges in the Caribbean, net income increased CA$399 million, or 9%. This reflects high volume growth across most businesses in Canada and strong fee-based revenue growth and higher earnings in the Caribbean. PCL decreased CA$119 million, largely due to lower provisions in the Caribbean portfolios as a result of the impairment of the residential mortgage portfolio included in FY14. Average loans and acceptances increased CA$17 billion, or 5%, largely due to strong growth in Canadian residential mortgages and business loans, and average deposits increased CA$20 billion, or 7%, as a result of solid growth in both business and personal deposits.



1 As reported in Royal Bank of Canada's annual report.

The **Wealth Management** segment's net income decreased CA$42 million, or 4%, compared to FY14. This primarily reflects higher costs in support of business growth in the Global Asset Management and Canadian Wealth Management businesses, restructuring costs of CA$122 million (CA$90 million after tax) largely related to the US and International Wealth Management businesses, lower transaction volumes and higher provision for credit losses (up CA$27 million). RBC also completed the CA$7.1 billion acquisition of City National on November 2, 2015, and is combining US Wealth Management and City National into one line of business, effective the first quarter of 2016.

In July 2015, RBC completed the sale of RBC Royal Bank (Suriname) N.V., resulting in a loss on disposal of CA$19 million (before and after tax).

The **Insurance** business experienced a decrease in net income of CA$75 million, or 10%, mainly due to a change in Canadian tax legislation impacting certain foreign affiliates which became effective November 1, 2014, a lower level of favourable actuarial adjustments in the current year and higher net claims costs. These factors were partially offset by higher earnings from new UK annuity contracts and a favourable impact of investment-related activities on the Canadian life insurance business.

Premiums and deposits were down CA$148 million, or 3%, as the reduction related to retrocession contracts was partly offset by business growth in International and Canadian Insurance. Overall embedded value increased CA$713 million, reflecting business growth mainly in International Insurance, a favourable change in interest rate assumptions and the impact of foreign exchange translation. Subsequent to year end, RBC sold the RBC General Insurance Company,[2] which includes certain home and auto insurance manufacturing capabilities, for CA$582 million (subject to closing adjustments). The transaction is expected to close in the third calendar quarter of 2016 subject to customary closing conditions.

Looking forward, RBC has indicated that it expects continued organic business growth as a result of the product and pricing actions taken over the last few years, including increasing volumes through growth in proprietary channels and through an ongoing focus on expense efficiency.

RBC's **Investor and Treasury Services** saw growth with an increase in net income of CA$115 million, or 26%, despite industry-wide margin pressures, largely due to negative interest rates globally and heightened regulation, which has driven up compliance and technology costs. The increase in net income is mostly due to increased client activity in the foreign exchange forwards business and higher foreign exchange transaction volumes, an additional month of earnings in Investor Services of CA$42 million (CA$28 million after tax) due to the alignment of the ITS reporting period in the third quarter, increased custodial fees and higher earnings from growth in client deposits. These factors were partially offset by lower funding and liquidity results. RBC indicated that it expects to continue to be the leading provider of custody, asset services and cash management services in Canada and a leading provider of fund services in Ireland and Luxembourg.

Capital Markets net income increased CA$264 million, or 13%, driven by growth in global markets businesses mainly reflecting increased client activity, continued solid performance in corporate and investment banking businesses and the positive impact of foreign exchange translation. These factors were partially offset by lower results in certain legacy portfolios. PCL increased CA$27 million, or 61%, mainly due to provisions in the oil and gas, consumer goods and utilities sectors.

In 2016, as a result of strategic investments in RBC's investment banking businesses in recent years, particularly in the United States and Europe, RBC anticipates growth in investment banking businesses. However, it has indicated that it expects that marginal growth in lending revenue will be impacted by narrower spreads reflecting increased competition, as well as the risk of higher PCL.

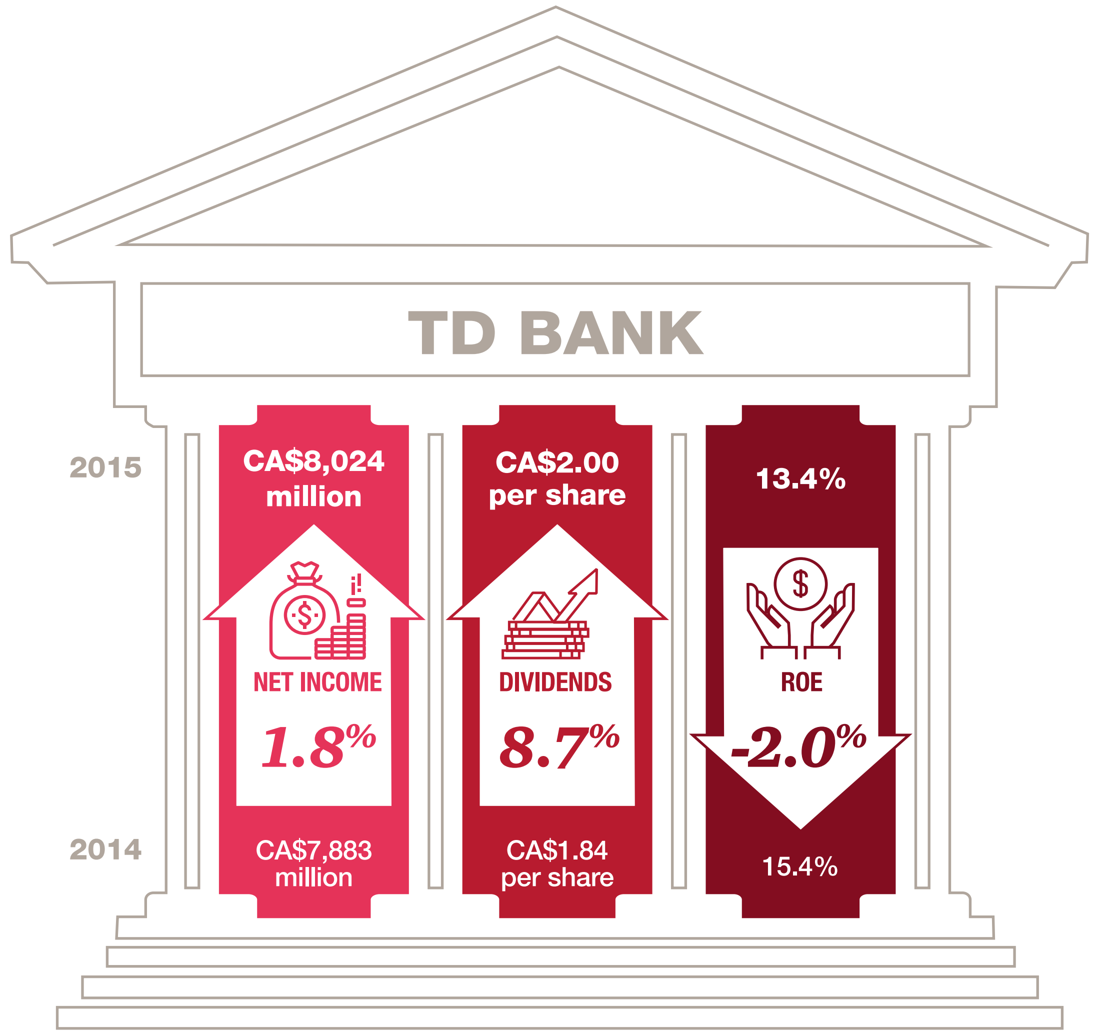
2. "RBC Insurance signs long-term strategic agreement with Aviva Canada". Royal Bank of Canada. January 21, 2016. http://www.rbc.com/newsroom/news/2016/20160121-rbci-aviva.html. Retrieved February 18, 2016.

