STRUCTURAL FOUNDATIONS OF FINANCIAL STABILITY: WHAT CANADA CAN TEACH AMERICA ABOUT BUILDING A BETTER REGULATORY SYSTEM

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Abstract:

This Comment deconstructs and analyzes the structural regulatory factors that have helped Canada avoid banking crises since 1840. First, it empirically demonstrates the sharply divergent performance of the American and Canadian banking sectors during the recent financial crisis based on equity and credit default swap data, along with consumer satisfaction and credit availability. Second, the Comment assesses both nations’ regulatory systems, highlighting how relative to the fragmented U.S. framework, Canada’s streamlined regulatory architecture facilitates a stronger and more stable financial system. Third, with respect to regulatory costs, the Comment finds that, relative to the Canadian framework, the inefficiency of U.S. regulation costs taxpayers and regulated banks over $30 billion annually. Finally, after addressing counterarguments, the analysis concludes by suggesting realistic structural changes that could generate aggregate cost savings potentially exceeding $350 billion for taxpayers and $585 billion for the industry. Most importantly, however, these changes would facilitate economic growth while safeguarding financial stability for the future.


I would like to express my sincerest gratitude to Professor David Skeel for his invaluable insights, guidance, and support, without which this Comment would not have been possible. In addition, I would like to thank Professors Zvi Eckstein and Vincent Glode for their thoughtful input, along with Daniel Rosenblum, Jacob Weiner, and David Cooper for excellent feedback and discussions. This Comment has benefitted tremendously from the hard work and diligent editing provided by the University of Pennsylvania Journal of Business Law—particularly, the Associate Editors, as well as Daniel Rotko and William Cole, both of whom are owed tremendous thanks for their patience and support.

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INTRODUCTION

“We conclude widespread failures in financial regulation and supervision proved devastating to the stability of the nation’s financial markets.”

- Financial Crisis Inquiry Report

“I think we have to give credit where credit is due. I do believe that we [Canada] have a strong regulatory system, so the overall governance structure in the country is simpler and more direct than in certain other jurisdictions . . .”

- Gerald McCaughey, CEO, Canadian Imperial Bank of Commerce

The recent financial crisis “wiped out nearly two decades of Americans’ wealth” and upended millions of lives around the world. Yet, rather than an anomalous ‘black swan’ event, the ‘Great Recession’ was just the latest iteration of a pattern as old as the nation itself. For the United States, “[f]inancial crises are not new”; they began “during the presidency of George Washington” and subsequently “struck on a regular basis . . . every fifteen to twenty years.”

However, as a result of a globalizing economy and tightly interconnected financial systems, crises spread faster than ever and are seldom confined by national borders. By some measures, America’s eerily


2. Interview by Doug Alexander with Gerald McCaughey, CEO, Canadian Imperial Bank of Commerce (May 3, 2012), http://www.bloomberg.com/video/91847685-cibc-s-mccaughey-on-ranking-of-strongest-banks.html (responding to reporter inquiry regarding the strength of Canada’s banking system; the interview was conducted after Bloomberg named CIBC the third strongest bank in the world.).


4. CONGRESSIONAL OVERSIGHT PANEL, SPECIAL REPORT ON REGULATORY REFORM 2 (2009), available at http://www.sec.gov/comments/4-579/4579-24.pdf [hereinafter, COP SPECIAL REPORT] (noting that financial crises occurred in “1797, 1819, 1837, 1857, 1873, 1893–96, 1907, and 1929–33,” and subsequently, “[a]fter fifty years without a financial crisis—the longest such stretch in the nation’s history—financial firms and policy makers began to see regulation as a barrier to efficient functioning of the capital markets rather than a necessary precondition for success.”).
familiar pattern appears to be speeding up—with the Savings & Loan crisis in the 1980’s, Long Term Capital Management in 1998, the dot-com bust and corporate governance scandals of 2000-2002, and now the most recent crisis—leaving increasingly short periods of economic growth between them.

Meanwhile, Canada—a broadly similar economy, highly intertwined with the United States—has not had a banking crisis since 1840—“not even during the Great Depression.” In fact, Canadian banks emerged through the recent crisis in a position of strength, spending billions on “about 100 acquisitions” between 2008 and 2012. U.S. banks, in contrast, required

5. Described by the COP SPECIAL REPORT as “[t]he first warning,” during this crisis, “a combination of unsound investments and poor oversight contributed to the failure of hundreds of thrifts, ultimately leading to a U.S. government bailout at a cost of $160 billion.” THE DEPT’T OF THE TREASURY, BLUEPRINT FOR A MODERN FINANCIAL REGULATORY STRUCTURE 36 (2008) [hereinafter, TREASURY’S BLUEPRINT]; see also How a Good Idea Went Wrong: Deregulation and the Savings and Loan Crisis, 47 ADMIN. L. REV. 643 (1995) (arguing that the specific manner of deregulation, rather than deregulation per se, caused the savings & loan crisis).

6. The LTCM crisis was “[a] second warning . . . when a crisis was only narrowly averted” COP SPECIAL REPORT, supra note 4, at 2; see also Roger Lowenstein, Long-Term Capital Management: It’s A Short-Term Memory, N.Y. TIMES, Sept. 7, 2008, http://www.nytimes.com/2008/09/07/business/worldbusiness/07lhc-07ltcm.15941880.html?pagewanted=all&_r=0 (noting that to avert crisis, at the behest of the New York Federal Reserve, “14 banks . . . agreed to rescue Long-Term by investing $3.65 billion.”) For an in-depth discussion of Long-Term Capital Management, see generally Roger Lowenstein, WHEN GENIUS FAILED: THE RISE AND FALL OF LONG-TERM CAPITAL MANAGEMENT (1st ed. 2000).

7. After a historic rise, prices of technology stocks plummeted to the point that “m[any] pioneering dot-coms are out of business or barely surviving. The Dow Jones Internet Index, made up of dot-com blue chips, is down more than 72 percent since March . . . former Wall Street darlings, have seen their stock prices fall more than 99 percent . . .” The Dot-Com Bubble Bursts, N.Y. TIMES, Dec. 24, 2000, http://www.nytimes.com/2000/12/24/opinion/the-dot-com-bubble-bursts.html; see also Steve Schaefer, Bernanke On Why Subprime Turned Out Worse Than The Dot-Com Bubble, FORBES (Apr. 13, 2012, 3:05 PM), http://www.forbes.com/sites/steveschaefer/2012/04/13/bernanke-on-why-the-subprime-blownup-was-so-much-worse-than-dot-com/.

8. In 2002 a number of unprecedented scandals, including Enron and Worldcom were “a third warning.” COP SPECIAL REPORT, supra note 4, at 2; see also Anup Agrawal & Sahiba Chadha, Corporate Governance and Accounting Scandals 48 J.L. & ECON. 371, 374 (2005) (discussing the specific nature of violations at Enron and other firms).


10. Doug Alexander & Sean B. Pasternak, Canadians Dominate World’s 10 Strongest
billions from taxpayers just to remain solvent. At the same time, an astonishing 90% of Canadians have a favorable impression of their banks, compared to just 21% of Americans.\(^\text{11}\)

The resilience and stability of Canadian banks has been well documented by leading organizations, including the International Monetary Fund, Bloomberg, Newsweek,\(^\text{12}\) and even the Daily Show;\(^\text{13}\) the World Economic Forum (WEF) has “ranked Canada’s banking system as the most sound in the world, seven years in a row.”\(^\text{14}\) However, relatively scant attention has been paid to the causes underlying this sharply divergent performance.

Traditional explanations for the success of the Canadian financial sector fall into two broad sets of arguments: cultural differences and industry structure. However, upon closer inspection, neither provides a cogent explanation.

The first argument is premised on Canadians being innately different from Americans in their attitudes towards risk, resulting in a safer financial system. However, as subsequent analyses will show, this line of reasoning simply does not hold water. Canadian financial institutions can be equally—and even more—aggressive than their American counterparts, while succumbing to the same issues when operating in the U.S.

The second argument—advocated by influential scholars including Simon Johnson of MIT—posits that Canada’s concentrated banking

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14. See Canada’s Banks-Made of Canada, CAN. BANKERS ASS’N (last updated Sept. 8, 2014) http://www.cba.ca/en/media-room/50-backgrounders-on-banking-issues/826-canadas-banks-made-of-canada. It is worth noting that although frequently cited, and consistent with rankings by the IMF and Bloomberg (along with the findings of this Comment), the WEF ranking is based on a survey of Davos participants, rather than a randomized sample. Notwithstanding the innate drawbacks of this approach, the specific sample pool at the Davos Conference may well objectively reflect market conditions, or at least their perception amongst market participants. See generally WORLD ECON. FORUM, THE GLOBAL COMPETITIVENESS REPORT 2012–2013 (Full Data ed. 2012), available at http://www.weforum.org/reports/global-competitiveness-report-2012-2013 (providing country competitiveness analyses across a broad array of metrics).
industry harms consumers. However, analysis of consumer welfare and credit availability in U.S. and Canada provides little support for the proposition and, in fact, suggests that Canada’s financial system delivers greater consumer and aggregate welfare.

A more plausible and comprehensive explanation proposed by this Comment is that Canada’s superior regulatory architecture is the primary causal factor for its consistent resilience and performance. Designed and calibrated to oversee a modern financial system, Canada’s regulatory structure provides two fundamental advantages: effective macroprudential supervision and apposite allocation of responsibilities to politically independent regulators.

Macroprudential supervision—which assesses systemic risks along with institution-specific concerns—has been widely accepted as crucial for financial stability. Canada has structurally integrated macroprudential supervision into its regulatory framework through a single regulator with jurisdiction over the entire financial sector—including banks, insurers, private pension plans, and housing finance—the Office of the Superintendent of Financial Institutions (OSFI). In the U.S., there are over 100 distinct agencies fulfilling this role, leading to inefficient regulatory overlap and, more dangerously, gaps in oversight.

At the same time, Canada’s regulatory architecture cleanly maps along the functions required to regulate a modern financial system. For example, has a clear mandate: its only responsibility is macroprudential supervision. The role of Canada’s central bank, deposit insurer, and consumer protection agency are similarly circumscribed. This structure facilitates cooperation, rather than the jurisdictional conflict unfortunately endemic to American financial regulation.

This Comment finds that the Financial Crisis Inquiry Report (FCIR)—a post-mortem of the crisis—fundamentally erred in its conclusion that: “[i]nstitutional structure and differential regulation of various types of financial institutions were less important in causing the crisis than common factors that spanned different firm structures and regulatory regimes.”

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15. See infra Part IV.B.
16. See infra Part II.C.
17. See infra Part II.D.
18. See infra Part II.C.
19. “Banks with different structures and operating in vastly differing regulatory regimes failed or had to be rescued in the United Kingdom, Germany, Iceland, Belgium, the Netherlands, France, Spain, Switzerland, Ireland, and Denmark.” FINANCIAL CRISIS INQUIRY REPORT, supra note 1, at 430. However, the report aptly noted that “the U.S. financial sector is now more concentrated than ever,” placing “greater responsibility on regulators for effective oversight.” Id. at 386. See infra Part I.B for discussion of banking sector structure and performance.
These common factors—most often, exposure to the U.S. market or American-made structured products—originated under the U.S. regulatory system. Further, nowhere else did financial institutions exhibit the same level of systemic weakness as they did in the United States.

Because of this distinction in the underlying causes of the crisis, this Comment disagrees with a number of important recommendations from the FCIR and, as a consequence, advocates for a different approach from the Dodd-Frank Act. Most significantly, this Comment posits that Dodd-Frank’s heavy emphasis on the Financial Stability Oversight Council (FSOC)—a coordinating organization for disparate regulatory bodies—is overly optimistic, perhaps even misguided. Such a structure fails to provide effective macroprudential supervision while codifying the inter-agency conflicts that have long stymied American financial regulation—a politically palatable, but ultimately shortsighted outcome.

With a blank canvas, the solution for American regulatory reform would be straightforward: a dramatic consolidation of regulatory agencies. However, given practical and political realities, such an overhaul is simply not feasible. Thus, this Comment will emphasize consolidation of regulatory functions, rather than agencies, to achieve many of the benefits of the Canadian regulatory architecture. Notably, the changes proposed in this Comment broadly resemble Senator Dodd’s original legislative proposal to consolidate prudential supervision, which, due to political pressure, was ultimately abandoned in favor of the Dodd-Frank Act—a tremendous lost opportunity.

This Comment will proceed in five parts. The first will provide background regarding the American and Canadian markets, as well as empirical analyses of their respective banking sectors. It will begin by outlining the fundamental underlying similarities between the American and Canadian economies along with their high levels of economic and capital market integration—factors suggesting that the two nations’


21. There are two technical exceptions: Ireland, which is moving towards a regulatory framework modeled on Canada’s, and Iceland—“the smallest economy within the Organization for Economic Cooperation and Development (OECD)” and one “[h]istorically . . . based on marine and energy resources,”; thus, not a particularly apt comparison. See James K. Jackson, Iceland’s Financial Crisis, 21 CURRENT POLITICS & ECON. EUR. 99, 99 (2010); Heather McRobie, Canada’s banks, the envy of the world, THE GUARDIAN, (Mar. 19, 2009, 5:00 PM), http://www.theguardian.com/commentisfree/cifamerica/2009/mar/19/canada-us-economy (noting that Ireland is considering restructuring its financial regulatory bodies to look “similar to the Canadian model.”).
financial sectors should largely mimic one another. Then, through in-depth empirical analyses of equity returns and credit default swap (CDS) data, it will demonstrate the superior performance and stability of Canada’s banks. Finally, it will assess the banking sector through a broader lens, focusing on consumer welfare and credit costs, while illustrating the remarkable public trust and respect enjoyed by Canadian banks relative to their American counterparts.

The second section begins by briefly reviewing the macroeconomic literature regarding banking crises and the interplay between financial institutions and the broader economy. It then provides a taxonomical analysis of the financial regulatory architecture, largely based on the Canadian framework. Next, it discusses the historical and statutory background of the American and Canadian systems, along with a brief analysis of contemporary changes to the U.S. system through Dodd-Frank. The section then thoroughly analyzes the American and Canadian regulatory frameworks, while critiquing various aspects of American approach.

The third section discusses the success of Canada’s framework with respect to effectiveness and costs. First, it will illustrate the causal mechanism between Canada’s regulatory architecture and the stability of its financial sector. Then, it expands upon existing scholarly work to develop an enhanced cost-benefit framework for financial regulation. Through empirical analyses of financial data, the section assesses the costs of both nations’ systems for their taxpayers and financial institutions, finding that, even adjusted for banking sector size, the U.S. spends nearly three times as much on regulation. Finally, it illustrates the U.S. regulatory system’s susceptibility to regulatory arbitrage through a case study on TruPS and TruPS CDOs. The analysis suggests that the benefits of regulatory competition are largely undermined by the permeability of U.S. financial regulation.

The fourth section addresses counterarguments—culture and industry structure. First, it refutes the proposition that cultural differences between the U.S. and Canada are responsible for Canada’s financial stability. The section provides counterexamples based on Canada’s highly aggressive pension funds and the Royal Bank of Canada’s legal issues in the U.S., relative to its pristine record in the Canadian home market. Second, it builds off the discussion from Part I—namely, the high levels of trust Canadian banks enjoy from both consumers and the capital markets—to call into question the proposition that Canada’s industry structure harms consumers or is kept afloat through government guarantees.

The last section discusses policy implications for American financial regulation. In the context of America’s uniquely complex political
environment, it suggests a number of changes to strengthen the regulatory framework—emphasizing consolidation of functions, rather than agencies. Specifically, this Comment recommends consolidation of prudential oversight for banking, securities, insurance, and housing finance within an agency paralleling Canada’s OSFI. As a direct consequence, the Federal Reserve, FDIC, and other agencies will be freed to focus on their own respective mandates.

While broadly similar to Senator Dodd’s original proposal in this regard, rather than simply expanding the purview of the Office of the Comptroller of the Currency (OCC), this Comment posits the consolidation as more akin to a restructuring of the agency. It also makes a number of recommendations to improve the effectiveness of the OCC, while addressing some of the legitimate critiques of Senator Dodd’s earlier proposal.