TD highlights[1]

TD saw an increase in reported net income of approximately 1.8%, from CA$7,883 million in 2014 to CA$8,024 million in 2015. While adjusted return on common equity decreased to 14.7% in 2015, compared to 15.9% in 2014, adjusted diluted earnings per share increased by 8% to CA$4.61 in 2015, from CA$4.27 in 2014. Cash dividends declared and paid during the year totalled CA$2.00 per share, up from CA$1.84 in 2014.

Canadian Retail Banking performed strongly in 2015 as unadjusted reported net income increased 13%, or CA$704 million, to CA$5,938 million. The provision for credit losses decreased 6% to CA$887 million in 2015, due primarily to the sale of charged-off accounts and strong credit performance, partially offset by higher provisions in the auto lending portfolio. Reported non-interest expenses remained relatively stable, measuring CA$8,407 million in 2015.

Within **Canadian Personal Banking**, revenue increased from CA$9,600 million in 2014 to CA$9,993 million in 2015. This is a reflection of average lending volume growth (CA$12.8 billion, or 5%), which included a growth of CA$9.5 billion, or 4%, in average real estate secured lending volume and a growth of CA$2.4 billion, or 15%, in average auto lending volume. Average personal deposit volumes increased CA$7.0 billion, or 5%, due to strong growth in core cheque and savings volumes, partially offset by lower term deposit volume.



1. As reported in TD's annual report.

Meanwhile, revenue for **Canadian Business Banking** increased from CA$2,284 million in 2014 to CA$2,323 million in 2015. This was driven by a CA$4.5 billion, or 9%, growth in average business loans and acceptance volume and a CA$5.1 billion increase in average business deposit volume.

Wealth revenue grew from CA$3,226 million in 2014 to CA$3,436 million in 2015. This is commensurate with strong asset growth under the Wealth division, with a CA$17 billion, or 6%, increase in assets under administration in 2015 and a CA$18 billion, or 8%, increase in assets under management.

Insurance revenue decreased from CA$4,051 million in 2014 to CA$3,933 million in 2015. This was offset by a CA$333 million, or 12%, reduction in insurance claims and related expenses primarily driven by a change in the mix of reinsurance contracts, more favourable prior years' claim development, less severe weather conditions and lower current year claims costs.

US Retail Banking saw a record year with adjusted earnings in 2015 of US$2,053 million, up 6% from 2014. This includes adjusted net income of US$1,747 million from the US Retail Bank, up 5% from 2014, and US$306 million from TD's investment in TD Ameritrade, up 9% from 2014. Growth in the US Retail Bank was primarily due to strong organic growth, lower provision for credit losses, good expense management and a lower effective tax rate, partially offset by lower loan margins and lower gains on sales of securities. Average loan volumes increased US$11 billion, or 10%, from 2014, driven by a 17% increase in business loans and a 4% increase in personal loans. Average deposit volumes increased US$11 billion, or 5%, from 2014. On the other hand, margin on average earnings assets in 2015 was 3.61%, a 14-basis-point decrease from 2014, reflecting lower loan margins. Provision for credit losses was US$603 million, a decrease of US$18 million, or 30%, from 2014, primarily due to continued credit quality improvement, partially offset by volume growth and provisions related to South Carolina flooding. The growth in the contribution from TD Ameritrade was due to strong asset growth and higher transaction volume, partially offset by higher operating expenses and lower investment gains. Assets under administration increased US$430 million, or 5%, from 2014 to US$9.6 billion in 2015, primarily due to market appreciation. Meanwhile, assets under management increased US$17.6 billion, or 30%, to US$76.9 billion in 2015, mainly due to net new asset growth.

Wholesale Banking delivered strong core revenue growth and robust performance in trading, corporate lending and debt underwriting in both Canada and the United States, while facing a challenging global environment and weakening resource and energy sectors. Net income increased CA$60 million, or 7%, to CA$873 million in 2015. Revenue increased CA$246 million, or 9%, to CA$2,926 million in 2015, mainly due to higher revenue from foreign exchange, fixed income and equity trading, debt underwriting fees in Canada and the United States and strong corporate lending growth, offset by lower mergers and acquisition and equity underwriting fees. Provisions for credit losses increased CA$7 million to CA$18 million, while non-interest expenses increased CA$112 million to CA$1,701 million, primarily due to the impact of foreign exchange translation and higher operating expenses.

Appendices[1]