The section then analyzes potential cost savings based on benchmarks from Europe and Canada. The analysis suggests that effective reform could generate cost savings with a net present value of nearly $83 billion based on European projections, and over $350 billion if U.S. regulation became as efficient as Canada’s. Combined with lower compliance costs for financial institutions, the aggregate savings are almost surely an order of magnitude higher. For instance, the Comment estimates that relative compliance inefficiency cost the six largest U.S. banks over $25 billion in 2013—a net present value between $253 billion and $586 billion, depending on the methodology applied.

Additionally, the Comment suggests allowing states to consolidate their individual regulators into ‘regional hubs’ to harmonize regulation across regions and generate millions in cost savings. For instance, based on the New York-New Jersey ‘hub’ example presented in Part V.E., New Jersey could save nearly $880 million by combining its banking regulator with New York, which would experience comparable savings.

As the evidence will show, though seemingly quite simple, Canada’s regulatory architecture is a powerful bulwark against crises, while America’s is merely a Maginot line—elaborate and extensive—but inherently permeable. By incorporating insights that have proven effective for Canada, the U.S. can save billions and, more importantly, create a lasting framework to ensure financial stability for the future.
I. BACKGROUND

“[W]hen Canadian and U.S. experience diverge, it’s a very good bet that policy differences, rather than differences in culture or economic structure, are responsible for that divergence.”22

- Paul Krugman, Nobel Prize winning economist

The deep, undeniable similarities between the U.S. and Canada provide close to an ideal natural experiment to analyze the divergence in banking sector performance. The basic premise is that assessing two highly similar economies holds many variables constant, creating a natural baseline from which to isolate significant differences in outcomes and then parse through a limited universe of possible drivers.

Both nations are highly developed economies and “Canada resembles the US in its market-oriented economic system, pattern of production, and high living standards.” Historically robust commercial ties were significantly strengthened by the 1994 passage of the North American Free Trade Agreement (NAFTA) between the U.S., Canada, and Mexico, which created the “world’s largest free trade area,” and the world’s largest bilateral trade relationship between the U.S. and Canada. As a result, “the economies of the United States and Canada are highly integrated,” as are their equity markets—which are also tightly correlated. Further, Canadian banks have large U.S. operations, directly exposing them to America’s economy. For instance, at the end of 2007, Toronto Dominion

28. Along with TD Bank, see infra note 29, the Bank of Montreal maintained large
was the seventh largest bank in the U.S. Putting all of this together, one would expect Canada’s economy—and particularly its banking sector—to roughly track America’s.

At the same time, an important difference, adjusted for in subsequent analyses, is that the U.S. is simply much larger. America’s 2012 Gross Domestic Product (GDP) was about 8.6 times larger than Canada’s—$15.68 trillion to $1.82 trillion, respectively. As a consequence, both the U.S. financial system and capital markets are larger and “more complex.”

Relative to Canada’s economy, however, its banking sector is proportionately bigger—just 4.2 times smaller than America’s. Further, whereas U.S. banking system assets are comparable to its GDP, Canada’s are nearly double its GDP—casting some doubt on Canada’s capacity to rescue its banks if the need arose.

U.S. retail operations after purchasing Harris Bank of Chicago, while the Royal Bank of Canada had a large U.S. retail presence that it sold to PNC Bank in late 2011, well after the start of the crisis.


[It] can be argued that Canada’s supervisors and regulators can take a more conservative approach than their U.S. counterparts as a result of Canada’s proximity to the U.S. capital markets. Nevertheless, Canada’s financial supervisory system and regulatory structure have proven to be less susceptible to the bank failures that have loomed in the United States and Europe and may offer some insight for U.S. policymakers. Canada’s reliance at the federal level on a unified supervisor and regulator appears to have some merits as compared to a more decentralized approach.

Id.

32. This important distinction will be adjusted for as the variable â in subsequent analyses, particularly in Section III.B.

33. 2012 U.S. banking sector assets were $15.07 trillion, compared to $3.58 trillion in Canada. This includes only publically traded banks; however, given the composition of the industry, this is not a material oversight. See JAMES R. BARTH & DANIEL E. NOLLE, REGULATION AND SUPERVISION OF THE BIGGEST BANKS BY THE BIGGEST COUNTRIES: CONSENSUS ON PRINCIPLES, VARIATION IN PRACTICES 6 (2014) [hereinafter, SUPERVISION OF THE BIGGEST BANKS].

34. See Peter Boone & Simon Johnson, Canadian Banking is Not the Answer, N.Y. TIMES ECONOMIX (Mar. 25, 2010, 6:37 AM), economix.blogs.nytimes.com/2010/03/25/canadian-banking-is-not-the-answer/ (“The Canadian government is there to make sure
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Figure 1. U.S. & Canada Macro Comparison—2012

<table>
<thead>
<tr>
<th>GDP</th>
<th>Bank Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trillion ($USD)</td>
</tr>
<tr>
<td>Canada</td>
<td>1.82</td>
</tr>
<tr>
<td>US</td>
<td>15.68</td>
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<tr>
<td>(US/Canada) %</td>
<td>862%</td>
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A. The Financial Crisis

The Great Recession provides a good starting point for analysis. Originating in the U.S. mortgage market, the crisis quickly swept across asset classes and geographies, resulting in “financial shocks that . . .

creditors never lose a cent. With such ready access to taxpayer bailouts, Canadian banks . . . can raise money even if they act badly.”). For a discussion of counterpoints see infra Part IV.B.


37. Importantly, there is a distinction between varieties of economic malaise, which include, but are not necessarily limited to: banking crises, financial crises, and economic crises. However, largely organic shifts in the global financial system has somewhat blurred the distinctions. The analysis in this Comment focuses on banks and banking crises, but, such crises are rarely confined to just the banking sector, which in part drives the ambiguity in terminology. See, e.g., FINANCIAL CRISIS INQUIRY REPORT, supra note 1, at 419 (noting that the recent “financial crisis cause[d] [the] economic crisis . . .”, thus a contraction of the “real economy.”); see also GARY GORTON & ANDREW METRICK, GETTING UP TO SPEED ON THE FINANCIAL CRISIS: A ONE-WEEKEND-READER’S GUIDE 6 (2012) (noting that the recent crisis is “often described as being the worst global crisis since the Great Depression, and the evidence supports this label.”) For a discussion of the history of financial crises in their various forms see generally CARMEN M. REINHART & KENNETH S. ROGOFF, THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY (2009) [hereinafter, THIS TIME IS DIFFERENT].


helped push the global economy into the deepest recession since World War II.\footnote{40} Intuitively, one would expect two highly intertwined economies and banking systems to be similarly affected by the global shock.

America’s private-sector financial infrastructure was decimated in September 2008,\footnote{41} starting with the effective nationalization of the Federal National Mortgage Association (“Fannie Mae”) and the Federal Home Loan Mortgage Corporation (“Freddie Mac”) on September 7th,\footnote{42} Bank of America’s emergency acquisition of Merrill Lynch on the 14th, Lehman Brothers’ bankruptcy on the 15th,\footnote{43} and American International Group’s $85 billion rescue on the 16th.\footnote{44}

To prevent all-out economic collapse, the U.S. government—acting largely through the U.S. Department of the Treasury (Treasury) and the Federal Reserve (Fed)—had to risk astounding sums.\footnote{45} In October 2008, the Emergency Economic Stabilization Act authorized the Treasury Department’s $700 billion Troubled Assets Relief Program (TARP)\footnote{46}—
which ultimately spent $313 billion to recapitalize much of the banking system, and is expected to lose taxpayers $39 billion. At the same time, through unconventional monetary policies such as quantitative easing, the Federal Reserve’s balance sheet has swelled to over $4.5 trillion, which some commentators and academics fear could prove difficult to unwind, resulting in large future losses.

The total costs of the financial crisis are nearly immeasurable. The Federal Reserve Bank of Dallas estimates that along with government support of $12-13 trillion, the Great Recession inflicted direct output losses of $6-14 trillion and up to $14 trillion through what it describes as “national trauma and lost opportunity.”

As would be expected given a crisis of this magnitude, Canada’s economy dropped “into a sharp recession in the final months of 2008.” However, Canada’s banks remained problem-free, requiring exactly $0 in bailout funds. As this Comment will illustrate, Canadian banks have


47. Although a figure of $431 billion is often stated for the total TARP investment, see FRAGILE BY DESIGN, infra note 58, it is the author’s understanding that this amount includes TARP investment channeled to General Motors and Chrysler, along with their financing subsidiaries. See CONG. BUDGET OFFICE, REPORT ON THE TROUBLEDED ASSET RELIEF PROGRAM (2012), available at http://www.cbo.gov/sites/default/files/TARP10-2012_0.pdf. The bulk of the recapitalization occurred through the Capital Purchase Program (CPP), which invested $245 billion in 707 banks across forty-eight states. See Program Purpose & Overview, U.S. DEP’T TREASURY, http://www.treasury.gov/initiatives/financial-stability/TARP-Programs/bank-investment-programs/cap/Pages/overview.aspx (last updated Feb. 10, 2015). For a thorough discussion of the broader implications of the unprecedented U.S. government intervention, see generally Marcel Kahan & Edward B. Rock, When the Government Is the Controlling Shareholder, 89 TEX. L. REV. 1293 (2011).


52. The World Factbook, supra note 23.

53. While “several large American banks collapsed or were teetering on the brink of
consistently outperformed American institutions because they are better regulated—and effective financial regulation is essential for successful banks and a stable economy.

B. Banking Sector Comparison

Canada’s banks have reliably been among the strongest—if not the strongest—in the world, anchoring Canada’s economy and ensuring the availability of credit. This section will analyze the U.S. and Canadian banking sectors through three measures. First, it will illustrate the superior performance of Canadian banks based on historical equity (e.g., stock) returns. Second, it will use credit default swap (CDS) data to show the markets’ confidence in the creditworthiness and stability of Canadian banks, relative to U.S. rivals. Finally, it will approach the discussion of the U.S. and Canadian banking sectors through a wider lens, focusing on public trust and the accessibility of credit.

Much of the analysis in this section, and in Part III of this Comment, will be based on the data set shown in Figure 2 below. It is composed of two indices, each encompassing the six largest U.S. and Canadian banks as of the end of 2012. While banking market structure is largely beyond the scope of this analysis, a few salient aspects are important to highlight. First, while Canada’s large banks are similar in size to Goldman Sachs and

bankruptcy, most of the largest Canadian banks turned a profit and not a single Canadian bank received a government bailout.” Virginia Torrie, Weathering the Global Financial Crisis: An Overview of the Canadian Experience, 16 L. & BUS. REV. AM. 25, 27 (2010). While some have alleged a ‘secret bailout’ of Canadian banks, I believe that this position simply mischaracterizes discount window lending and quantitative easing — conducted largely by the U.S. Federal Reserve. These actions were aimed at stabilizing markets as a whole, benefitting institutions as a consequence, rather than direct intention. See DAVID MACDONALD, CAN. CENTRE FOR POL’Y ALTERNATIVES, THE BIG BANKS’ BIG SECRET: ESTIMATING GOVERNMENT SUPPORT FOR CANADIAN BANKS DURING THE FINANCIAL CRISIS 6 (2012), available at https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2012/04/Big%20Banks%20Big%20Secret.pdf (noting “[b]oth the U.S. Federal Reserve and the Bank of Canada offered short-term collateralized loans which peaked at $33 billion and $41 billion Canadian dollars respectively . . .”).

54. Analysis of credit ratings through Moody’s Investor Service’s Global Bank Credit Rating Database (on file with author) shows that credit ratings for Canadian banks are among the highest in the world. A thorough discussion of credit ratings is omitted from this Comment for the sake of concision, but illustrates essentially the same findings. Further, some scholars have advocated utilizing CDS spreads in lieu of credit ratings, as they are often perceived to incorporate market information better and faster. See generally Mark J. Flannery, Joel F. Houston & Frank Partnoy, Credit Default Swap Spreads as Viable Substitutes for Credit Ratings, 158 U.PA. L. REV. 2085 (2010).

55. See infra app. tbl. 1 for discussion of bank index selection.
Morgan Stanley, as universal banks,\(^5^6\) their business model is more akin to the four largest U.S. lenders—JPMorgan Chase, Bank of America, Citigroup, and Wells Fargo.\(^5^7\) Second, as Professors Calomiris and Haber illustrate, due to complex historical and socio-political factors,\(^5^8\) the U.S. banking industry is substantially more fragmented than Canada’s—although, as will be discussed in Part III, it has been rapidly consolidating. Because of this, the U.S. index includes a smaller proportion of total banking system assets—63.6%, relative to 95.0% for the Canadian index; however, it includes a larger amount of gross assets—$9.6 trillion, compared to $3.4 trillion. Nevertheless, the indices provide a good proxy for the sector’s performance; further, as discussed below, using a larger U.S. sample does not diminish the results.

<table>
<thead>
<tr>
<th>U.S. Bank (ticker)</th>
<th>Total Assets ($Bn)</th>
<th>Global Rank</th>
<th>Global Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPMorgan (JPM)</td>
<td>2,360</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Bank of America (BAC)</td>
<td>2,210</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Citigroup (C)</td>
<td>1,870</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Wells Fargo (WF)</td>
<td>1,420</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Goldman Sachs &amp; Co. (GS)</td>
<td>939</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Morgan Stanley (MS)</td>
<td>781</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>9,580</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Canada Bank (ticker)</th>
<th>Total Assets ($Bn)</th>
<th>Global Rank</th>
<th>Global Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Royal Bank of Canada (RBC)</td>
<td>825</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Toronto Dominion Bank (TD)</td>
<td>811</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Bank of Nova Scotia (BNS)</td>
<td>668</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Bank of Montreal (BMO)</td>
<td>526</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Canadian Imperial Bank of Commerce (CIBC)</td>
<td>394</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>National Bank of Canada (NBC)</td>
<td>178</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>3,402</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As % of Banking System Total  63.6%  95.0%

Importantly, this analysis understates the relative outperformance of Canada’s banks because the American sample benefits from both the unprecedented government assistance described above, and survivor bias—artificial improvement of a statistical sample from the exclusion of

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56. A universal bank is an institution providing commercial banking and securities underwriting.


59. Based on figures as of the end of 2012, obtained from *SUPERVISION OF THE BIGGEST BANKS*, supra note 33.
weaker performers. Because the U.S. sample is based on the contemporary banking system, it excludes the worst performing institutions—Bear Stearns, Lehman Brothers, and Merrill Lynch—which collapsed, or were acquired in distressed transactions during the crisis.\textsuperscript{60} Adding them into the sample amplifies the results, but also creates a more disjointed analysis that is unnecessary to illustrate the point.

\textbf{C. Performance: Equity Returns}

While far from the only way of assessing an enterprise, equity returns offer an objective and commonly used measure of performance over time. As shown by the first set of analyses below, between 2000 and 2014, Canadian banks generated cumulative returns of 125%, compared to a loss of 25% for U.S. banks—which also had significantly higher volatility. Analysis of total returns—arguably a better measure of bank performance—is even more striking: between 2000 and 2014, Canadian banks gained nearly 525% while U.S. banks lost 23%.

Figure 3 below compares the cumulative, non-adjusted equity log returns\textsuperscript{61} for the six largest U.S. and Canadian banks between 2000 and 2014. Despite the aforementioned survivor bias and government assistance, the U.S. bank sample lost almost 25% of its value, compared to a gain of over 125% for the Canadian sample within the same time period. Although Canadian banks also experienced significant losses during the crisis, unlike American banks, they rapidly recovered.\textsuperscript{62}

\textsuperscript{60} Mollenkamp, Craig, Ng & Lucchetti, \textit{supra} note 43.

\textsuperscript{61} Cumulative returns are simply the aggregate sum of daily log returns. In this chart, returns are not adjusted for dividends or splits. A log scale is used to show relative returns while holding constant other factors, including currency and relative price.

\textsuperscript{62} \textsc{Jackson}, \textit{supra} note 31, at 1 ("Canada’s financial system, in particular, is garnering attention because it seems to be more resistant during the crisis to the failures and bailouts that have marked banks in the United States and Europe.").
At the same time, as shown in Figure 4 below, the U.S. banking sample (in gray) has been much more volatile; their stock prices gyrated as much as 25% each day during the crisis. Canadian banks (black), in contrast, rarely moved more than 10%. As a consequence, the standard deviation of daily returns over the period is twice as high for the U.S. banks relative to Canada’s; $\sigma_{\text{US}} = 2.51\%$, $\sigma_{\text{CAN}} = 1.27\%$. Furthermore, a portion of the volatility of Canadian banks is likely attributable to the significant baseline correlation between the American and Canadian equity markets.\(^{64}\)

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63. Chart based on data obtained through Bloomberg, downloaded using the term “PX_LAST” for the equity ticker of each bank listed in Figure 2.

64. See supra note 25 and accompanying text. This trend also bears out for the bank indices themselves; based on the author’s computations, for the daily returns between the two indices, the correlation coefficient, $\rho = .613$. 
Analysis of total return indices, which reinvest dividends—arguably provide a better gauge of bank performance—further demonstrates the strength of the Canadian banking sector. As shown by Figure 5 below, from 2002 until February 4th, 2014, the TXDE Total Return Index of Canadian banks increased almost 525%—an annualized return of nearly 15%. In contrast, the BXK total return index of U.S. banks—a broader sample than the analysis in Figures 3 and 4 above—


66. Although variations of the Discounted Cash Flow model are typically applied for corporate valuation, banks and other financial institutions “are particularly good candidates for [Discounted Dividend Model] DDM valuations because (1) they tend to have long histories of paying dividends, (2) their payout ratios tend to be relatively stable over time, and (3) their long-term growth rates (that is, long long-term growth rates) are modest and . . . can be estimated . . .” DAVID B. MOORE, VALUING COMMUNITY BANK STOCKS 9 (2009), available at http://www.mch-inc.com/pdf/AFG%20Res%20Comp%20-%20Valuing%20Community%20Bank%20Stocks%20-%20DBMoore.pdf.

67. The TXDE Total Return Index is the Bloomberg symbol for the S&P/TSX Equal Weight Diversified Bank Index, which is made up of an equal weighting of the six Canadian banks displayed in Figure 2.

68. The BXK Total Return Index is the Bloomberg symbol for the Keefe, Bruyette & Woods (KBW) Bank Index—a widely used benchmark for practitioners. The index is made up of twenty-four large U.S. commercial banks and rebalanced quarterly. Notably, it excludes Goldman Sachs and Morgan Stanley. KBW Bank Index (BKX): Index Holdings &
actually decreased by 23%. Notably, Canadian banks significantly outperformed even in the “boom” years between 2004 and 2007, which largely undercuts the potential case for US banks providing superior shareholder value during the growth phase of the business cycle.

Figure 5. Total Return TXDEAR (CAN) v. BXK (US): 2002–2014

D. Stability: CDS Prices

The analysis of credit default swap (CDS) data builds on the prior analysis of equity returns to highlight the markets’ unwavering belief in the
stability and creditworthiness of Canada’s financial sector. CDS, which are quoted in basis points, show the price of ensuring against the default of a reference entity for one year; a higher value means that the market perceives a higher level of risk. Importantly, unlike credit ratings, which are largely based on historical trends, CDS directly measure how much contemporary market participants require in return for assuming the risk of a default.

Canada’s CDS market is generally robust and liquid, especially for the energy and transportation sectors. Yet, while CDS contracts referencing financial institutions are often the most highly traded, Bloomberg could not even find records of CDS contracts existing—let alone trading—for many of Canada’s largest banks.

During the financial crisis, CDS spreads for U.S. banks skyrocketed, reaching 1,360 basis points for Morgan Stanley and nearly 550 points for Goldman Sachs, based on unsecured senior debt in the five-year tenor. In other words, insuring $10 million of Morgan Stanley’s and Goldman Sachs’ debt would have cost $1.36 million and $550,000, respectively, per year for five years. Yet, the perceived risk of Canadian banks defaulting

Counterparty Default Risk, 8 J. DERIVATIVES 29 (2000) and John C. Hull & Alan White, Valuing credit default swaps II: Modeling default correlations, 8 J. DERIVATIVES 12 (2001) (relaxing model assumptions, including incorporating counterparty risk, to allow more robust valuation).

71. A basis point is one-hundredth of a percent; 0.01%. As a general rule of thumb, the cost of insuring $10 million of underlying debt is $1,000 annually, per basis point.


73. As early as 2004, “[q]uotations for CDSs [were] available for as many as 160 Canadian-based reference entities.” Christopher Reid, Credit Default Swaps and the Canadian Context, in BANK OF CAN. FIN. SYS. REV. 45, 50 (2005).

74. Some Canadian companies are among the most highly traded CDS contracts. Last Quote for the Most Liquid Credit Default Swaps Pricing Report, MARKIT (Oct. 8, 2013), http://www.markit.com/cds/most_liquid/markit_liquid.shtml.

75. CDS referencing financial institutions are commonly used by capital market participants to hedge against counterparty risk.

76. The Bloomberg Help Desk confirmed that Bank of Montreal, “does not have an actively traded 5 year CDS contract,” while the five-year referencing Royal Bank of Canada “is not a very liquid contract,” with only three confirmed trades in May 2013 for the entire period between 2000 and 2014. Notably, there are no legal restrictions on trading CDS referencing Canadian banks; the products have existed since as early as 2004 for at least the three largest Canadian banks. See Reid, supra note 73, at 48-49.

77. CDS tenor refers to the duration of the contract; the five-year is generally most liquid. Based on Bloomberg historical data, downloaded using the ticker CMWD1U5 for Morgan Stanley and CGS1U5 for Goldman Sachs.
was essentially immaterial, even though the sector was twice Canada’s GDP and potentially ‘too large to rescue’ by government intervention.

Importantly, Canadian banks were “slower to embrace credit derivatives than their international counterparts” because of their diversified base of low-cost funding from retail deposits. However, “the major Canadian banks are increasingly active in all aspects of the credit-risk-transfer market,” demonstrating their ability to meet the needs of sophisticated institutional clients while retaining a firm grasp of risk management. Further, Canadian banks were able to build and replenish reserves without diluting existing shareholders, because, according to Moody’s: “[t]he majority of the capital increase came from earnings, reflecting the Canadian banks’ superior performance in the crisis when compared with their [U.S.] and European peers.”

E. Credit Availability & Public Trust

Perhaps no aspect of the Canadian banking system is more remarkable than the fact that Canadians generally like and trust their banks. An impressive 81% of Canadians have a favorable impression of banks in general, while 90% have a favorable impression of their personal banks.

78. Unlike stocks, the CDS market is largely over-the-counter (OTC); as a result, there are few publically available sources of pricing data. However, thorough research through Bloomberg, Thomson ONE, FactSet, Capital IQ, and DataStream along with consultation with the providers’ data specialists yielded only a handful of active trades for any Canadian bank for the period between 2000 and 2014 (in all tenors and debt types). Indicative (i.e. estimated) prices based on CMA and Bloomberg’s internal models are available for additional trading days, but excluded from this analysis as they do not represent actual transactions. See supra note 76 and accompanying text. Given the ease of obtaining CDS data for American banks, I believe it is fair to say that default by Canadian banks has not been a material concern for the capital markets.


81. Reid, supra note 73, at 49. Additionally, unlike their American counterparts, Canadian insurers also took an arguably more disciplined approach to embracing CDS. Id. at 49-50.


83. What Canadians Think, supra note 11. Notably, the survey was conducted by the Canadian Bankers Association, which is hardly an impartial observer. However, there is no evidence, to suggest methodological flaws. Further, the survey’s results are consistent,
In contrast, just 21% of Americans have confidence in banks, a figure exceeding only that of Congress and HMOs. JPMorgan’s short-lived #AskJPM twitter account provides a topical example.

Canadians also appear largely satisfied with the banking market structure; 90% believe that Canadian banks offer “enough choice[s] to meet their needs,” while “76 percent say that they get good value from their banking service fees.” Notably, Canadian satisfaction with banks was higher than with other industries—such as life, health, property and car insurance, internet providers, electricity, and public transit—highlighting that consumer discontent need not be inherent to banking services.

The data further show that Canadians enjoy comparable access to credit at similar cost as Americans. The IMF found that “[p]rime Canadian homeowners are well served by their mortgage finance system, with accessibility and costs roughly in line with those in the United States.” Though the IMF paper did not address subprime borrowers, the fact that “homeownership... is virtually identical at about 68 percent of all households” suggests they are not faring materially worse. In fact, according to Housing Finance International, homeownership rates in the

84. Id. supra note 11. Although ‘favorable impression’ and ‘confidence’ are not precisely the same, I believe that especially in the context of banks, they are similar enough to provide an accurate representation of how consumers feel about the respective firms.

85. Id. (“Confidence in banks is higher than only two of the other institutions tested in this year’s poll — Congress (13%) and Health Maintenance Organizations (19%). Tied with banks are television news, organized labor, and big business—all at 21% and third from the bottom out of the 16 U.S. institutions rated.”). Notably, while Americans’ confidence in banks has generally decreased over time, based on Gallup data going back to 1979, the percentage of the population expressing a “great deal” or “quite a lot” of confidence never exceeded 60%.

86. JPMorgan Chase set up a twitter Q&A for interested candidates to converse with a senior executive. However, “[a]t least two-thirds of 80,000 tweets sent using the hashtag #AskJPM were negative,” leading JP Morgan to cancel the program. Daniel Johnson, JPMorgan Cancels Twitter Q&A after Tirade of Abuse, TELEGRAPH (Nov. 14, 2013, 9:35 AM), http://www.telegraph.co.uk/technology/twitter/10448715/JPMorgan-cancels-Twitter-QandA-after-tirade-of-abuse.html.

87. What Canadians Think, supra note 11.

88. Id.

89. John Kiff, Canadian Residential Mortgage Markets: Boring But Effective? 8-9 (IMF, Working Paper No. 09/130, 2009) (finding that “fixed-term rates on prime mortgage loans are quite competitive with their U.S. counterparts... effective prepayment penalties... seem to be comparable,” and that “the ultimate cost of the two [mortgage] insurance regimes... are probably comparable.”).

90. Id. at 12.
U.S. and Canada have been very similar since 1910; after the recent crisis, Canadian homeownership has actually been slightly higher. Furthermore, numerous studies have found that “interest rates charged on loans were the same in the two countries,” while Canadian banks actually paid higher rates on deposits. In addition, data from the World Bank shows Canadians have similar ATM and bank access as Americans.

A study by the Organisation for Economic Cooperation and Development found a high correlation between trust in government and trust in banks. Yet, Canadians have bucked that trend, reporting little trust in government, but significantly higher levels of trust in banks than Americans. Canadians take “increasing comfort in the fact that Canada’s banks are well run and properly regulated,” the evidence suggests that Americans do not.

As this section has illustrated, Canadian banks have significantly outperformed their American peers in terms of stability, performance, and public trust. Further, the aforementioned similarities between Canada and the U.S. hold most key social and economic variables constant, allowing the analysis to focus on their major difference: the nations’ regulatory systems.

91. Housing Finance International noted:
Canada reaches 69% in 2006, as the U.S. did in 2004. But then the histories diverge. Canada had a housing price correction in 2008-2009, but not a housing bust. It did not have a housing finance collapse. Its house prices recovered, and then have gone marching upward to ever higher levels up to now.


92. FRAGILE BY DESIGN, supra note 58, at 318-19.


94. OECD REPORT 2013, supra note 83.


96. What Canadians Think, supra note 11.

97. As one commentator noted, although “[t]he reality is that U.S. banks are much stronger now than they were during the financial crisis in 2008 and 2009,” Americans’ faith in the banking system has not recovered to nearly the same extent. Jacobe, supra note 11.
II. REGULATING THE FINANCIAL SYSTEM

“Canada has shown itself to be a pretty good manager of the financial system in ways that we haven’t always been here in the United States.”

- President Barack Obama

In simplest terms, the financial system is a framework to optimize capital allocation through commercial interactions between borrowers, lenders, and intermediaries. The creation and transfer of risk is essential and integral to this process. As a consequence, “a major purpose of regulation and supervision is the prevention of excessive risk taking which can result in extraordinary harm to society.”

The financial sector is built upon “four separate pillars... banking, trust companies, insurers, and securities dealers.” However, “[t]he


99. This is, of course, a necessary oversimplification. Capital allocation is a multidimensional process that occurs in both the ‘real economy,’ through traditional loans and banking products, and in capital markets, through the issuance and trade of securities. For the sake of clarity, however, in this analysis the distinction is relaxed unless explicitly stated. For a thorough discussion of capital allocation and financial sector structure, see generally Anjan V. Thakor, The design of financial systems: An overview, 20 J. BANKING & FIN. 917 (1996) (providing background on financial system macrostructure); Arnold W.A. Boot & Anjan V. Thakor, Financial System Architecture, 10 REV. FIN. STUD. 693 (1997) (outlining a structural framework for the financial sector); Franklin Allen, The Market for Information and the Origin of Financial Intermediation, 1 J. FIN. INTERMEDIATION 3 (1990) (describing the intermediation function in contemporary financial systems).

100. Jonathan R. Macey noted:

Every issue in banking law, whether it be bank failure policy, entry restrictions, geographic restrictions on the location of branches, product market restrictions on the scope of bank activities, minimum capital requirements or lending limits, was, at least ostensibly, promulgated in order to mitigate the problem of excessive risk-taking by banks.


102. Poonam Puri, Legal Origins, Investor Protection, and Canada, 2009 BYU L. REV. 1671, 1686. Traditionally, banks and trust companies lend directly to the real economy—businesses and individuals. Securities dealers (i.e. broker-dealers) underwrite and trade financial assets in the capital markets. Insurers offer various forms of risk protection — life, health, property and casualty, etc.— and through investing their premiums are, along with
traditional demarcations among [them] have substantially blurred.”

A case in point is that all of the institutions in Figure 2 essentially engage in all four activities. Thus, a key underlying idea is that industry changes and the increasingly systemic nature of cross-product risks have made distinctions among financial products and institutions less relevant. Recognizing this, Canada developed one regulator for the entire financial sector: OSFI. In contrast, the U.S. retains an outdated model in which each institution is overseen by dozens, if not hundreds, of agencies at various levels in piecemeal fashion.

This Comment focuses, at least nominally, on banks for two main reasons. First, they are “absolutely central” to the credit, monetary, and payment systems; thus, “the spillovers (‘negative externalities’) that flow from bank failure” often impact “the economy more widely.” Second, banks have unique risks. They “are leveraged; they run maturity mismatches; and their net worth is often uncertain. So they are exposed to runs.” As a consequence, banks’ continued survival depends on collective confidence in their ability to survive; if that confidence

asset management firms, major providers of capital. At the same time, the financial sector is an increasingly complex web with myriad roles and participants. This Comment does not seek to capture or assess all of them; instead, it focuses on the most visible and regulated aspects of the financial system to the unfortunate, but inevitable, exclusion of others.


104. Credit Unions, which are cooperatively owned banks, are largely excluded to limit the scope of this analysis. However, Canadian credit unions are also indirectly overseen by OSFI, the same integrated prudential regulator responsible for all other financial institutions. See infra note 187 and accompanying text.


106. For individual institutions, these risks are in part a byproduct of fractional reserve banking. For a thorough discussion, see Andrew B. Abel, Ben S. Bernanke, Dean Croushore, Macroeconomics 535-37 (8th ed, 2014) (explaining fractional reserve banking and a simplified bank balance sheet).