1. As reported by the Big Six banks' annual and quarterly reports.

Appendix 1: Shareholder value summary
in millions of Canadian dollars

	BMO				BNS				CIBC			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Stock performance												
Common share price as at October 31	76.04	-7.0%	81.73	72.62	61.49	-10.9%	69.02	63.39	100.28	-2.5%	102.89	88.70
Book value of outstanding common shares (per share)	56.27	16.8%	48.19	43.70	40.80	10.4%	36.95	33.56	51.28	15.8%	44.30	41.47
Trading premium above book value (per share)	19.77	-41.1%	33.54	28.92	20.69	-35.5%	32.07	29.83	49.00	-16.4%	58.59	47.23
Market price to book value	1.35		1.70	1.66	1.51		1.87	1.89	1.96		2.32	2.14
Earnings												
Net income attributable to common shareholders	4,253	2.3%	4,157	4,010	6,897	-0.3%	6,916	6,162	3,576	11.1%	3,218	3,352
Basic earnings per share as reported	6.59	2.3%	6.44	6.27	5.70	0.2%	5.69	5.19	8.89	13.0%	7.87	8.24
Price / earnings ratio	11.5	-9.1%	12.7	11.6	10.8	-11.1%	12.1	12.2	11.3	-13.7%	13.1	10.8
Returns												
Return on common equity[1]	12.5%		14.0%	14.9%	14.6%		16.1%	15.3%	18.7%		18.3%	21.5%
Return on assets	0.7%		0.7%	0.8%	0.8%		0.9%	0.9%	0.8%		0.8%	0.9%
Return on risk-weighted assets[2]	1.8%		1.9%	2.0%	2.0%		2.3%	2.3%	2.3%		2.3%	2.5%
Total market return[3]	**-3.0%**		**16.8%**	**28.0%**	**-7.0%**		**12.9%**	**21.3%**	**1.6%**		**20.4%**	**17.7%**
Dividends												
Dividend paid per share	3.24	5.2%	3.08	2.94	2.72	6.3%	2.56	2.39	4.30	9.1%	3.94	3.80
Dividend yield[4]	4.3%	13.1%	3.8%	4.0%	4.4%	19.3%	3.7%	3.8%	4.3%	12.0%	3.8%	4.3%
Dividend payout ratio[5]	49%	2.8%	48%	47%	48%	6.1%	45%	46%	48%	-3.4%	50%	46%
Shares outstanding at end of year (millions)	643	-0.9%	649	644	1,203	-1.2%	1,217	1,209	397	0.0%	397	399
Market capitalization at October 31 (billions)	48.9	-7.8%	53.0	46.8	74.0	-11.9%	84.0	76.6	39.8	-2.5%	40.8	35.4
Total assets per dollar of market capitalization	13.13		11.10	11.49	11.58		9.59	9.71	11.64		10.16	11.26

Notes

1. Return on equity has been calculated as net income divided by average common equity as reported in the banks' annual reports.
2. Return on risk weighted assets has been calculated as net income divided by risk weighted assets.
3. Total market return has been calculated as [change in share price + dividends paid] divided by opening share price and does not include the assumed rate of return on the investment of dividends.
4. Dividend yield has been calculated as dividends paid divided by the common share price at the fiscal year end.
5. Dividend payout ratio has been calculated as dividends paid divided by earnings per share.

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.

in millions of Canadian dollars

	NBC				RBC				TD			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Stock performance												
Common share price as at October 31	43.31	-17.8%	52.68	45.24	74.77	-6.5%	80.01	70.02	53.68	-3.2%	55.47	47.82
Book value of outstanding common shares (per share)	28.26	9.7%	25.76	22.90	39.53	17.3%	33.71	30.49	33.79	18.9%	28.43	25.60
Trading premium above book value (per share)	15.05	-44.1%	26.92	22.34	35.24	-23.9%	46.30	39.53	19.89	-26.4%	27.04	22.22
Market price to book value	1.53		2.04	1.98	1.89		2.37	2.30	1.59		1.95	1.87
Earnings												
Net income attributable to common shareholders	1,549	5.4%	1,469	1,449	9,734	11.9%	8,697	7,991	7,912	1.7%	7,776	6,535
Basic earnings per share as reported	4.56	4.6%	4.36	4.34	6.75	11.9%	6.03	5.60	4.22	1.7%	4.15	3.46
Price / earnings ratio	9.5	-21.4%	12.1	10.4	11.1	-16.5%	13.3	12.5	12.7	-4.8%	13.4	13.8
Returns												
Return on common equity[1]	16.9%		17.9%	19.4%	18.6%		19.0%	19.7%	13.4%		15.4%	14.2%
Return on assets	0.7%		0.7%	0.8%	0.9%		1.0%	1.0%	0.7%		0.8%	0.8%
Return on risk-weighted assets[2]	2.3%		2.3%	2.5%	2.4%		2.4%	2.6%	2.1%		2.5%	2.3%
Total market return[3]	**-13.9%**		**20.6%**	**21.6%**	**-2.7%**		**18.3%**	**27.4%**	**0.4%**		**19.8%**	**11.8%**
Dividends												
Dividend paid per share	2.04	8.5%	1.88	1.7	3.08	8.5%	2.84	2.53	2.00	8.7%	1.84	1.62
Dividend yield[4]	4.7%	32.0%	3.6%	3.8%	4.1%	16.1%	3.5%	3.6%	3.7%	12.3%	3.3%	3.4%
Dividend payout ratio[5]	44.7%	3.8%	43.1%	39.2%	45.6%	-3.1%	47.1%	45.2%	47.4%	6.9%	44.3%	46.8%
Shares outstanding at end of year (millions)	337	2.4%	329	326	1,443	0.1%	1,442	1,441	1,856	0.5%	1,846	1,839
Market capitalization at October 31 (billions)	14.6	-15.8%	17.3	14.7	107.9	-6.5%	115.4	100.9	99.6	-2.7%	102.4	87.9
Total assets per dollar of market capitalization	14.79		11.84	12.76	9.96		8.15	8.53	11.08		9.38	9.81

Notes

1. Return on equity has been calculated as net income divided by average common equity as reported in the banks' annual reports.
2. Return on risk weighted assets has been calculated as net income divided by risk weighted assets.
3. Total market return has been calculated as [change in share price + dividends paid] divided by opening share price and does not include the assumed rate of return on the investment of dividends.
4. Dividend yield has been calculated as dividends paid divided by the common share price at the fiscal year end.
5. Dividend payout ratio has been calculated as dividends paid divided by earnings per share.

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.

in millions of Canadian dollars

	BMO				BNS				CIBC			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Tier 1 capital												
Total Tier 1 capital	**29,416**	**10.6%**	**26,602**	**24,599**	**41,366**	**8.6%**	**38,073**	**31,914**	**19,520**	**12.8%**	**17,300**	**15,888**
Tier 2 capital												
Total Tier 2 capital	**5,168**	**-2.9%**	**5,325**	**4,901**	**6,864**	**24.4%**	**5,519**	**6,927**	**3,914**	**-16.5%**	**4,689**	**4,073**
Total regulatory capital	**34,584**	**8.3%**	**31,927**	**29,500**	**48,230**	**10.6%**	**43,592**	**38,841**	**23,434**	**6.6%**	**21,989**	**19,961**
Risk-weighted assets												
Credit risk	200,385		185,387	179,289	308,035		261,887	240,900	130,820		118,492	115,101
Market risk	10,262		9,002	9,154	14,400		17,251	15,400	4,408		4,046	3,460
Operational risk	28,538		27,703	26,651	35,600		33,300	31,900	18,194		17,320	18,186
CVA adjustment[1]	531		839	N/A	1,458		1,976	N/A	3,230		1,881	N/A
Total capital risk-weighted assets	**239,716**	**7.5%**	**222,931**	**215,094**	**359,493**	**14.3%**	**314,414**	**288,200**	**156,652**	**10.5%**	**141,739**	**136,747**
Risk-weighted capital ratio												
Tier 1	12.3%		11.7%	11.4%	11.5%		12.1%	11.1%	12.5%		12.2%	11.6%
Total capital ratio	**14.4%**		**14.3%**	**13.7%**	**13.4%**		**13.9%**	**13.5%**	**15.0%**		**15.5%**	**14.6%**
Leverage ratio[2]	3.0%		N/A	N/A	4.2%		N/A	N/A	3.9%		N/A	N/A
Assets to capital multiple	N/A	-100.0%	16.1	15.6	N/A	-100.0%	17.1	17.1	N/A	-100.0%	17.7	18.0
Total assets to risk-weighted assets	267.8%	1.4%	264.1%	249.8%	238.3%	-7.0%	256.2%	258.1%	295.8%	1.0%	292.7%	291.3%
Total general allowance	1,660		1,542	1,485	3,260		2,856	2,712	1,451		1,398	1,438
Total general allowance as a percentage of risk adjusted assets	0.7%		0.7%	0.7%	0.9%		0.9%	0.9%	0.9%		1.0%	1.1%

Notes

1. For NBC and TD, the CVA adjustment dollar amount is not disclosed separately in the annual report; therefore, it has been calculated as the difference between the total risk-weighted assets and the CET1 risk-weighted assets per the annual report.
2. Leverage ratio is a regulatory measure under the Basel III framework effective the first quarter of 2015. The leverage ratio has replaced the assets to capital multiple and is N/A for prior periods.

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.

Appendix 2: Regulatory capital[1] *continued*
in millions of Canadian dollars

	NBC				RBC				TD			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Tier 1 capital												
Total Tier 1 capital	**8,626**	**8.1%**	**7,983**	**7,002**	**50,541**	**19.8%**	**42,202**	**37,196**	**43,416**	**20.6%**	**35,999**	**31,546**
Tier 2 capital												
Total Tier 2 capital	**1,052**	**-44.2%**	**1,885**	**2,184**	**7,463**	**-4.5%**	**7,818**	**7,520**	**10,184**	**23.4%**	**8,256**	**9,144**
Total regulatory capital	**9,678**	**-1.9%**	**9,868**	**9,186**	**58,004**	**16.0%**	**50,020**	**44,716**	**53,600**	**21.1%**	**44,255**	**40,690**
Risk-weighted assets												
Credit risk	55,743		52,782	49,451	321,669		282,871	232,641	328,587		275,925	239,552
Market risk	3,965		3,317	3,382	39,786		38,460	42,184	12,655		14,376	11,734
Operational risk	9,127		8,719	8,418	50,301		47,263	44,156	41,118		38,092	35,069
CVA adjustment[1]	481		641	N/A	2,201		3,456	N/A	1,748		2,188	N/A
Total capital risk-weighted assets	**69,316**	**5.9%**	**65,459**	**61,251**	**413,957**	**11.3%**	**372,050**	**318,981**	**384,108**	**16.2%**	**330,581**	**286,355**
Risk-weighted capital ratio												
Tier 1	12.5%		12.2%	11.4%	12.2%		11.3%	11.7%	11.3%		10.9%	11.0%
Total capital ratio	**14.0%**		**15.1%**	**15.0%**	**14.0%**		**13.4%**	**14.0%**	**14.0%**		**13.4%**	**14.2%**
Leverage ratio[2]	3.7%		N/A	N/A	4.3%		N/A	N/A	3.7%		N/A	N/A
Assets to capital multiple		-100.0%	19.0	18.4		-100.0%	17.0	16.6		-100.0%	19.1	18.2
Total assets to risk-weighted assets	311.7%	-0.7%	313.8%	307.3%	259.5%	2.6%	252.8%	269.9%	287.5%	-1.0%	290.6%	301.2%
Total general allowance	366		366	388	1,868		1,871	1,810	1,731		1,416	1,472
Total general allowance as a percentage of risk adjusted assets	0.5%		0.6%	0.6%	0.5%		0.5%	0.6%	0.5%		0.4%	0.5%

Notes

1. For NBC and TD, the CVA adjustment dollar amount is not disclosed separately in the annual report; therefore, it has been calculated as the difference between the total risk-weighted assets and the CET1 risk-weighted assets per the annual report.
2. Leverage ratio is a regulatory measure under the Basel III framework effective the first quarter of 2015. The leverage ratio has replaced the assets to capital multiple and is N/A for prior periods.

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.