108. “‘Every banker knows that if he has to prove that he is worthy of credit, however good may be his arguments, in fact his credit is gone.’”- Walter Bagehot, ‘Lombard Street,’ published in 1873.” Floyd Norris, Proclaiming Integrity, N.Y. Times Economix (July 15, 2011, 8:30 AM), http://economix.blogs.nytimes.com/2011/07/15/proclaiming-integrity/
disappears, the business model leaves banks in the untenable position of funding long-term exposures with short-term assets.\textsuperscript{109}

In a traditional bank run, depositors flee an institution because of concerns regarding its solvency; in other words, they want their money back now, in case it will not be there later. This risk has long been well-known, and largely mitigated through deposit insurance.\textsuperscript{110} As Professors Calomiris and Haber point out, banking systems “collapse only when two conditions are met in combination:” banks take significant risks and lack sufficient capital to absorb the losses.\textsuperscript{111} As will be discussed below, prudential (e.g., “safety and soundness”) regulation of individual institutions—termed micro-prudential supervision—is meant to ensure that they have sufficient capital relative to their exposures. However, as will be illustrated in Part III.B.3, the devil is in the details with respect to bank capital.

Structural changes to the financial industry, including the rise of “shadow banking,”\textsuperscript{112} have resulted in an increasing emphasis on systemic risks—“developments that threaten the stability of the financial system as a

\textsuperscript{109}. This has been referred to as the ‘bank structure’ aspect of the economic theories of banking crises. Professors Calomiris and Haber noted:

Theories of banking crises posit three aspects of banking, some combination of which are presumed to explain the origins of crises: bank structure, interbank connections, and human nature. Bank structure refers to the maturity and liquidity mismatch between banks’ relatively illiquid and long-lived loans and their relatively liquid and short-lived liabilities. Structural theories regard banking crises as the result of the inherent exposure of banks to “liquidity risk” arising from this mismatch.


\textsuperscript{111}. \textit{Fragile by Design}, supra note 58, at 206-07.

whole and consequently the broader economy, not just that of one or two institutions.” The dangers posed by systemic risk have led to a relative academic consensus regarding the need for macroprudential supervision, which aims “to safeguard the financial system as a whole.” In other words, macroprudential supervision protects against both institution-specific and systemic risk.

Systemic risk innately increases the likelihood and magnitude of banking crises. While a thorough discussion of these dynamics is beyond the scope of this Comment, the important point is that “when the bubble crashes, banks make large losses and inflict a credit crunch on the rest of the economy.”

As former Federal Reserve Chair Benjamin Bernanke’s research has shown, during a crisis, it becomes imperative to rescue the banking system; otherwise, the monetary policy transmission mechanism breaks down.


114. See Stanley Fischer, Governor of the Bank of Isr., Dinner Lecture at the Bank of Israel Conference: Central bank lessons from the global crisis 5 (Mar. 31, 2011) (describing “the need for macroprudential supervision” as a key lesson from the financial crisis, while noting that despite the lack of a universal definition, macroprudential supervision “involves two elements: that the supervision relates to the entire financial system; and that it involves systemic interactions.”).

115. See Samuel G. Hanson, Anil K. Kashyap & Jeremy C. Stein, A Macroprudential Approach to Financial Regulation, 25 J. ECON. PERSP. 3, 7 (2011) (“In the aftermath of the crisis, there seems to be agreement among both academics and policymakers that financial regulation needs to move in a macroprudential direction.”).

116. Professors Reinhart and Rogoff “mark a banking crisis by two types of events.” The first, more severe variety, is termed “systemic,” and is characterized by “bank runs that lead to the closure, merging, or takeover by the public sector of one or more financial institutions.” The second, milder form, is termed “financial distress,” and occurs “if there are no runs, the closure, merging, takeover, or large-scale government assistance of an important financial institution (or group of institutions) that marks the start of a string of similar outcomes for other financial institutions.” See THIS TIME IS DIFFERENT, supra note 37, at 10-11.

117. See generally GARY B. GORTON, SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007 (2010) for a discussion analyzing the financial crisis through the framework of a banking panic and considering its effects and causes; MICHAEL LEWIS, PANIC: THE STORY OF MODERN FINANCIAL INSANITY (2008) (analyzing how the underpricing of risk has led to five illustrative crises in recent financial history).


119. One of Bernanke’s insights was that “the real service performed by the banking system is the differentiation between good and bad borrowers” — a crucial information gathering function with respect to the allocation of credit. Benjamin Bernanke, Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression, in ESSAYS ON THE GREAT DEPRESSION 50 (2000). But see Amir Sufi, Bernanke’s failed
This insight was, in many ways, the intellectual foundation behind ‘bailouts’ through the TARP program, which remain deeply unpopular with the public. Thus, a banking crisis is best prevented through effective regulation \textit{ex ante}, rather than intervention \textit{ex post}, when ‘punishing’ banks may mean damaging the rest of the economy.\textsuperscript{120}

Because of banks’ central importance and unique risks, they “have long functioned within the terms of an established social contract with the authorities.”\textsuperscript{121} This contract grants “certain privileges that are unavailable to other firms,” but also imposes uniquely wide-ranging oversight.\textsuperscript{122}

\textbf{A. The Architecture of Financial Regulation}

Regulating the financial sector necessitates a robust regulatory architecture\textsuperscript{123} that fulfills numerous distinct functions. Due to underlying distinctions in their economies, different countries apply significantly differing frameworks. This Comment’s approach is based largely on Canada’s system,\textsuperscript{124} and is notably similar to that presented in the Treasury
Department’s 2008 *Blueprint for a Modernized Financial Regulatory Structure*.\(^\text{125}\)

The taxonomy adopted by this Comment posits that the operation of effective financial regulatory architecture necessitates four distinct roles:\(^\text{126}\)

1. Prudential supervisor;
2. Central bank;
3. Deposit insurer; and

Additionally, both the U.S. and Canadian frameworks employ a housing finance agency, a crime prevention agency, and a coordinating forum for the financial regulators. Figure 6 below summarizes the financial regulatory architecture for the U.S. and Canada.

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\(^{125}\) As will be discussed at greater length in Part V, this approach was, in the author’s view, unfortunately largely cast aside in March 2009, when the Treasury Department pivoted towards a new framework titled “Rules for the Regulatory Road,” which was elaborated on in a subsequent white paper. As Professor Skeel points out, this white paper “would provide the template for all of the major parts of the legislation that eventually passed.” *David A. Skeel, The New Financial Deal: Understanding the Dodd-Frank Act and Its (Unintended) Consequences* 3 (2011).

\(^{126}\) In keeping with the emphasis on banking institutions, this Comment’s taxonomy largely puts to the side the regulation of securities, derivatives, and capital markets. This is not because these matters are not important; in fact, it is because the area is so complex that it is not possible to do it justice in this Comment. As will be discussed in Part V.B infra, however, this Comment posits that banks’ broker-dealer units also be subject to prudential oversight, as is the case in Canada’s framework. Notably, relative to the U.S., Canada retains a relatively fragmented model for securities regulation. See *supra* notes 153-154 and accompanying text. As a matter of qualitative observation, the U.S. also has more robust capital markets, potentially making this secondary level of distinction between the U.S. and Canada a worthwhile area for future research.
As this section will illustrate, Canada’s streamlined regulatory architecture facilitates effective financial regulation. Put simply, Canada’s success is a function of having a regulatory system suited for a modern financial sector. Canada’s approach has two fundamental advantages over America’s relatively balkanized framework. First, and most importantly, OSFI’s broad jurisdiction over financial institutions allows for macroprudential oversight over the entire financial sector—mitigating systemic and cross-product risks. Second, Canada’s structure minimizes jurisdictional conflict and enhances inter-agency coordination through clear regulatory domains based on the requisite roles in financial regulation.

127. See infra Part II B-C.
128. Please note that readers familiar with the structure of financial regulation can feel free to move forward to the discussion in Part III.
1. Required Functions

Prudential supervision refers to the direct oversight of financial institutions. It is composed of two distinct roles: regulation (the development, promulgation, and enforcement of legislative and administrative directives) and prudential review (assessment of capital quality for financial institutions). Traditionally, prudential supervision has concentrated on ensuring individual institutions hold sufficient capital relative to their risk. This innately requires evaluating both their risk profile and capital structure—an approach that has been termed micro-prudential supervision. However, as discussed above, the contemporary post-crisis emphasis has evolved towards assessing systemic risks through macroprudential supervision.

In simplified terms, having ‘sufficient capital’ essentially means that, all things being equal, a bank must hold more capital if it makes riskier loans. To put it differently, if two banks are the same size and have the same capital requirements, the bank that makes riskier loans must make fewer of them. The capital structure of banks is complex and somewhat outside the scope of this Comment, but includes not only equity but also preferred stock and contingent securities—debt that transforms into equity if a bank’s regulatory capital falls too low. As will be discussed in Part III.B, equity is the most stable type of bank capital because its straightforward structure is largely ‘tamper-proof’ through regulatory arbitrage.

The central bank, sometimes referred to as the market stability regulator, is responsible for “the implementation of monetary policy and the provision of liquidity to the financial system.” The U.S. Central Bank, sometimes referred to as the market stability regulator, is responsible for “the implementation of monetary policy and the provision of liquidity to the financial system.”

133. Provision of liquidity includes discount window lending and programs such as
Bank, the Federal Reserve (“Fed”), has a dual mandate: to maximize employment and maintain stable prices. The Fed makes its objectives operable through control of the Federal Funds Rate. In contrast, the Bank of Canada has a sole mandate: “low, stable, and predictable” inflation. There is an innate, but often overlooked, link between monetary policy and prudential supervision. In fact, because of the central bank’s market knowledge, effective macroprudential supervision of the financial system requires close coordination between the central bank and prudential supervisor.

Because of this, “[a] threshold question arises whether the central bank should be a supervisor of financial services or whether that role is best performed by another agency.” While neither the U.S. nor Canada utilize this approach, prudential supervision and market stability are under the purview of the Central Bank in some smaller advanced economies, notably Singapore and Israel. The European Union recently transitioned towards such a structure through the Single Supervisory Mechanism (SSM) under the auspices of the European Central Bank, and the SSM’s quantitative easing that aim to improve aggregate market conditions.

134. TREAURY’S BLUEPRINT, supra note 5, at 15.
137. For example, John Taylor, a highly regarded Stanford economist, has posited that excessively low rates set by the Federal Reserve pre-crisis were the causal factor in the subsequent collapse. In academic articles and his book, GETTING OFF TRACK: HOW GOVERNMENT ACTIONS AND INTERVENTIONS CAUSED, PROLONGED, AND WORSENED THE FINANCIAL CRISIS (2009), Taylor argues that had the Federal Reserve’s monetary policy not deviated from the federal funds rate implied by the Taylor Rule, the financial crisis could have been mitigated or even avoided, especially with respect to the housing markets. See John B. Taylor, Discretion Versus Policy Rules in Practice, 195-214 (Carnegie-Rochester Conference Series on Public Policy 39, 1993).
138. STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 39 (noting that central banks have an important, value-added role in any effective regulatory regime, due to “superior knowledge of market conditions and the depth of their staffs’ expertise.”).
performance could prove to be an important test case. As will be discussed in Part V, while combining the central bank and prudential supervisor is an intriguing idea, given the inherent tensions between the central bank and prudential supervisor, retaining formal separation, but close cooperation, between the two entities may be best.

Business conduct regulation is closely linked to consumer protection and includes oversight of “disclosures, business practices, and chartering and licensing of certain types of financial firms” and products. This is an essential function of a modern regulatory system because it enables fair and competitive markets, which are critical to long-term growth and stability. At the same time, strong consumer protection maintains the public’s confidence in both the regulatory framework and financial system.

Depositor insurance reimburses account holders of failed banks and “can play a critical role in avoiding bank panics and thus may contribute to financial stability.” As previously discussed, deposit insurance is crucial to preventing institution-specific bank runs and, although less effective against systemic risk, it continues to be an important means of instilling confidence in the banking system for consumers.

2. Additional Roles

While not strictly necessary for the day-to-day operation of the financial system, housing finance and crime prevention play an important role in modern financial systems. Housing finance facilitates access to mortgage credit through a system of government-supported or guaranteed lending. Especially in the U.S., it has taken on an increasingly significant role through the Government Sponsored Enterprises (GSEs), Fannie Mae and Freddie Mac, which securitize and guarantee approved ‘agency’ mortgages that meet their requirements. Notably, as will be discussed below, while the Canadian government also helps facilitate mortgage finance, it has taken on a much more limited role in the market.

The increasing securitization of mortgages also cements the links between housing finance and the capital markets. Figure 7 below provides an overview of mortgage-backed security (MBS) and collateralized mortgage obligation (CMO) markets in the U.S. based on data from

142. STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 42 (noting that “[a]ny regime must be structured to ensure that depositors’ funds can be accessed promptly.”).
143. For an overview of government-sponsored enterprises, including the structure of their relationship with government agencies and the opportunities and challenges they present, see KEVIN R. KOSAR, CONG. RESEARCH SERV., RS21663, GOVERNMENT SPONSORED ENTERPRISES (GSEs): AN INSTITUTIONAL OVERVIEW, CRS REPORT (2007).
SIFMA.144 There are two important takeaways. First, the U.S. housing market is extremely large, with over $7 trillion in securities outstanding as of 2013. Second, the market is highly dependent upon, and dominated by the GSEs, which guarantee the majority of mortgage securitizations.

Figure 7. U.S. MBS & CMO Market Composition: 2002–2013

The crime prevention agency reflects the realities of a post-9/11 world, and actively works with law enforcement to impede money laundering, terrorism financing, and other forms of financial crime. While important to the broader system, this role will not be a focus of subsequent analyses.

Finally, the coordinating forum is generally a “committee tasked with ensuring information exchange and coordination between the leadership of the central bank and other supervisory agencies.”145 As will be discussed in Parts II.C-D below, while Canada relies on a forum only for coordination among regulators, in the U.S., the Financial Stability Council (FSOC), a multi-agency structure, serves as the macroprudential regulator.

The next subsection will first briefly outline the historical background and development of the U.S. and Canadian regulatory frameworks. Then,

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145. STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 44.
the two subsequent subsections will provide an in-depth analysis and comparison of the Canadian and American regulatory architectures.

B. Historical Context

The historical background helps shed some insight onto the evolution and contemporary structure of financial regulation in the U.S. and Canada. Two key differences emerge. First, America’s regulatory fragmentation is rooted in traditional concerns regarding excessive concentrations of power. Second, when the U.S. has made reforms, they have been directly in response to the past crisis, but rarely forward-looking.146

Although both the U.S. and Canada were originally European colonies,147 the U.S. gained its independence in the 1770s and as a result, developed a distinct governance structure. In contrast, “Canada’s constitution evolved within the British Empire.”148 As a consequence, the two nations followed sharply divergent approaches with respect to the allocation of power between the states and federal government. Under Canada’s 1867 Constitution Act,149 “[a]ny power not specifically delegated to the provinces was left to the central government, making it the polar opposite of the U.S. system, in which non-enumerated rights are reserved for the states.”150

As a result, Canada’s current “legislative and regulatory framework for banks is entirely federal,”151 while in the U.S., “banking and securities activities are regulated at both the state and federal levels by multiple regulators.”152 One notable exception is that the “regulation of the Canadian securities industry is carried out by the provinces,” rather than the federal government.153 However, Canada is attempting to develop a

147. The U.S. and Canada were primarily controlled by Britain and France, respectively. See Political Foundations of Credit, supra note 9, at 23.
148. Id. Notably, because of Canada’s past as both a French and British colony, it is a unique Constitutional hybrid with common law at the federal level and civil law in the large province of Quebec. See, e.g., Poonam Puri, Legal Origins, Investor Protection, and Canada, 2009 BYU L. REV. 1671.
149. The Act is formally known as the British North America Act of 1867 and it “became the basis for the modern nation of Canada.” Political Foundations of Credit, supra note 9, at 41.
150. Id.
151. STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 126.
152. Id. at 32.
153. Id. at 127.
In response to the Great Depression, the Bank of Canada was created in 1934 and in 1938 restructured as a Crown corporation. In 1985, the failure of two small banks and a number of trust companies created the impetus for an integrated regulator. Through a forward-looking approach, the Superintendent of Financial Institutions Act of 1987 merged the Department of Insurance and the Office of the Inspector General of Banks to create OSFI, and also established the Financial Institutions Supervisory Committee (FISC) for coordination among regulators.

In contrast to Canada, U.S. banking regulation “reflects the competing priorities and personalities that shaped American history, rather than any overarching rationale in its design.” Early efforts to create a national banking system were stymied by populist opposition until the National Bank Act of 1863. The Act allowed national charters and established the Comptroller of the Currency (OCC) to oversee national banks, creating America’s unique dual-banking system.

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155. See STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 127 for a description of Crown corporations and how they belong to the federal government.

156. See How OSFI Came to be, Our History, OFFICE SUPERINTENDENT OF FIN. INST., http://www.osfi-bsif.gc.ca/Eng/osfi-bsif/Pages/hst.aspx (last updated June 14, 2013) (noting that the two banks to fail were Canadian Commercial Bank and the Northland Bank).


158. Previously, the Canada Deposit Insurance Corporation (CDIC) also had responsibilities for prudential supervision, but its focus was reoriented to only deposit insurance. See STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 127-29 (discussing the history of the development of the Canadian financial regulatory structure in the 1980s).

159. TREASURY’S BLUEPRINT, supra note 5, at 33.

160. The first national bank was chartered in 1791 but ceased operations when its charter expired and was not renewed in 1811. Political Foundations of Credit, supra note 9, at 27.

161. Id. at 25.

162. TREASURY’S BLUEPRINT, supra note 5, at 33.

163. Id.

164. STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 210.

Due to “financial panics and instability around the turn of the century,” the Federal Reserve Act of 1913 created the Federal Reserve System, composed of the Board of Governors in D.C., twelve regional Federal Reserve Banks, and the Federal Open Market Committee. Subsequently, “much of the remaining structure for bank and securities regulation was created as the result of the Great Depression.” The Securities Act of 1933 set disclosure and registration requirements for securities, while the Securities Exchange Act of 1934 created the Securities and Exchange Commission (SEC). The Banking Act of 1933 founded the Federal Deposit Insurance Commission (FDIC) and also separated commercial and investment banking through its first four sections, which are commonly known as the Glass-Steagall Act.

The Gramm-Leach-Bliley Act of 1999 (GLB Act) effectively repealed the Glass-Steagall restrictions by “allowing qualifying institutions to participate in commercial banking, full-scale securities underwriting and dealing, insurance underwriting, and merchant banking all under one holding company.” This change directly led to the development of U.S. universal banks, which some have criticized for contributing to the severity of the recent crisis.

168. TREASURY’S BLUEPRINT, supra note 5, at 34; STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 210.
169. NEED TO OVERHAUL, supra note 166, at 7; TREASURY’S BLUEPRINT, supra note 5, at 34; STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 210-12.
171. Id.
172. TREASURY’S BLUEPRINT, supra note 5, at 34.
174. TREASURY’S BLUEPRINT, supra note 5, at 37.
175. Richard Parsons, a former Board member at Citigroup—the institution most associated with lobbying to repeal Glass-Steagall—commented that, “[t]o some extent what we saw in the 2007, 2008 crash was the result of the throwing off of Glass-Steagall . . . .
The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank)\(^76\) made a number of structural changes to the U.S. regulatory framework. While a full discussion is beyond the scope of this analysis, the most relevant changes include: i) merging the Office of Thrift Supervision (OTS) into the OCC, ii) creating the Office of Financial Research (OFR) and the Federal Insurance Office (FIO) within the treasury department,\(^77\) iii) establishing the Financial Stability Oversight Council (FSOC) for macroprudential supervision, and iv) the Consumer Financial Protection Bureau (CFPB),\(^78\) an independent agency focused on consumer protection. As will be discussed, although some changes—such as merging the OTS and OCC—are net positive, it remains unclear whether they address the fundamental underlying issues in the U.S. regulatory system.

C. Structure of the Canadian System

Canada’s regulatory architecture, illustrated in Figure 8 below, closely maps along the required functions for financial regulation.\(^79\) The primary functions are performed by: i) Office of the Superintendent of Financial Institutions (OSFI), ii) the Bank of Canada, iii) Financial Consumer Agency of Canada (FCAC), and iv) the Canadian Depository Insurance Corporation (CIDC). Additionally, the Canadian Mortgage and Housing Corporation (CMHC), which is responsible for housing finance, is also overseen by OSFI as of 2012. The Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) oversees crime prevention.\(^80\) Finally, inter-agency coordination is facilitated through the quarterly Financial Institutions Supervisory Committee, which is joined by the

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176. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified at various sections of the U.S. Code) [hereinafter, Dodd-Frank]. Dodd-Frank “has two very clear objectives. Its first objective is to limit the risk of contemporary finance—what critics often call the shadow banking system; and the second is to limit the damage caused by the failure of a large financial institution.” SKEEL, supra note 125, at 4.


Department of Finance and chaired by OSFI. The Minister of Finance, a Cabinet member reporting to Canada’s Parliament, chairs the regulatory architecture—serving as head of the Department of Finance\(^\text{181}\) while indirectly overseeing the other agencies.\(^\text{182}\)

**Figure 8. Structure of the Canadian Regulatory Framework**

![Diagram of the Canadian Regulatory Framework]

Canada’s framework emphasizes regulatory autonomy and independence from politics. OSFI operates at “arm’s length” from the Minister of Finance, insulating it from the political process.\(^\text{183}\) Similarly, The Bank of Canada, Canadian Deposit Insurance Corporation (CDIC), and the Canadian Mortgage and Housing Corporation (CMHC) are Crown

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181. The Canadian Department of Finance oversees all “economic, fiscal, tax . . . and financial sector policies and programs,” a role most analogous to the U.S. Treasury Department. The Department of Finance is also responsible for preparing and presenting the annual budget, and in this regard, assumes some of the functions of the U.S. Congressional Budget Office (CBO). See About Finance Canada, DEP’T OF FIN. CAN., http://www.fin.gc.ca/aic/index-eng.asp (last updated Oct. 10, 2010); CONG. BUDGET OFFICE, AN INTRODUCTION TO THE CONGRESSIONAL BUDGET OFFICE (2012), available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/2012-IntroToCBO.pdf (summarizing the functions of the U.S. CBO).


183. See OFSI Structure and Operations, supra note 179 (detailing the framework of accountability within OSFI).
corporations—“hybrid entities” operating “at arm’s length from the government [but] as public institutions . . . ultimately accountable to” it.

Structurally, the most important advantage of Canada’s regulatory architecture is that OSFI—which notably has broader statutory powers than its numerous American counterparts—has consolidated macroprudential supervision of the entire financial sector. OSFI’s broad purview includes: banks (along with broker-dealers and finance companies), insurance companies, private pension plans, and, more recently, the CMHC.

OSFI’s oversight of the CMHC is essential; along with monitoring a large part of the financial industry, it integrates information regarding the housing market into broader macroprudential supervision. At the same time, relative to Fannie Mae and Freddie Mac, the CMHC has greater discretion over risk management, because “Canada, unlike the U.S., does not have a policy goal of increasing the rate of homeownership.”


185. MEETING THE EXPECTATIONS OF CANADIANS, REVIEW OF THE GOVERNANCE FRAMEWORK FOR CANADA’S CROWN CORPORATIONS, TREATY BOARD OF CANADA SECRETARIAT 11 (2005), available at http://www.tbs-sct.gc.ca/report/rev-exa/gfcc-cgsc-eng.pdf. Unlike government agencies, Crown corporations are able to retain significant autonomy, “in terms of independence and credibility as non-partisan, non-political providers of services . . . [and] in terms of day-to-day operations.” Id. at 10-11.

186. For example, OSFI can remove bank executives and directors. JOHN C. COURTNEY & PIETRO S. NIVOLA, BROOKINGS INST., KNOW THY NEIGHBOR: WHAT CANADA CAN TELL US ABOUT FINANCIAL REGULATIONS 2 (2009). While the U.S. Treasury technically has similar authority the extent to which it can be utilized is unclear. See 12 U.S.C. § 1818(e)(1)(West 2009) (stating “the appropriate Federal banking agency for the depository institution may serve upon such party a written notice of the agency’s intention to remove such party . . .” for various violations).

187. OSFI indirectly oversees credit unions by ensuring that the Cooperative Credit Associations (CCA), which are owned by and provide liquidity to member credit unions, can “fulfill their statutory roles of providing sources of liquidity to, and assuming excess liquidity from, their . . . members . . .” See WHO WE REGULATE: COOPERATIVE CREDIT ASSOCIATIONS, OFFICE SUPERINTENDENT OF FIN. INSTITUTIONS, http://www.osfi-bsif.gc.ca/eng/wt-ow/Pages/wwr-er.aspx?sc=1&gc=4 (last updated Oct. 23, 2014).

188. Per the June 2012 amendments to the National Housing Act, OSFI is required, at least once in each calendar year, to make . . . examination or inquiry that the Superintendent considers to be necessary or expedient to determine if [CMHC] is carrying on any or all of its commercial activities in a safe and sound manner with due regard to its exposure to loss.

as a Crown corporation, the CMHC is arguably better able to balance its policy objectives and responsibilities to taxpayers, because unlike publically-traded Fannie Mae and Freddie Mac,\textsuperscript{190} the “CMHC does not seek to maximize profit through its commercial activities.”\textsuperscript{191}

Canada’s Central Bank, The Bank of Canada, serves as the market stability regulator, primarily through conducting monetary policy. In that sense, it is analogous to the U.S. Federal Reserve (Fed); however, the Fed also serves as a prudential regulator.\textsuperscript{192} Similarly, the CDIC is solely focused on deposit insurance, unlike the FDIC, which like the Fed also serves as a prudential supervisor.

The Financial Consumer Agency of Canada (FCAC) and the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC)\textsuperscript{193} are both independent agencies reporting to the Minister of Finance.\textsuperscript{194} FCAC is responsible for monitoring and enforcing financial institutions’ compliance with consumer protection regulations.\textsuperscript{195} Compared to the U.S. CFPB, Canada’s FCAC arguably has more robust tools at its disposal, including the ability to impose criminal sanctions on non-compliant financial institutions.\textsuperscript{196} FINTRAC is “responsible for anti-money laundering and anti-terrorist financing,”\textsuperscript{197} which, in the case of federal financial institutions, it has delegated to OSFI, further streamlining the regulatory structure.


\textsuperscript{191} CAN. MORTG. AND HOUS. CORP., supra note 189. The CMHC further stated, “[r]ather, we [Canada] encourage the availability of housing across a variety of tenure types—homeownership, rental housing, supportive housing and transitional housing. The housing needs of low-income Canadians are addressed through government assistance programs.” Id.


\textsuperscript{194} Who We Are, FIN. TRANSACTIONS AND REP. ANALYSIS CTR. OF CAN., http://www.fintrac.gc.ca/fintrac-canafe/1-eng.asp (last updated May 20, 2014).


\textsuperscript{196} Id.

\textsuperscript{197} Who We Are, supra note 194.
D. Structure of the U.S. System

The American financial regulatory architecture is a Rube Goldberg\textsuperscript{198} machine that “no one building a system anew would want to duplicate.”\textsuperscript{199} Its two fundamental weaknesses are a bewildering fragmentation of prudential supervision and the misalignment of regulatory mandates from the required functions of financial regulation.

Yet, despite failing to keep “pace with major developments in financial markets and products in recent decades,”\textsuperscript{200} the system has remained largely unchanged. As a result, “almost a dozen federal regulatory agencies, numerous self-regulatory organizations, and hundreds of state financial regulatory agencies share responsibility for overseeing the financial services industry”\textsuperscript{201}—a function performed by just OSFI in Canada. As Figure 9 below shows, for a constituent institution, this structure results in convoluted reporting and oversight.\textsuperscript{202}


\textsuperscript{200} NEED TO OVERHAUL, supra note 166, at 2.

\textsuperscript{201} Id.

\textsuperscript{202} The Dodd-Frank Act: Too Big Not to Fail, ECONOMIST, Feb. 18, 2012, at 22.
1. Prudential Supervision

Prudential supervision in the U.S. is fragmented along three dimensions—essentially making effective macroprudential oversight impossible. First and most importantly, banks—or to be specific, distinct parts of individual banks—are regulated by multiple agencies with competing mandates and a poor track record of coordination. Second, there is little cross-product regulation, which is “[l]argely incompatible with... market developments,” since “[f]inancial products may have insurance, banking, securities, and futures components.” Finally, America’s system of dual sovereignty creates another layer of complication for both banks and other products, as “banking and securities activities are regulated at both the state and federal levels by multiple regulators. Insurance, on the other hand, is regulated at the state level and futures principally at the federal level.” In total, the U.S. has well over 100 distinct agencies to fulfill OSFI’s responsibilities.

203. TREASURY’S BLUEPRINT, supra note 5, at 4.
204. Id. at 27.
205. STRUCTURE OF FINANCIAL SUPERVISION, supra note 103, at 33.
206. These agencies include: the OCC, Fed., FDIC, NCUA, SEC, CFTC, FINRA, FHFA, FIO, fifty distinct state banking regulators, nearly fifty state insurance regulators, and state-level securities and futures regulators. In addition, OSFI also oversees private pensions. About Us, OFFICE SUPERINTENDENT OF FIN. INST. http://www.osfi-bsif.gc.ca/Eng/osfi-bsif/Pages/default.aspx (last updated Apr. 30, 2014). Although beyond
In simplest terms, U.S. banks have three sets of prudential supervisors: federal, state-level, and capital markets. At the federal level, there are four primary prudential regulators: 207

1) Office of the Comptroller of the Currency (OCC);
2) Federal Reserve (Fed);
3) Federal Depository Insurance Commission (FDIC);
4) National Credit Union Administration (NCUA).

At the state level, fifty distinct banking regulators oversee institutions chartered or licensed in their respective states in coordination with the applicable federal regulators. 208 Finally, prudential supervision of banks’ broker-dealer units is largely overseen by: 1) the Securities and Exchange Commission (SEC), 2) the Commodities Futures Trading Commission (CFTC), and 3) the Financial Industry Regulatory Authority (FINRA), an industry self-regulatory agency.

Figure 10 below provides a strategic map of regulation for the U.S. banking sector. The x-axis, representing state-level regulation, shows the approximate number of state bank regulators overseeing each bank’s operations. The y-axis, representing federal-level regulation, displays the agencies responsible for overseeing the banks’ different business lines. The size of the bubbles corresponds to each strategic group’s proportion of banking sector assets. As will be discussed in depth in Part III.B, this

the scope of this Comment, it is worth noting that in the U.S., regulation of private pensions is divided between the Treasury and Labor departments, which some commentators have attributed to the fact that neither Department was “prepared to cede jurisdiction over pensions in the interest of consolidating pension regulation in a single administrative agency.” See ORGANISATION FOR ECON. CO-OPERATION & DEV., REGULATION AND SUPERVISION OF PRIVATE PENSIONS IN THE UNITED STATES (2002), available at http://www.oecd.org/pensions/private-pensions/2081198.pdf (describing the jurisdictions of the various Treasury and Labor committees).


208. See generally WHO REGULATES WHOM?, supra note 123. A number of recent cases have clarified the demarcations of regulatory authority between federal agencies and state banking regulators. See Watters v. Wachovia Bank, N.A., 550 U.S. 1, 127 (2007) (holding that a nationally charted bank’s mortgage operations are overseen by the bank’s primary regulator – the OCC – and not the state banking regulators where the subsidiary operates.); Cuomo v. Clearing House Ass’n, L.L.C., 557 U.S. 519, 536 (2009) (clarifying that state Attorney Generals are not preempted from exercising state-specific laws against national banks operating in their respective states.).
complex structure quickly becomes very expensive for constituent institutions.

**Figure 10. U.S. Financial Sector: Strategic Map by Regulator**

At the federal level, only the OCC and the NCUA focus solely on prudential supervision; the Fed and FDIC have dual regulatory mandates. The OCC—which recently integrated the Office of Thrift Supervision (OTS)—is responsible for nationally chartered banks and federally chartered thrifts. The NCUA oversees credit unions, which are

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209. Until 2011, the Office of Thrift Supervision (OTS) was a standalone agency overseeing saving & loan, and thrift institutions, but, per Dodd-Frank, has been merged with the OCC. See [WHO REGULATES WHOM?](#), supra note 123, at 13.
historically tame, but growing in size and complexity—suggesting potential future concerns. 210

The FDIC is responsible for state chartered banks that are not members of the Federal Reserve System. 211 At the same time, it serves as the sole deposit insurer, which involves determining and charging a fee to insured banks. Also, the FDIC is responsible for managing receiverships and conservatorships for failed banking institutions. 212 Part IV will discuss how the FDIC’s split focus may hinder its performance and endanger its insurance fund.