in millions of Canadian dollars

	BMO				BNS				CIBC			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Assets												
Cash resources (including deposits with banks)	47,677	38.2%	34,496	32,601	84,477	32.0%	64,016	62,218	18,637	37.6%	13,547	6,379
Securities												
Available-for-sale (including loan substitutes)	48,006	2.2%	46,966	53,067	43,216	11.8%	38,662	34,303	28,534	133.3%	12,228	27,627
Held-for-trading	72,460	-14.8%	85,022	75,159	99,140	-12.5%	113,248	96,489	46,181	-1.9%	47,061	44,068
Other	10,452	-7.8%	11,331	6,755	320	188.3%	111	106	3,512	-3.6%	3,642	3,704
Total cash resources and securities	**178,595**	**0.4%**	**177,815**	**167,582**	**227,153**	**5.1%**	**216,037**	**193,116**	**96,864**	**26.7%**	**76,478**	**81,778**
Securities purchased under resale agreements	68,066	27.1%	53,555	39,799	87,312	-7.0%	93,866	82,533	30,089	-9.9%	33,407	25,311
Loans												
Residential mortgages	105,918	4.9%	101,013	99,328	217,498	2.3%	212,648	209,865	169,258	7.4%	157,526	150,938
Personal and credit card loans	73,578	2.0%	72,115	71,510	91,477	8.6%	84,204	76,008	48,321	2.6%	47,087	49,213
Business and government loans	145,076	20.1%	120,766	101,450	153,850	17.4%	131,098	119,550	65,276	16.4%	56,075	48,201
Allowance for credit losses	(1,855)	7.0%	(1,734)	(1,665)	(4,197)	15.3%	(3,641)	(3,273)	(1,670)	0.6%	(1,660)	(1,698)
Total loans	**322,717**	**10.5%**	**292,160**	**270,623**	**458,628**	**8.1%**	**424,309**	**402,150**	**281,185**	**8.6%**	**259,028**	**246,654**
Customers' liability under acceptances	11,307	3.9%	10,878	8,472	10,296	4.3%	9,876	10,556	9,796	6.3%	9,212	9,720
Derivatives	38,238	17.1%	32,655	30,259	41,003	22.6%	33,439	24,503	26,342	27.4%	20,680	19,947
Other assets	22,958	6.3%	21,596	20,564	32,105	14.1%	28,139	30,930	19,033	18.2%	16,098	14,979
Total assets	**641,881**	**9.0%**	**588,659**	**537,299**	**856,497**	**6.3%**	**805,666**	**743,788**	**463,309**	**11.7%**	**414,903**	**398,389**
Liabilities												
Deposits												
Individuals	147,416	8.6%	135,706	125,432	190,044	8.5%	175,163	171,048	137,378	5.6%	130,085	125,034
Business and government	263,618	10.2%	239,139	220,798	375,144	9.6%	342,367	312,487	178,850	20.2%	148,793	133,100
Banks	27,135	48.7%	18,243	20,591	35,731	-2.1%	36,487	33,019	10,785	39.5%	7,732	5,592
Total deposits	**438,169**	**11.5%**	**393,088**	**366,821**	**600,919**	**8.5%**	**554,017**	**516,554**	**327,013**	**14.1%**	**286,610**	**263,726**
Other												
Acceptances	11,307	3.9%	10,878	8,472	10,296	4.3%	9,876	10,556	9,796	6.3%	9,212	9,721
Securities—short sales	21,226	-22.4%	27,348	22,446	20,212	-25.3%	27,050	24,977	9,806	-24.6%	12,999	13,327
Securities—repos	39,891	0.5%	39,695	28,884	77,015	-13.4%	88,953	77,508	8,914	-9.6%	9,862	4,887
Derivatives	42,639	26.7%	33,657	31,974	45,270	24.2%	36,438	29,255	29,057	33.0%	21,841	19,724
Other liabilities	44,320	1.5%	43,676	42,762	43,124	22.3%	35,250	32,546	53,296	5.3%	50,618	62,709
Subordinated debt	4,416	-10.1%	4,913	3,996	6,182	26.9%	4,871	5,841	3,874	-22.2%	4,978	4,228
Preferred share liability	–	–	–	–	–	–	–	–	–	–	–	–
Trust securities	–	–	–	463	–	–	–	–	–	–	–	1,638
Total liabilities and debt	**601,968**	**8.8%**	**553,255**	**505,818**	**803,018**	**6.2%**	**756,455**	**697,237**	**441,756**	**11.5%**	**396,120**	**379,960**
Shareholder's equity												
Preferred share capital	3,240	6.6%	3,040	2,265	2,934	0.0%	2,934	4,084	1,000	-3.0%	1,031	1,706
Common share capital	12,313	-0.4%	12,357	12,003	15,141	-0.6%	15,231	14,516	7,813	0.4%	7,782	7,753
Contributed surplus	299	-1.6%	304	315	–	–	–	–	76	1.3%	75	82
Retained earnings	18,930	9.8%	17,237	15,224	31,316	9.5%	28,609	25,508	11,433	18.8%	9,626	8,402
Accumulated other comprehensive income (loss)	4,640	237.5%	1,375	602	2,628	133.6%	1,125	545	1,038	888.6%	105	309
Non-controlling interests	491	-55.0%	1,091	1,072	1,460	11.3%	1,312	1,898	193	17.7%	164	177
Total equity	39,913	12.7%	35,404	31,481	53,479	8.7%	49,211	46,551	21,553	14.7%	18,783	18,429
Total liabilities and shareholders' equity	**641,881**	**9.0%**	**588,659**	**537,299**	**856,497**	**6.3%**	**805,666**	**743,788**	**463,309**	**11.7%**	**414,903**	**398,389**

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.