The Federal Reserve, an “independent entity within government” that is “subject to oversight by the Congress” 213 arguably has the most difficult balance. Primarily, it serves as the central bank and financial stability regulator—conducting monetary policy and providing liquidity to the financial sector. At the same time, it oversees “[b]ank holding companies and certain subsidiaries, financial holding companies, securities holding companies, savings and loan holding companies, and any firm designated as systemically significant by the FSOC,” along with state chartered banks that are members of the Federal Reserve System. 214 As will be discussed in Part V.C., this structure creates an innate tension in the Fed’s responsibilities.

The SEC 215 also has substantial prudential oversight functions as “the primary regulator for activities conducted in a securities subsidiary of a bank or a holding company,” 216 including broker-dealers. 217 Since 1975, the

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210. Credit unions have grown significantly in size; “[t]en years ago there were only 70 credit unions with assets of more than $1 billion. Now there are 195,” and also experienced consolidation similar to banks, as “the number of credit unions has dropped by more than half since 1990.” However, “[f]or the ones that remain, growth—in members, loans, and deposits—continued almost unabated during the financial crisis.” Brendan Greeley, Have Credit Unions Become Stealth Banks?, BLOOMBERG BUSINESSWEEK, May 20, 2013, at 14.

211. WHO REGULATES WHOM?, supra note 123, at 13.


215. The SEC has jurisdiction over: “(1) all corporations that sell securities to the public and (2) securities broker/dealers and other securities markets intermediaries.” WHO REGULATES WHOM?, supra note 123, at 24. Notably, “banking regulation is primarily designed to prevent systemic risk while securities regulation is primarily for investor protection and efficiency enhancement.” FRANKLIN ALLEN & RICHARD HERRING, BANKING REGULATION VERSUS SECURITIES MARKET REGULATION 2 (2001).

SEC has enforced a risk-weighted Net Capital Rule for broker dealers, and while “not meant to prevent failures but to minimize the impact on customers,” enforcing it inherently falls under the purview of prudential supervision.

Additionally, the Dodd-Frank Act “gave the SEC new responsibilities that have aspects of safety and soundness regulation” mandating it to set capital requirements for “major security-based swap dealers and major security-based swap participants.” Dodd-Frank also expanded the CFTC’s footprint as a prudential regulator, requiring it to set capital standards for “swap dealers and major swap participants.” In addition, the Financial Industry Regulatory Authority (FINRA)—an industry self-regulatory group—maintains some functions of prudential oversight.

Cross-product prudential supervision is similarly fragmented. For example, oversight of insurance is handled by 50 separate state regulators, along with the newly-created Federal Insurance Office at the

217. From 2004 to 2008, the SEC was the primary regulator for large investment banks through its unsuccessful Consolidated Supervised Entities Program (CSEP), which was shuttered because “the five participants . . . collapsed or reorganized.” SEC Ends Program To Oversee Investment Banks, REUTERS (Sep. 26, 2008, 12:27 PM) http://www.reuters.com/article/2008/09/26/businesspro-us-sec-investmentbanksbp-idUSTRE48P6B320080926; see also Jill E. Fisch, Top Cop or Regulatory Flop? The SEC at 75, 95 VA. L. REV. 785, 790-96, (2009) (discussing the CSEP program and other critical aspects of the SEC’s structure and tenure as a regulator).

218. “The SEC’s net capital rule, set out in 17 CFR § 240.15c3-1, imposes an ‘Aggregate Indebtedness Standard.’ No broker/dealer shall permit its aggregate indebtedness to all other persons to exceed 1500% of its net capital (or 800% of its net capital for 12 months after commencing business as a broker or dealer). The 1500% (or 15-to-1) ratio of debt to liquid capital, is arithmetically equivalent to a 6[2/3]% capital requirement.” See Who REGULATES WHOM?, supra note 123, at 12.

219. Id. at 19.

220. Id. at 26.

221. Id. at 31.

222. Id. at 30-32. The CFTC sets requirements for adjusted net Capital, per Regulation 1.17, “which require that the Company maintain net capital, as defined, equal to 8% of the total risk margin requirement for positions carried in customer accounts and 8% of the total risk margin requirement for positions carried in noncustomer accounts, as defined.” RBC CAPITAL MARKETS, CONSOLIDATED STATEMENT OF FINANCIAL CONDITION AS OF OCTOBER 31, 2012 AND INDEPENDENT AUDITOR’S REPORT 21 (2012), available at http://www.rbcwm-usa.com/legal/rbc-wm/file-689096.pdf.

223. For example, FINRA “may require a member firm to reduce its business if net capital is less than 4% of aggregate debits and may prohibit a firm from expanding its business if net capital is less than 5% of aggregate debits.” RBC CAPITAL MARKETS, supra note 222, at 21.

Treasury Department.\textsuperscript{225} At the same time, most of the 50 states also maintain a stand-alone securities regulatory agency.

Given the size of the U.S. housing market, housing finance had surprisingly minimal oversight prior to the Housing and Economic Recovery Act of 2008 (HERA).\textsuperscript{226} Some have argued that this regulatory deficit, combined with the GSE’s statutorily mandated low capital requirements, largely contributed to their insolvency and need for conservatorship.\textsuperscript{227} HERA consolidated prudential oversight of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks—which in aggregate guarantee or otherwise retain exposures of $6.7 trillion as of 2010\textsuperscript{228}—under the Federal Housing Finance Agency (FHFA).\textsuperscript{229} To fulfill this essential role, the FHFA has “enhanced safety and soundness powers resembling those of the federal bank regulators . . . [including] the ability to set capital standards.”\textsuperscript{230} While the FHFA structure is an improvement from the disparate oversight previously applied to housing finance, it falls outside the scope of the other federal prudential regulators—a potential risk given the central role of housing in the recent crisis.

2. Other Regulatory Functions

While prudential supervision is the clear weak point in America’s regulatory architecture, the other significant structural flaw is the misalignment of regulatory mandates with the required functions of financial regulation. While much of this issue has been covered in the previous subsection, a number of points are of sufficient importance to warrant elaboration.


\textsuperscript{227} The GSEs were required to hold only 2.5% of capital against their loan portfolios, and significantly less for MBS. \textit{See generally} Peter J. Wallison, \textit{Bad History, Worse Policy: How a FALSE NARRATIVE ABOUT THE FINANCIAL CRISIS LED TO THE DODD-FRANK ACT} (2013) (providing background regarding the housing market and positing insufficient oversight of the GSEs as a causal factor in the recent crisis.).

\textsuperscript{228} \textit{Financial Crisis Inquiry Report}, supra note 1, at 318-22. (describing the lead FHFA examiner’s view that Fannie Mae was “the worst-run financial institution” he had seen in his thirty years as a bank regulator.)


\textsuperscript{230} \textit{Who Regulates Whom?}, supra note 123, at 32.
First, the Federal Reserve and FDIC occupy an uneasy position straddling dual-roles as prudential supervisors and also the market stability regulator and deposit insurer, respectively. This structure results in at best a clouded focus, and worse, potentially conflicting goals. Further, while coordination amongst agencies with supplementing jurisdictional spheres can be effective, it becomes much more difficult when there is the potential for jurisdictional friction.

Second, while the newly created Consumer Financial Protection Bureau (CFPB) has primary jurisdiction over consumer protection, unlike Canada’s FCAC, the CFPB shares the essential role with numerous other regulators. For example “[e]ight federal agencies . . . principally share oversight and enforcement responsibility for the fair lending laws.” At the same time, consumer protection with respect to securities involves shared authority between the CFPB, SEC, CFTC, and FINRA. Thus, despite the aforementioned importance of the consumer protection role, the CFPB’s effectiveness may be stymied by familiar sets of issues with respect to regulatory fragmentation.

Third, in contrast to Canada, which gives FINTRAC consolidated authority for crime prevention, the U.S. unnecessarily splits the task between OFAC and FinCEN. This division of responsibility is not only unnecessarily complex and expensive for constituent institutions, but also exposes the crime prevention function to the weaknesses of regulatory fragmentation that have plagued prudential supervision. Further, there is significant potential for collateral damage through unintended effects of


232. See Who Regulates Whom?, supra note 123, at 28 (noting “the [CFPB]’s regulatory authority varies on institution size and type.”).

233. The agencies include: HUD, the FTC, DOJ, FDIC, Fed, NCUA, OCC, and OTS, which has since been merged with the OCC. However, the addition of the CFPB means there are still eight agencies involved. U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-09-704, FAIR LENDING REPORT: DATA LIMITATIONS AND THE FRAGMENTED U.S. FINANCIAL REGULATORY STRUCTURE CHALLENGE FEDERAL OVERSIGHT AND ENFORCEMENT EFFORTS 2 (2009).


regulation, as shown by banks’ retrenching from remittance businesses that are important for developing countries.\textsuperscript{236}

Finally, per Dodd-Frank, the U.S. relies on a coordinating forum—the Financial Stability Oversight Council (FSOC)—for macroprudential supervision.\textsuperscript{237} Figure 11 below, a chart from a report by the Government Accountability Office (GAO), illustrates FSOC’s structure. FSOC operates as “essentially, a mandatory set of processes, best practices, and research functions—for the nation’s 15 primary financial regulatory bodies, and is organized in a hub-and-spoke model chaired by the Secretary of the Treasury.”\textsuperscript{238} In contrast, Canada’s OSFI is innately structured as a macroprudential supervisor with oversight of the entire financial sector; a forum is only used to coordinate with other regulators. As will be discussed in Part V, consolidation of regulatory functions would be a more effective and cost-efficient approach for the U.S.

Figure 11. Financial Stability Oversight Council Structure\textsuperscript{239}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fsoc_structure.png}
\caption{Financial Stability Oversight Council Structure}
\end{figure}

\textsuperscript{236} Martin Arnold & Sam Fleming, Regulation: Banks Count the Risks and Rewards, Fin. Times (Nov. 13, 2014, 6:47 PM), http://www.ft.com/intl/cms/s/0/9df378a2-66bb-11e4-91ab-00144feabdc0.html#axzz3JBEoBm8R.


\textsuperscript{238} Id.

\textsuperscript{239} U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-12-866, NEW COUNCIL AND RESEARCH OFFICE SHOULD STRENGTHEN THE ACCOUNTABILITY AND TRANSPARENCY OF THEIR DECISIONS 6 (2012) [hereinafter, NEW COUNCIL AND RESEARCH OFFICE].
III. WHY CANADA’S FRAMEWORK IS SUPERIOR

“In the post-crisis world, [Canada’s] reputation for rigorous regulation has become a competitive advantage for our financial institutions...”

-Jeremy Rudin, OSFI Superintendent (appointed June, 2014)

In terms of the familiar cost-benefit analysis (CBA), Canada’s regulatory architecture produces greater benefits at a lower cost. In contrast, America’s fragmented supervisory framework has left its constituents with the worst of both worlds: paying a lot, but receiving very little. With respect to financial regulation, the societal costs of failure—economic crises and subdued growth—are extraordinarily high, and thus effective regulation is paramount, even if expensive in absolute terms. At the same time, efficiency is hardly irrelevant; costs have to be borne by someone, and excessive regulatory burdens ultimately diminish the aggregate welfare.

This section will proceed in two parts. First, it will illustrate the direct link between Canada’s regulatory architecture and the performance of its financial sector. Second, it will build upon existing scholarly work to develop an enhanced CBA framework, and then compute the costs of U.S. regulation as well as estimate excess costs relative to Canada’s system.

A. Successful Regulation

As a threshold matter, the fact that Canada has a different regulatory framework and its financial sector performed better does not, in and of itself, prove that the former caused the latter; correlation is not causation. This subsection addresses this natural concern by illustrating the complex, but clear causal mechanism between Canada’s regulatory structure—effective macroprudential supervision and clear regulatory domains for politically independent agencies—and the success of its financial sector.

1. Bank Oversight

In theory, prudential supervision of financial institutions should be an operationally straightforward task. Banks are required to maintain a
specified level of capital relative to their assets.\textsuperscript{241} If a bank breaches the lower bound, the FDIC seizes it, or, more precisely, its deposit-holding unit.\textsuperscript{242} Thus, in highly simplified terms, regulators’ task is measuring two sets of numbers—a bank’s capital and its assets—to make sure that there is enough of one relative to the other.

However, as JPMorgan’s ‘London Whale’ trading incident illustrates, the nature of modern financial services has made this seemingly rudimentary function exponentially more complex. In 2010, JPMorgan’s Chief Investment Office (CIO) lost over $6 billion on what turned out to be partially unauthorized derivatives trades on credit indices.\textsuperscript{243} The situation bore some eerie parallels to AIG’s now infamous Financial Products division.\textsuperscript{244} Both London-based units used “trading activities . . . spanning multiple legal entities and regulatory authorities”\textsuperscript{245} and a highly-rated parent company to build up large, leveraged positions in structured and synthetic credit.\textsuperscript{246}

Computing JPMorgan’s exposure to these transactions was not only innately complex, but also potentially required a skill set distinct from bank examiners’ traditional expertise.\textsuperscript{247} At some level, assessing home

\textsuperscript{243} The details have been well covered in the media. For a particularly entertaining and informative discussion, see Matt Levine, \textit{The Tale of a Whale of a Fail}, DEALBREAKER (May 11, 2012, 2:36 PM), http://dealbreaker.com/2012/05/the-tale-of-a-whale-of-a-fail/. For background regarding CDS, see supra, notes 70-82 and accompanying text.
\textsuperscript{244} Michael J. De La Merced, \textit{AIG Unit at Center of Financial Crisis is Wound Down}, N.Y. TIMES DEALBOOK (Aug. 5, 2011, 7:25 PM), http://dealbook.nytimes.com/2011/08/05/a-i-g-unit-at-center-of-financial-crisis-is-wound-down/?_r=0.
\textsuperscript{246} One notable difference is that AIG’s FP was known for writing CDS on individual issuances of mortgage bonds; in other words, AIG was long, and generally had a one-way directional position. See De La Merced, supra note 244. In contrast, JPMorgan’s CIO had much more complicated exposure, both with respect to the risk it was holding and the structure of its positions. Lisa Pollack, \textit{Too Big to Hedge}, FT ALPHAVILLE (May 11, 2012, 1:06 PM), http://ftalphaville.ft.com/2012/05/11/996131/too-big-to-hedge/.
\textsuperscript{247} Corporate and commercial lending leaves banks like JPMorgan essentially long credit. Theoretically, the CIO balances this exposure by buying protection against default, i.e. going short. For reasons beyond the scope of this analysis, however, the CIO ended up net long credit. See Felix Salmon, Bruno Iksil and The Chips Trade, REUTERS (Apr. 17, 2012), http://blogs.reuters.com/felix-salmon/2012/04/17/bruno-iksil-and-the-chips-trade/
mortgages and CDS indices requires a variation on the same basic question: ‘will these folks pay back their loans?’ In practice, however, valuing CDS portfolios involves more science than art.

As one commentator put it, “[a] bank is a collection of probabilities,”248 and between them, JPMorgan’s regulators had the capabilities to compute them and ultimately neutralize any legitimate problems.249 Even in a post Dodd-Frank world, however, America’s familiar regulatory fragmentation proved to be disastrous.250 While the OCC is JPMorgan’s primary regulator, the Federal Reserve supervises the bank holding company, and to some degree, the CIO’s trading positions, per the Edge Act.251 The Fed—which, as will be discussed in Part V, employs outstanding economists—detected problems with the CIO’s holdings early on, but “did not discuss the risks . . . with the OCC.”252 On its own, the OCC—traditionally focused on relatively standard banking products—was unable to unearth the issues.