in millions of Canadian dollars

	NBC				RBC				TD			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Assets												
Cash resources (including deposits with banks)	7,567	-6.4%	8,086	3,596	35,142	36.1%	25,820	24,931	45,637	-2.0%	46,554	32,436
Securities												
Available-for-sale (including loan substitutes)	14,043	44.0%	9,753	9,744	56,805	18.9%	47,768	38,695	88,782	40.9%	63,008	79,541
Held-for-trading	41,997	-2.8%	43,200	44,000	158,703	4.8%	151,380	144,023	95,157	-5.9%	101,173	101,928
Other	–	–	–	–	830	23.0%	675	513	78,828	27.7%	61,722	36,493
Total cash resources and securities	**63,607**	**4.2%**	**61,039**	**57,340**	**251,480**	**11.5%**	**225,643**	**208,162**	**308,404**	**13.2%**	**272,457**	**250,398**
Securities purchased under resale agreements	17,702	-27.8%	24,525	21,449	174,723	28.9%	135,580	117,517	97,364	17.9%	82,556	64,283
Loans												
Residential mortgages	43,520	10.7%	39,300	36,573	233,975	6.7%	219,257	209,238	212,373	6.8%	198,912	185,820
Personal and credit card loans	31,933	6.5%	29,996	27,989	110,205	-0.7%	110,945	108,453	165,686	11.2%	148,981	141,414
Business and government loans	30,954	8.4%	28,551	24,400	130,072	21.5%	107,021	92,934	169,716	26.6%	134,044	120,543
Allowance for credit losses	(569)	-5.8%	(604)	(578)	(2,029)	1.8%	(1,994)	(1,959)	(3,434)	13.4%	(3,028)	(2,855)
Total loans	**105,838**	**8.8%**	**97,243**	**88,384**	**472,223**	**8.5%**	**435,229**	**408,666**	**544,341**	**13.7%**	**478,909**	**444,922**
Customers' liability under acceptances	9,400	5.3%	8,926	8,954	13,453	17.4%	11,462	9,953	16,646	27.3%	13,080	6,399
Derivatives	10,842	52.9%	7,092	5,904	105,626	20.9%	87,402	74,822	69,438	24.4%	55,796	49,461
Other assets	8,701	31.8%	6,604	6,173	56,703	25.4%	45,234	41,699	68,180	18.1%	57,713	47,069
Total assets	**216,090**	**5.2%**	**205,429**	**188,204**	**1,074,208**	**14.2%**	**940,550**	**860,819**	**1,104,373**	**15.0%**	**960,511**	**862,532**
Liabilities												
Deposits												
Individuals	45,981	2.3%	44,963	42,652	220,566	5.4%	209,217	194,297	395,818	15.3%	343,240	319,749
Business and government	74,441	10.5%	67,364	56,878	455,578	17.8%	386,660	350,640	282,678	17.0%	241,705	203,204
Banks	8,408	11.3%	7,556	2,356	21,083	15.7%	18,223	13,543	17,080	8.3%	15,771	20,523
Total deposits	**128,830**	**7.5%**	**119,883**	**101,886**	**697,227**	**13.5%**	**614,100**	**558,480**	**695,576**	**15.8%**	**600,716**	**543,476**
Other												
Acceptances	9,400	5.3%	8,926	8,954	13,453	17.4%	11,462	9,953	16,646	27.3%	13,080	6,399
Securities—short sales	17,333	-4.6%	18,167	18,909	47,658	-5.3%	50,345	47,128	38,803	-1.7%	39,465	41,829
Securities—repos	13,779	-17.9%	16,780	19,746	83,288	29.5%	64,331	60,416	67,156	26.4%	53,112	34,414
Derivatives	7,756	35.6%	5,721	4,858	107,860	21.2%	88,982	76,745	57,218	11.7%	51,209	49,471
Other liabilities	26,115	10.8%	23,569	22,264	53,416	9.1%	48,968	49,419	153,309	10.4%	138,913	125,221
Subordinated debt	1,522	-19.1%	1,881	2,426	7,362	-6.3%	7,859	7,443	8,637	10.9%	7,785	7,982
Preferred share liability	–	–	–	–	–	–	–	–	–	–	–	27
Trust securities	–	–	–	–	–	–	–	900	–	–	–	1,740
Total liabilities and debt	**204,735**	**5.0%**	**194,927**	**179,043**	**1,010,264**	**14.0%**	**886,047**	**810,484**	**1,037,345**	**14.7%**	**904,280**	**810,559**
Shareholder's equity												
Preferred share capital	1,023	-16.4%	1,223	677	5,100	25.2%	4,075	4,601	2,697	22.6%	2,199	3,393
Common share capital	2,614	14.0%	2,293	2,160	14,609	0.2%	14,582	14,418	20,245	2.5%	19,757	19,171
Contributed surplus	67	28.8%	52	58	–	–	–	–	214	4.4%	205	170
Retained earnings	6,705	14.6%	5,850	5,034	37,811	19.6%	31,615	28,314	32,053	16.2%	27,585	24,565
Accumulated other comprehensive income (loss)	145	-49.8%	289	214	4,626	91.3%	2,418	1,207	10,209	106.8%	4,936	3,166
Non-controlling interests	801	0.8%	795	1,018	1,798	-0.8%	1,813	1,795	1,610	3.9%	1,549	1,508
Total equity	11,355	8.1%	10,502	9,161	63,944	17.3%	54,503	50,335	67,028	19.2%	56,231	51,973
Total liabilities and shareholders' equity	**216,090**	**5.2%**	**205,429**	**188,204**	**1,074,208**	**14.2%**	**940,550**	**860,819**	**1,104,373**	**15.0%**	**960,511**	**862,532**

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.

Appendix 4: Income statement highlights
in millions of Canadian dollars

	BMO				BNS				CIBC			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Interest and dividend income												
Loans	11,263	2.4%	10,997	10,746	18,912	4.0%	18,176	17,358	9,573	0.7%	9,504	9,795
Securities	1,912	2.7%	1,862	2,143	1,083	-1.6%	1,101	1,185	1,834	-5.9%	1,948	1,978
Deposits with banks	190	4.4%	182	244	292	11.0%	263	279	76	204.0%	25	38
Total interest income	**13,365**	**2.5%**	**13,041**	**13,133**	**20,287**	**3.8%**	**19,540**	**18,822**	**11,483**	**0.1%**	**11,477**	**11,811**
Interest expense												
Deposits	2,681	-6.4%	2,865	2,633	6,070	-1.7%	6,173	6,282	2,990	-10.4%	3,337	3,541
Subordinated debt	171	14.0%	150	145	187	-8.3%	204	339	181	1.7%	178	193
Other[1]	1,543	-1.4%	1,565	1,810	938	9.3%	858	835	397	-21.1%	503	622
Total interest expense	4,395	-4.0%	4,580	4,588	7,195	-0.6%	7,235	7,456	3,568	-11.2%	4,018	4,356
Net interest income	8,970	6.0%	8,461	8,545	13,092	6.4%	12,305	11,366	7,915	6.1%	7,459	7,455
Provision for credit losses	612	9.1%	561	589	1,942	14.0%	1,703	1,296	771	-17.7%	937	1,121
Net interest income after provision for credit losses	**8,358**	**5.8%**	**7,900**	**7,956**	**11,150**	**5.2%**	**10,602**	**10,070**	**7,144**	**9.5%**	**6,522**	**6,334**
Other income												
Capital market fees	1,659	-1.1%	1,678	1,670	525	-26.3%	712	503	812	-4.7%	852	801
Card service fees	460	-0.4%	462	724	1,089	16.7%	933	816	449	8.5%	414	599
Foreign exchange other than trading	172	-3.9%	179	172	492	17.1%	420	404	92	114.0%	43	44
Insurance income (net)	508	1.0%	503	445	556	17.3%	474	448	361	-2.2%	369	358
Investment management fees	1,500	20.4%	1,246	726	644	68.1%	383	365	814	20.2%	677	474
AFS/investment securities gains (losses)	171	5.6%	162	285	639	-13.8%	741	375	138	-31.3%	201	212
Lending fees	737	8.4%	680	715	1,053	3.8%	1,014	943	533	11.5%	478	462
Mutual fund revenues	1,385	29.1%	1,073	799	1,619	10.3%	1,468	1,280	1,457	17.9%	1,236	1,014
Service charges	1,077	7.5%	1,002	916	1,235	4.4%	1,183	1,122	830	-2.1%	848	824
Trading income (loss)	987	4.0%	949	849	1,185	6.4%	1,114	1,300	(142)	-25.7%	(191)	33
Other revenues	509	57.6%	323	417	1,920	-32.8%	2,857	2,421	597	-39.7%	990	507
Total other income	**9,165**	**11.0%**	**8,257**	**7,718**	**10,957**	**-3.0%**	**11,299**	**9,977**	**5,941**	**0.4%**	**5,917**	**5,328**
Non-interest expenses												
Employee compensation and benefits	7,081	13.4%	6,242	5,827	6,681	-0.9%	6,743	6,313	5,099	10.0%	4,636	4,253
Premises and equipment costs	2,137	12.0%	1,908	1,877	2,086	7.7%	1,936	1,815	2,074	7.1%	1,936	1,752
Other expenses	2,964	7.0%	2,771	2,593	4,274	9.0%	3,922	3,459	1,688	-13.6%	1,953	1,609
Total other expenses	12,182	11.5%	10,921	10,297	13,041	3.5%	12,601	11,587	8,861	3.9%	8,525	7,614
Income (loss) before income taxes	5,341	2.0%	5,236	5,377	9,066	-2.5%	9,300	8,460	4,224	7.9%	3,914	4,048
Provision for (recovery of) income taxes	936	3.7%	903	1,055	1,853	-7.4%	2,002	1,763	634	-9.3%	699	648
Discontinued operations	–	–	–	–	–	–	–	–	–	–	–	–
Equity in net income of an investment in associate, net of income taxes	–	–	–	–	–	–	–	–	–	–	–	–
Net income (loss)	**4,405**	**1.7%**	**4,333**	**-**	**7,213**	**-1.0%**	**7,298**	**6,697**	**3,590**	**11.7%**	**3,215**	**3,400**