(noting that: “what Iksil is doing here is basically replicating the kind of corporate credit exposure that JP Morgan has lots of already. This isn’t in any way a hedge of JP Morgan’s existing portfolio; it’s more of a doubling-down on it.”)


249. The author does not take a position regarding the efficacy of the regulatory approach pursued to address this matter. On the one hand, JPMorgan’s trading loss does not necessarily concern regulators so long as it does not materially impact JPM’s overall solvency, which this did not appear to. But, on the other, regulators must also be aware of banks’ positions, especially in complex instruments, because they can—and have—rapidly deteriorated banks’ capital.

250. As Edward Murphy, of the Congressional Research Service, noted:

When revelations of the losses became public, and people wanted to know who JPMorgan’s regulator was, the answer was that there were many regulators related to JPMorgan’s London Whale trades, depending upon which aspect of the event a person was interested in. As a bank, JPMorgan’s risk management was subject to prudential regulation by the OCC at the depository level, and by the Federal Reserve on a consolidated basis at the holding company level. As a public company, JPMorgan’s disclosures of the trades to its stockholders were regulated by the SEC. As a participant in derivatives markets, JPMorgan’s transactions were subject to CFTC regulation. As an insured depository institution, JPMorgan’s safety and soundness was also subject to the FDIC.

251. The wording of the Fed’s investigation summary report is somewhat vague on this point. The summary report notes “[t]he CIO conducted the synthetic credit derivatives trading that resulted in the losses through the London branch of JPMC Bank, N.A., and ultimately booked the transactions that resulted in the losses in an Edge Act corporation subsidiary.” SUPERVISION OF JPMORGAN, supra note 245, at 3.

252. Id. at 4.
Recognizing the complexity of modern financial services, Canada pursued a seemingly simple solution: making one regulator entirely responsible for prudential supervision. This model helps avoid situations akin to JPMorgan’s because OSFI has access to all relevant data—from all the bank’s units—and sufficient in-house expertise to assess complex exposures.

While certain aspects of Dodd-Frank—such merging the OTS and OCC—were unambiguously positive changes to America’s regulatory structure, the Act’s approach to macroprudential supervision is flawed. FSOC is a manifestation of—not a solution to—the jurisdictional conflict, supervisory gaps, and collective action problems that have long stymied U.S. regulators. A set of Government Accountability Office reports confirmed this,253 most recently finding that FSOC potentially remains uninformed “about critical vulnerabilities in the financial system.”254

History unfortunately provides little basis for optimism regarding FSOC’s regulatory efficacy; the role too closely resembles market forecasting. It places heavy emphasis on regulators’ ability to detect, quantify, and transparently communicate concerns that may well go against the contemporary market or policy consensus. While private sector forecasting failures abounded in the last crisis, there is little evidence to suggest that this was due to insufficient incentives. Some analysts—perhaps most notably Meredith Whitney and David Einhorn—correctly predicted important developments.255 However, market participants more broadly—the ‘invisible hand’—did not figure it out. There is little reason to expect a group of regulators to fare better.


2. Allocation of Responsibilities

As discussed in Part II, the financial sector’s foundational position in the economy—and role facilitating various aspects of government policy—requires multiple, distinct regulatory functions that must operate in concert. Generally, these functions are complementary and often require collaboration amongst agencies. For example, assessing potential predatory lending may require granular level loan data from a large swath of banks, which the prudential supervisor may already have and regularly analyze; coordination can safeguard the consumer protection agency from having to reinvent the wheel, allowing it to focus on its core task.

However, there is a corollary. At potentially important policy inflection points, the regulatory functions, and agencies implementing them, can also have opposing—even adversarial—interests. For instance, the central bank may want banks to increase lending to fuel the economy, while the prudential supervisor may prefer for financial institutions to retain capital in case of a downturn. This dynamic is perhaps worst for agencies spanning multiple functions. For instance, as will be discussed in Part III.C, after the FDIC rejected banks’ petition to count a complex security as capital, the Fed—also a prudential supervisor—allowed it, being relatively unexposed to the FDIC’s concerns.

Canada’s system overcomes these problems by separating the core regulatory functions between distinct and independent agencies. The result is a system that gives balanced representation to all essential regulatory roles, while facilitating efficient application of regulations. Further, Canada’s approach largely eliminates regulatory arbitrage, allowing regulators to be more forceful with the industry when needed. For instance, starting in 1999, OSFI mandated higher capital cushions for Canadian banks relative to other nations’ regulators—a prescient move that was originally opposed by the industry.

256. To a degree, the corollary reflects the competing demands placed on the financial sector by its various constituencies, made operable through legislative and regulatory policy.
257. This very scenario has played out in Canada—illustrating the value of separating the core regulatory functions. See Tara Perkins, Nobody’s Saviour, GLOBE & MAIL, http://www.theglobeandmail.com/report-on-business/rob-magazine/nobodys-saviour/article4295979/?page=all (last updated Aug. 23, 2012, 10:49 AM) (describing Julie Dickson’s pivotal role in Canadian banking). Other examples of differing priorities between regulators could include circumstances where the central bank wants to slow the economy and raise rates—thus, reducing lending—which may run counter to consumer protection or legislative priorities with respect to mortgage lending. Alternatively, the central bank may want to lower rates, but, from a consumer protection standpoint, a rapid expansion in lending may be dangerous.
258. For discussion see infra Part III.B.3.
superintendent, Julie Dickson, told Bloomberg: “[t]hat’s where having a supervisor with a pretty clear mandate allows you to take those unpopular decisions.”

Clear allocation of authority also facilitates accountability for failure, overcoming the collective action problems that can plague U.S. regulators. In other words, if something goes wrong in Canada, lawmakers generally know the agency to blame. This is an important mechanism that motivates regulators to take potentially unpopular or otherwise difficult actions—which, in practice, means outmaneuvering lobbyists and opposing policymakers. In contrast, the U.S. employs a regulatory model where everyone is technically responsible, thus making it difficult to hold anyone accountable.

Importantly, Canadian regulators also have more room to maneuver due to the relative political insulation provided by the framework. Studies have shown that political independence for the central bank facilitates stable inflation and otherwise more successful macroeconomic policies. Echoing this, Senator Chris Dodd stated that he could not “in good conscience” go forward with legislation if it meant weakening the Fed’s independence from the political process.

Dodd-Frank also made some progress in this arena, most notably by creating the CFPB. The consumer protection role is essential because it protects the system against race-to-the-bottom business practices. It can also serve as a leading indicator of impending problems on banks’ balance sheets; underlying every defaulted mortgage-backed security and CDO is a homeowner or family in foreclosure. As will be discussed in Part V, however, significant additional changes are still needed to streamline and modernize the U.S. framework.

260. Id.
261. While one could theoretically posit similar issues manifesting in a consolidated regulator through intra-department arbitrage and rivalries, in practice this is unlikely given the direct oversight imbedded in the structure, and borne out through OSFI’s experience.
B. Lower Costs

Rather than simply minimized, regulatory costs must be optimized—an inquiry at the heart of cost-benefit analysis (CBA). In other words, even if Canada’s approach produces greater benefits, all things being equal, does it cost more? As this subsection will illustrate, Canada’s regulatory framework is, in fact, not only more effective, but also much less expensive to operate, saving billions each year for taxpayers and the broader economy.

Along with direct outlays, increasing regulatory costs can also put pressure on the supervisory framework, exacerbating structural weaknesses and creating incentives to shift activities to the ‘shadow banking’ sector. As the cost of complying with a regulation increases, the potential value of avoiding it moves likewise.

Notably, with the exception of the OCC, U.S. federal financial regulators “have almost never used formal” CBA to assess whether individual regulations—let alone the regulatory framework—are an optimal, or even net-positive allocation of resources. This gap is particularly troubling because the certainty and stability of effective regulation can help banks operate more economically, improving their bottom line. To put it differently, viewing financial regulation as just a cost is too simplistic. For example, one thorough econometric study found “that regulations empowering official supervisory power and market discipline mechanisms enhance banking efficiency,” which, as this section will illustrate, is precisely the dynamic in Canada’s banking industry.


265. Schwarcz, supra note 112 and accompanying text.

266. In 1981, President Reagan required all regulatory agencies to use benefit-cost analysis (“BCA”) when promulgating regulations, however:

[A]ll presidents since Reagan have required only non-financial regulators to issue BCAs, possibly because their legal authority to boss around independent agencies is ambiguous. (The one major exception is the Office of the Comptroller of the Currency, which is an office in the non-independent Treasury.) In principle, a president can fire the head of the EPA if she refused to perform BCAs, while he has no such authority over the chair of the SEC.


267. Fotios Pasiouras, Sailesh Tanna & Constantin Zopounidis, The impact of banking regulations on banks’ cost and profit efficiency: Cross-country evidence, 18 INT’L REV. OF FIN. ANALYSIS 294, 301 (2009). The study went on to stress “the importance of designing an appropriate bank regulatory and supervisory framework that helps maintain the efficiency (and hopefully stability) of banks.” Id; see also Fotios Pasiouras, International
Existing scholarly work has articulated the benefits of applying CBA to financial regulation in the U.S.; however, little formal academic work has been done to estimate regulatory costs. This Comment seeks to fill the void and contribute to the academic literature by estimating the aggregate costs of financial regulation in the U.S., and comparing them to regulatory costs in Canada.

The discussion is largely organized around—and expands upon—a model for regulatory costs developed by Professors Martin Schüler and Friedrich Heinemann. The framework, summarized by the formula below, posits that the total cost of financial regulation (TCFR) is composed of three distinct costs: institutional (I), compliance (C), and structural (S).

\[
\text{TCFR} = I + C + S
\]

Institutional costs refer to the expense of operating the regulatory architecture—for example, regulators’ salaries and monitoring technology. Compliance costs are essentially the other side of this coin; once a regulator makes a request, someone has to fulfill it. In contrast, rather than direct outlays, structural costs refer to distortions from organic market equilibria caused by regulation, degrading economic welfare.

In practice, the three components of TCFR are notoriously difficult to calculate with precision. As will be discussed below, institutional costs can be most reasonably estimated, while compliance costs are much harder to assess, and structural costs remain nearly impossible to objectively value.

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evidence on the impact of regulations and supervision on banks’ technical efficiency: an application of two-stage data envelopment analysis 26 (Univ. of Bath School of Mgmt., Working Paper Series 2007.01, 2007) (noting that “[i]n several cases, the results provide evidence in favour of . . . the development of powerful supervisory agencies, and the creation of market disciplining mechanisms.”).

268. One Canadian bank supervisor noted that, “our reputation for rigorous regulation has become a competitive advantage for our financial institutions as it helps them be well regarded around the world.” Alexander, supra note 240.


271. Id. at 2.

272. Compliance costs are difficult to measure because banks do not disaggregate them in financial statements, necessitating relatively involved empirical analyses to facilitate backwards induction.

273. As Professors Schüler and Heinemann point out, structural costs are “extremely hard to measure precisely,” and potentially result from ineffective, rather than overly
In 2013, U.S. institutional costs were $6.2 billion at the federal level\textsuperscript{274} and over $1.1 billion at the state level;\textsuperscript{275} Canada’s were just $2.6 billion in total,\textsuperscript{276} after adjusting for banking sector size.\textsuperscript{277} Thus, total U.S. institutional costs exceeded Canada’s—in other words, $(I_{\text{US}} - I_{\text{CN}})$—by $4.7 billion. As will be discussed in Part V, at just the federal level, the U.S. could save over $350 billion by becoming as efficient as Canada. With respect to compliance costs, empirical analysis of financial data for the six largest banks in the U.S. and Canada—the same groups from Section I—suggests that relative compliance inefficiency cost the six largest U.S. banks about $25.3 billion in 2013 alone.\textsuperscript{278}

The TCFR framework can then be applied to estimate the relative inefficiency of U.S. financial regulation in dollar terms. For example, in 2013, the relative difference in institutional and compliance costs totaled about $30 billion in extra spending for the U.S., excluding the impact of structural costs. To put it back in algebraic terms, where $\hat{A}$ is the bank size adjustment factor described in Part I, for 2013:\textsuperscript{279}

\[
(I_{\text{US}} + C_{\text{US}}) - [(I_{\text{CAN}} \times \hat{A}) + C_{\text{CAN}}] = \Delta \text{TCFR}_{\text{US-CAN}} = $30 billion
\]

1. Institutional Costs

As discussed above, the institutional costs of financial regulation are much higher for the U.S. than Canada. In fact, despite the widespread perception of an American banking industry left to its own devices, the U.S. devotes ever-increasing resources to financial regulation.\textsuperscript{280} Figure 12 below illustrates the bewildering array of U.S. financial regulatory agencies at the federal level. For instance, between 2010 and 2013, total federal level institutional costs were over $21.3 billion, which is burdensome regulation. Costs of Supervisory Fragmentation, supra note 270, at 3.

\textsuperscript{274} See infra fig. 12. See also infra app. tbl. 3 (illustrating a full breakdown of costs).

\textsuperscript{275} Based on the twenty-six states for which budgets could be obtained. See infra app. tbl. 2 for full summary.

\textsuperscript{276} See infra app. tbl. 4.

\textsuperscript{277} For discussion of the adjustment factor, see supra note 32 and accompanying text.

\textsuperscript{278} As will be discussed infra, Part III.B.2, data limitations prevent computation for the full sector.

\textsuperscript{279} Compliance costs are not multiplied by the banking sector size adjustment factor, $\hat{A}$, because they are computed based on relative differences between the U.S. and Canada.

\textsuperscript{280} This is also illustrated through the Mercatus Center’s REGDATA function, which measures the number of times restrictive language is used in regulations with respect to various industries. For instance, based on this measure, regulation of credit intermediaries increased over 500% between 1997 and 2014. Mercatus Center, REGDATA, http://regdata.org/?type=regulation_index&industry[]=522& regulator[]=0 (last visited Mar. 4, 2015).
likely an underestimate given that many agencies also fund a portion of their budgets through industry levies.\textsuperscript{281} Adjusted for banking sector size, over the same period, Canada’s regulatory architecture cost its taxpayers only $7.8 billion—63.4\% less than U.S. spending.\textsuperscript{282} When combined with state regulatory agencies, the picture becomes even murkier, and the costs surely much higher.

\textsuperscript{281} Although levies have been successfully applied in Canada, in the U.S., they have had a materially worse track record, with competition for constituent institutions at times resulting in a race-to-the-bottom, as regulators seek to maximize levies earned.

\textsuperscript{282} This figure is based on costs for the Bank of Canada and FCAC, the two agencies not entirely funded through industry levies. It significantly overstates the actual cost, as FCAC receives some of its budget through the financial industry, and total spending for the Bank of Canada includes expenses like printing money, which are borne by the U.S. treasury and not included in regulatory costs. Canada’s actual costs are multiplied by 4.25 to account for the smaller size of its banking sector. See infra app. tbl. 4 (showing full methodology).

Canadian institutional costs can be estimated with reasonable precision. Based on the agencies’ annual reports, between 2010 and 2013, approximately $2.0 billion was charged in industry levies, through which OSFI and the CDIC self-fund almost entirely. See Office Superintendent of Fin. Inst., OSFI Annual Report 2013–2014, (2013), available at http://www.osfi.gc.ca/eng/docs/ar-ra/1314/eng/index-eng.html. The CDIC actually often generates a profit ($180 million in 2012 alone), which is not netted against the $2.0 billion estimate of institutional costs and simply excluded from this analysis. In 2013 OSFI borrowed $900,000 from taxpayers, which it intends to repay with interest.
Figure 12. Cost of U.S. Federal Level Financial Regulation

Figure 13 below shows the average cost of supervising each U.S. bank along with the average number of financial regulators per bank. While a broad estimate, the unmistakable inference is that American financial regulation appears to be getting less efficient. Going against the macro trends of productivity growth and declining government payrolls between 1990 and 2013, the average cost of regulating each institution increased 815%, from $99,000 to almost $905,000. The number of federal regulators per bank climbed 273% — from 1.19 to 3.25.