Notes

1. Includes interest on preferred share liabilities, trust securities and other liabilities.

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.
For the other income balances for TD, the detailed breakdown was obtained from the MD&A.

in millions of Canadian dollars

	NBC				RBC				TD			
	2015	Change	2014	2013	2015	Change	2014	2013	2015	Change	2014	2013
Interest and dividend income												
Loans	3,531	4.1%	3,393	3,247	16,882	-0.6%	16,979	16,357	20,319	3.1%	19,716	18,514
Securities	981	-16.4%	1,174	1,143	5,770	16.2%	4,964	4,720	4,369	6.9%	4,086	4,013
Deposits with banks	30	3.4%	29	20	77	1.3%	76	73	142	12.7%	126	89
Total interest income	**4,542**	**-1.2%**	**4,596**	**4,410**	**22,729**	**3.2%**	**22,019**	**21,150**	**24,830**	**3.8%**	**23,928**	**22,616**
Interest expense												
Deposits	1,329	8.0%	1,231	1,003	5,723	-2.6%	5,873	5,642	4,242	-1.6%	4,313	4,310
Subordinated debt	59	-22.4%	76	102	240	-2.4%	246	336	390	-5.3%	412	447
Other[1]	511	-31.4%	745	856	1,995	11.8%	1,784	1,921	1,474	-9.0%	1,619	1,781
Total interest expense	1,899	-7.5%	2,052	1,961	7,958	0.7%	7,903	7,899	6,106	-3.8%	6,344	6,538
Net interest income	2,643	3.9%	2,544	2,449	14,771	4.6%	14,116	13,251	18,724	6.5%	17,584	16,078
Provision for credit losses	228	9.6%	208	181	1,097	-5.8%	1,164	1,239	1,683	8.1%	1,557	1,631
Net interest income after provision for credit losses	**2,415**	**3.4%**	**2,336**	**2,268**	**13,674**	**5.6%**	**12,952**	**12,012**	**17,041**	**6.3%**	**16,027**	**14,447**
Other income												
Capital market fees	660	-8.5%	721	636	3,321	4.2%	3,188	2,906	1,633	3.5%	1,578	1,364
Card service fees	128	-4.5%	134	121	798	15.8%	689	967	1,766	13.8%	1,552	1,345
Foreign exchange other than trading	88	-1.1%	89	90	814	-1.6%	827	748	256	7.1%	239	222
Insurance income (net)	107	-0.9%	108	118	1,473	6.4%	1,384	1,127	1,258	19.8%	1,050	678
Investment management fees	–	–	–	–	3,778	12.6%	3,355	2,514	481	16.5%	413	326
AFS/investment securities gains (losses)	82	-20.4%	103	82	145	-24.5%	192	188	79	-54.3%	173	304
Lending fees	409	6.0%	386	391	1,184	9.6%	1,080	1,092	925	9.5%	845	785
Mutual fund revenues	766	19.9%	639	533	2,881	9.9%	2,621	2,557	1,569	15.8%	1,355	1,141
Service charges	238	1.7%	234	235	1,592	6.6%	1,494	1,437	2,376	10.4%	2,152	1,863
Trading income (loss)	209	97.2%	106	186	552	-25.6%	742	867	(223)	-36.1%	(349)	(281)
Other revenues	416	4.0%	400	322	1,049	23.8%	847	429	338	-56.4%	775	381
Total other income	**3,103**	**6.3%**	**2,920**	**2,714**	**17,587**	**7.1%**	**16,419**	**14,832**	**10,202**	**6.9%**	**9,544**	**8,128**
Non-interest expenses												
Employee compensation and benefits	2,160	5.4%	2,049	1,858	11,583	5.0%	11,031	10,190	9,043	7.0%	8,451	7,622
Premises and equipment costs	223	0.5%	222	237	2,687	8.5%	2,477	2,381	2,611	10.7%	2,359	2,303
Other expenses	1,282	11.3%	1,152	1,070	4,368	5.2%	4,153	3,656	6,419	12.9%	5,686	5,117
Total other expenses	3,665	7.1%	3,423	3,165	18,638	5.5%	17,661	16,227	18,073	9.6%	16,496	15,042
Income (loss) before income taxes	1,853	1.1%	1,833	1,817	12,623	7.8%	11,710	10,617	9,426	1.2%	9,314	7,533
Provision for (recovery of) income taxes	234	-20.7%	295	263	2,597	-4.0%	2,706	2,188	1,523	0.7%	1,512	1,143
Discontinued operations	–	–	–	–	–	–	–	–	–	–	–	–
Equity in net income of an investment in associate, net of income taxes	–	–	–	–	–	–	–	–	377	–	320	272
Net income (loss)	**1,619**	**5.3%**	**1,538**	**1,554**	**10,026**	**11.4%**	**9,004**	**8,429**	**8,024**	**1.9%**	**7,883**	**6,662**

Notes

1. Includes interest on preferred share liabilities, trust securities and other liabilities.

Note: Other than the impact of stock splits, prior years' data is consistent with prior year annual reports.
For the other income balances for TD, the detailed breakdown was obtained from the MD&A.

Hot off the press

Recent PwC Financial Services publications

19th Annual global CEO survey

Creating a platform for competitive regeneration

Banking & capital markets industry summary

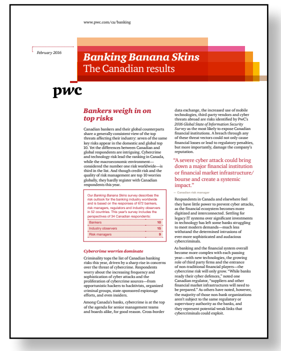
We interviewed 176 Banking and Capital Markets CEOs in 62 countries for our *PwC's 19th Annual global CEO survey*.

Banking and Capital Markets CEOs believe that technology is the trend most likely to transform the expectations of customers, regulators and other key stakeholders over the next five years. And 81% see the pace of technological change as a threat to growth, more than any other sector in the survey.

Making diversity a reality

Diversity in all its forms—from gender, generation, ethnicity, sexuality and disability to people with a broader range of skills, experiences and industry backgrounds—is a vital element of the changing talent focus within Financial Services.

In this global publication, *Making diversity a reality*, we share insights on the industry's progress and explore how your organization can help support diversity and inclusion in all the milestones of your employees' careers.



Banking Banana Skins 2015

The Canadian results

Banking Banana Skins 2015 is a unique report that provides insight into the changing risk factors facing the global banking industry, as seen by a wide range of bankers, banking regulators and close observers of the banking scene around the world. It is produced by the Centre for the Study of Financial Innovation in association with PwC. It includes insights from over 670 bankers, risk managers, regulators and industry observers from 52 countries.

We've explored the Canadian responses and studied them against the global averages. Interestingly, Canadian banking executives felt the most prepared to deal with these risks compared to their global counterparts—a testament to the relative strength of Canadian banks.

Banking on size

Small and mid-sized enterprises (SMEs) are a significant contributor to the Canadian economy. According to Statistics Canada, SMEs account for more than 1 million businesses across Canada, employ approximately 5.1 million employees and contribute almost 30% (i.e. approximately $593 billion) to Canada's gross domestic product. Given their market size and impact, it's not surprising that SMEs are a large target group for many service organizations, including Canadian banks.

To help Canadian banks understand this dynamic market segment, we conducted a survey on the banking preferences of SMEs across the country—including their perspectives on banking technology, products and services and human interaction.

Devil in the data: How banks can improve data management

Many banks continue to struggle to meet the informational demands of regulators and other stakeholders. Building better data management capabilities is key to meeting these demands. In our view, to be successful, banks should align their risk and finance functions while simultaneously making improvements in four key components of data management: data ownership and stewardship, data architecture, metadata management and data delivery.

To reap the full benefits of any data management initiative, banks must more tightly align their risk and finance functions, which share an increasingly intertwined responsibility for meeting the informational needs of regulators and business leaders.

The rewards are worth the effort. Banks that master the 'devil in the data' can confidently and effectively demonstrate to regulators and external stakeholders their institution's financial health and risk management competency.

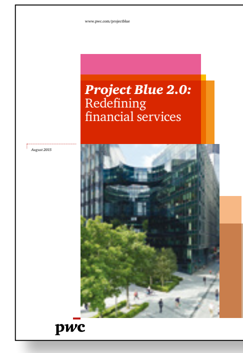
The Global State of Information Security® Survey 2016

As cyber risks continue to rise, Canadian and global organizations are elevating their cybersecurity efforts to make them more strategic and, overall, a business imperative. Our 2016 survey report shows that new tools are helping transform cybersecurity frameworks to establish holistic, integrated safeguards against cyberattacks. We found that 157 Canadian respondents supported this view and indicated that information security budgets are up 82% over 2014 (global 24%) and financial losses linked to security incidents decreased by 18% over 2014 (global 5%). They also stated that there was a 160% increase in detected security incidents. And this upward trend is expected to continue.

This report presents highlights on how Canadian companies are dealing with today's cybersecurity challenges and how they compare to their global peers. We look at the technologies and processes they are adopting as they rethink their cybersecurity strategies and plan to anticipate and fight tomorrow's cyber threats.

Significant others: How financial firms can manage third party risk

Are third parties worth the risk for financial institutions? It's a multi-billion-dollar question when every week, yet another business interruption, data breach or compliance failure seems to surface in the news. We believe the answer is 'yes'—provided a firm takes the right approach to risk management. Ultimately, a robust third party risk management program may even make using third parties less risky than keeping those functions in-house.

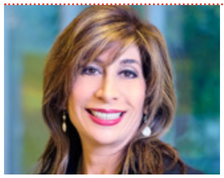


PROJECT BLUE 2.0

The future of the global financial system

Project Blue 2.0 revisits the global megatrends for financial services and draws on the conclusions of the 2020 series as well as our own insights of the public and private sectors to summarize what we see as the eight most important issues the financial services sector needs to address in the coming years. It provides an effective way for ensuring CEOs and other C-suite executives are aware of all the important issues to consider to prepare for the future.

Financial Services leadership team
PwC Canada



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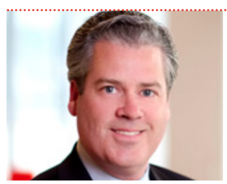

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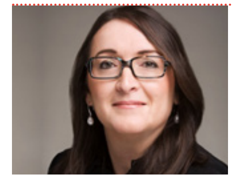

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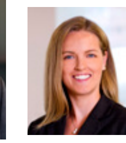




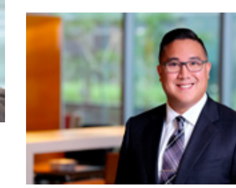
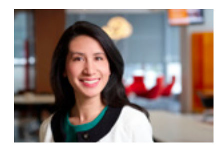
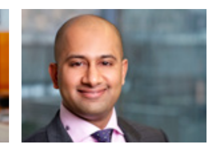





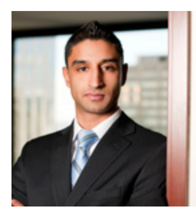
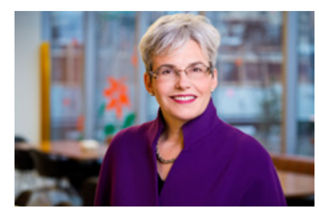


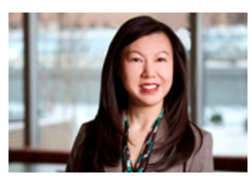
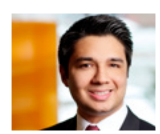
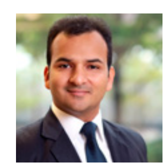

Basis of preparation

The data, charts and figures included in this publication are based on the banks' 2015 annual reports and supplementary financial information, including press releases, which are available on the banks' websites. Certain statistics or ratios included in this publication may differ from those disclosed by the banks, as banks may apply other computational formulas, sources of input or calculate ratios differently. If specific data was not readily available in the banks' annual reports or supplementary information, assumptions have been made to provide reasonable comparative numbers. To ensure that the findings in this analysis are as objective as possible, and that meaningful, relevant and reasonable comparisons have been made, all items have been calculated consistently for each of the banks.

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