284. Josh Zumbrun, The Federal Government Now Employs the Fewest People Since 1996, WALL ST. J. REAL TIME ECON. (Nov. 7, 2014, 12:03 PM), http://blogs.wsj.com/economics/2014/11/07/the-federal-government-now-employs-the-fewest-people-since-1966/. While it is possible that banks have become more complex over this period, thus making them more difficult to regulate, this differential is likely more than offset by increasing productivity growth ushered in by the Internet and the increasing availability of analytical software.

285. The number of banks is computed based on an analysis of data from the FDIC and
At the same time, between 1990 and 2013, the number of banks in the U.S. has moved in precisely the opposite direction as regulatory costs—declining 55%, from 15,158 to 6,812. Although many factors underlie consolidation in the U.S. banking industry, the evidence suggests that regulatory costs may be an exacerbating factor, particularly for smaller lenders.

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286. Id.
287. Id.
289. For example, the Minneapolis Federal Reserve found that regulatory change will render unprofitable 13% of banks with assets under $50 million, and 2% of banks with assets between $50 million and $1 billion. Ron J. Feldman, Ken Heinecke & Jason Schmidt, Fed. Res. Bank of Minneapolis, Quantifying the Costs of Additional Regulation on Community Banks 6–8 (2013), available at https://www.minneapolisfed.org/research/economic-policy-papers/quantifying-the-costs-of-additional-regulation-on-community-banks.
Figure 14. Total Regulatory Costs v. Number of Banks

The U.S. enjoys a notably robust system of community banks, whose business model makes up for lower economies of scale by leveraging ‘soft factors’ to effectively provide credit to areas and constituencies often underserved by larger lenders. While notably different from Canada’s, this market structure is distinctively and historically American.

However, increasing regulations essentially drive up fixed costs—more forms, requirements, and assessments necessitate greater resources—and are better borne by institutions with greater scale. While the stand-alone cost of completing a new form may be similar for Citigroup and a small bank, in relative terms, for Citigroup the expense is a drop in the bucket of its trillion-dollar balance sheet.

290. “According to the FDIC, in every five-year period since 1991, a lower percentage of loans from community banks has gone bad.” Brendan Greeley, Rural Banks Know Something Big Banks Don’t, BLOOMBERG BUSINESSWEEK, Oct. 21, 2013, at 17, 18.


292. See generally FRAGILE BY DESIGN, supra note 58 (discussing the populist traditions of American banking in detail).

293. CITIGROUP’S 2014 ANNUAL REPORT ON FORM 10-K 30 (2014), available at http://www.sec.gov/Archives/edgar/data/831001/000083100115000043/c-
are least able to absorb cost increases from regulation. As researchers have noted: “[i]t does seem like smaller institutions are the hardest hit . . . There are economies of scale when dealing with regulation.”

2. Compliance Costs

As discussed above, compliance costs essentially refer to the industry’s expenses required to fulfill regulatory mandates. They are harder to measure than institutional costs, but studies have consistently found them to be “consequential in banking.” Intuitively, compliance costs should be significantly higher than institutional costs. For instance, one commentator noted that “[t]here are about as many [Anti Money Laundering] employees at JPMorgan as there are all financial regulators at Treasury, the OCC and the Fed, combined.”

Based on analyses of financial data from U.S. and Canadian banks, this section concludes that compliance costs are materially higher for U.S. banks. In effect, this results in a higher cost of doing business and leaves U.S. banks at a competitive disadvantage. As a consequence, U.S. institutions may pass the costs on to consumers, and may be incentivized to

12312014x10k.htm#s68C4032DE86655E7A9CA45F6FCFF8876.
294. Tracy Alloway, Regulations hit smaller US banks hardest, FIN. TIMES (Feb. 8, 2015, 4:29 PM), http://www.ft.com/intl/cms/s/0/70ff7362-aec4-11e4-ba71-00144f3a07de.html#axzz3Rb03pv1k. This is also well-illustrated by a report from the Conference of State Bank Supervisors which found that “increased regulatory scrutiny and costs . . . and a seeming lack of consistency and certainty of regulations” posed “significant challenges for community banks.” One state reported that “[i]ts banks are spending 10 percent to 15 percent of their net income on compliance costs.” FED. RES. BANK OF ST. LOUIS, COMMUNITY BANKING IN THE 21ST CENTURY: OPPORTUNITIES, CHALLENGES AND PERSPECTIVES 15 (2012), available at https://www.stlouisfed.org/-/media/Files/PDFs/Banking/CBRC-2013/town-hall.pdf.
296. Compliance and legal settlement costs are typically aggregated in banks’ financial statements. Id. at 3-9.

JPMorgan’s 8,000 AML [anti-money laundering] employees [are] . . . there to enforce the law, so that law enforcement doesn’t have to. JPMorgan’s stress-testers are mostly there to provide data and modeling support to the Fed’s fewer and less focused stress-testers, and to implement the Fed’s goal of planning for bank stresses. Most of the regulation of JPMorgan has been outsourced to JPMorgan.
seek higher returns—and risks—to make up for the cost disadvantages. For instance, in its 2013 shareholder letter, JPMorgan estimated that due to regulatory costs, it would have to raise the price of standard banking products like trade finance and revolving credit lines.298

Compliance costs fall into two broad categories: (i) operating costs, arising from “requirements that banks perform certain actions,” and (ii) opportunity costs, which are the lost earnings from being unable to pursue profitable ventures because of regulations.299 For example, between 2012 and 2014, JPMorgan added over 13,000 employees to support its “regulatory, compliance, and control effort” and dedicated 8,000 employees solely to its Anti Money Laundering (AML) program—all essentially operating costs.300 To comply with the Volcker Rule, banks must exit their proprietary trading operations, losing out on future lost profits—an opportunity cost.301 Because of their tenuous nature, opportunity costs are much harder to estimate, and thus, this analysis is primarily concerned with measuring operating costs of compliance, but for ease of reference may refer to them as ‘compliance costs’ broadly.

Existing studies regarding the costs of regulatory compliance also have significant limitations. For instance, Citigroup estimated that money-laundering compliance will cost U.S. banks $10 billion annually.302 However, Citigroup is not a neutral observer and the computations are not available, making it problematic to base subsequent analyses off its estimate. At the same time, most studies aggregate regulatory costs, which is inconsistent with the goal of holding structural and opportunity costs

298. The company estimated that the price of revolving credit lines, trade finance, and mortgage servicing could increase by 60, 75, and 20 basis points, respectively. Letter from Jamie Dimon, Chairman and Chief Exec. Officer, JPMorgan Chase & Co., to Shareholders, JPMorgan Chase & Co. 15 (2013).
299. See ELLIEHAUSEN, supra note 295, at 3. The study further differentiates between total costs and incremental costs:

The total cost of a regulation is the cost of performing all the activities that it requires. The incremental cost of a regulation is the cost of activities that are performed only because the law mandates them. The costs of performing activities that are mandated by the law but would be performed anyway in the ordinary course of business are part of the total cost of a regulation but are not part of the incremental cost.

Id.
300. This is likely an understatement for the amount of new regulatory staff, as the bank has also utilized 500 employees for Fed Stress Tests, 500 for Recovery and Resolution plans, 400 for Liquidity, 250 in Model Risk and Development, over 1,000 for Derivatives and Volcker rule compliance, and an estimated 500 for Dodd-Frank mortgage rules compliance. Letter from Jamie Dimon, supra note 298, at 12-13.
301. See infra notes 355-356 and accompanying text.
302. Dakin Campbell, Citi Sees $10 Billion in Annual Bank Compliance Costs, BLOOMBERG BUS. (Sept. 29, 2014).
generally constant to isolate costs specific to the U.S. regulatory framework. For example, Federal Financial Analytics found that all new regulatory requirements have cost the six largest U.S. banks $70.2 billion between the end of 2007 and the end of 2013,\textsuperscript{303} while Standard & Poor’s estimates that Dodd-Frank compliance alone will cost the eight largest U.S. banks between $19.5 and $26 billion annually—an order of magnitude higher than U.S. institutional costs.\textsuperscript{304}

Unfortunately, there is no way to directly assess the operating costs of regulatory compliance, as they are not a balance sheet item that is reported in banks’ filings. Instead, such costs are aggregated with many others in an accounting category titled Non Interest Expense (NIE), which essentially refers to overhead costs of providing credit.\textsuperscript{305} Thus, as will be described below, this analysis works backwards to estimate the costs based on banks’ financial statements.

As a threshold matter, one would expect America’s banks—especially the large universal lenders—to be significantly more efficient than their Canadian counterparts. First, empirical evidence has demonstrated that larger bank size results in “higher pure technical efficiency under all circumstances.”\textsuperscript{306} A study by the Federal Reserve, for instance, found that every additional $1 billion in assets reduces NIE by $1 to $2 million, relative to the base case.\textsuperscript{307} In other words, economies of scale are very important in banking, and U.S. banks are larger. Second, Canada’s labor productivity in business services was “about 23 per cent below the U.S.


\textsuperscript{305} NIE is composed of three categories: (i) personnel expenses — employee salaries, benefits, and training; (ii) occupancy expenses — rent and depreciation of buildings and equipment; and (iii) other operating expenses — general overhead, data processing, and administrative costs. Compliance costs compose a portion of the personnel and other operating expenses, which are ultimately aggregated into NIE. See FED. FINANCIAL INST. EXAMINATION, COUNCIL UNIFORM BANK PERFORMANCE REPORT, NONINTEREST INCOME, EXPENSES AND YIELDS (2015), available at https://cdr.ffiec.gov/cdr402705/public/download/UserGuide/v51/FFIEC%20BPR%20User%20Guide%20Noninterest%20Income,%20Expenses%20and%20Yields—Page%2018_2015-05-13.PDF.

\textsuperscript{306} Pasiouras, International evidence on the impact of regulations and supervision on banks’ technical efficiency: an application of two-stage data envelopment analysis, supra note 267, at 5.

level,” with particularly large productivity gaps in financial services. To put it differently, on average, U.S. employees—especially in finance—get more work done in the same amount of time. In combination, U.S. banks’ economies of scale and more productive workforce should result in more economical enterprises.

The analyses below show that this is simply not the case; America’s banks are far less efficient than Canada’s—a trend that is worsening. To estimate the costs of regulatory compliance, this section empirically works backwards based on banks’ financial data and concludes that these metrics are materially lower for U.S. banks than their Canadian counterparts. The analyses focus on “the traditional measure for bank productivity”—the efficiency ratio—which essentially gauges “the cost required to generate each dollar of revenue.” Somewhat counter-intuitively, a lower ratio shows that a bank is more efficient; a higher ratio implies that a bank incurs greater costs to generate that same dollar of revenue.

Importantly, in Bloomberg’s computation of efficiency ratios, shown below, Operating Expenses—the numerator—is distinct from the operating costs of compliance. Instead, it essentially measures both interest expenses and non-interest expenses accrued to generate revenues.

\[
\text{(Operating Expenses / ((Net Interest Income + Commissions & Fees Earned + Other Operating Income (Losses) + Trading Account Profits (Losses) – Commissions & Fees Paid) + Taxable Equivalent Adjustment or Net Revenue – Net of Commissions Paid) * 100)}
\]

While not all of these costs relate to regulation—in fact, most do not—the key point is that because of underlying similarities between the U.S. and Canada, other costs—such as information technology and salaries—should be relatively constant. Thus, major differences can—at


309. Notably, the largest U.S. banks may face a distinct headwind factor from increased capital requirements for Global Systemically Significant Financial Institutions. It is unclear, however, if this in fact results in requirements above-and-beyond OSFI’s. See Gina Chon & Stephen Foley, US asset managers face tighter scrutiny, FIN. TIMES (Sept. 30, 2013, 10:48 PM), http://www.ft.com/intl/cms/s/0/701914d4-2a15-11e3-9bc6-00144feab7de.html#axzz3QzFRKfl.


311. Id.

312. See infra, Part I.A.
least in large part—be attributed to the nations’ highly differing regulatory frameworks.

Figure 15 below shows efficiency ratios for U.S. and Canadian banks between 2006 and 2013. Two points are worth briefly noting. First, on a year-to-year basis between 2000 and 2013, there are significant fluctuations in efficiency. However, the trend lines rather clearly illustrate, that overall, Canada’s efficiency has been improving, while the large U.S. banks have performed worse and worse. Second, while there have been periods of higher efficiency for U.S. banks, perhaps reflecting the aforementioned benefits of scale, the efficiency deficit has been relatively consistent over time. Further, there is good reason to believe that the trend will persist due to increasing regulatory costs from Dodd-Frank and other regulatory changes.

Figure 15. Efficiency Ratios—U.S. & Canadian Banks: 2006–2013

A direct comparison of a single bank operating in both the U.S. and Canada—in this case HSBC, a large UK-based, but Asia-Pacific focused

313. Other country specific differences may potentially include costs of advertising, marketing, and labor.
314. This approach is also beneficial because it allows for comparison across bank sizes, thus adjusting for an important difference between the U.S. and Canadian sectors.
315. Chart based on data obtained through Bloomberg, downloaded using the term “EFF_RATIO” for the equity ticker of each bank listed in Figure 2.
316. See Michael D. Bordo et al., The U.S. Banking System from a Northern Exposure: Stability vs. Efficiency, 54 J. ECON. HISTORY 325–41 (1994) (concluding that “the Canadian banking system was both more stable and more efficient than her American counterpart.”).
lender—best illustrates the trend of relatively less efficient U.S. banks.\textsuperscript{317} Because HSBC’s subsidiaries file separate financial statements, we can compare its efficiency in the two markets—holding all other variables constant.\textsuperscript{318} Notably, total assets at HSBC USA are also higher than HSBC Canada, $185 billion compared to $84 billion, respectively, which would imply greater efficiency for the U.S. unit. As Figure 16 shows, however, between 2006 and 2013, HSBC has been significantly less efficient while operating in the U.S. One observation does not make a trend, but combined with analysis of efficiency across the sectors, it is highly persuasive. Furthermore, though perhaps less pertinent with respect to compliance costs, Canadian banks have also steadily maintained a healthy return-on-equity\textsuperscript{319} around 15%, compared to highly volatile, but overall declining performance for the American sector.\textsuperscript{320}

\footnotesize
\begin{itemize}
  \item \textsuperscript{317} Analysis based on 10-K filings from 2006 to 2013 for HSBC USA and HSBC Canada.
  \item \textsuperscript{318} See generally HSBC BANK CANADA, ANNUAL REPORT AND ACCOUNTS 2013 (2013), available at http://www.hsbc.ca/1/2/personal/about-us/financial-reports/shareholders-reports#; HSBC USA INC., ANNUAL REPORT ON FORM 10-K (2013), available at http://www.us.hsbc.com/1/PA_1_083Q9FJ08A002FBP5500000000/content/new_usshared/shared_fragments/pdf/Investor%20Relations/HUSI_Final_2013_10K.pdf. Additionally, HSBC’s housing finance unit — which incurred huge mortgages losses and regulatory actions — files separately from HSBC USA, and thus should not taint the analysis. It is, however, possible that due to cross-holdings aspects of the mortgage unit’s performance impact HSBC USA’s performance data, to some extent.
  \item \textsuperscript{319} “[T]oday, most banks around the world use return on equity – RoE – as their main metric of profitability.” Patrick Jenkins, Banks need to look past RoE on profitability, Fin. TIMES (Nov 7, 2011, 6:09 PM), http://www.ft.com/intl/cms/s/0/abd5403e-0955-11e1-a20c-00144feabdc0.html#axzz3QzFRKfpl.
  \item \textsuperscript{320} Based on data obtained through Bloomberg, downloaded using the term “RETURN_TOT_EQY” for the equity ticker of each bank listed in Figure 2.
\end{itemize}
The analysis of HSBC’s efficiency between the U.S. and Canada also highlights an important counterargument that will be discussed in the following section. While some scholars have posited that Canada has an uncompetitive market structure that shields its largest lenders from competition, HSBC’s experience illustrates that this is unlikely. HSBC is not a member of the home team—if the efficiency of Canadian banks was driven by anticompetitive conduct, it is not intuitive how HSBC would exhibit the same pattern as Canada’s domestic lenders.

This analysis leaves an essential open question: all other things being equal, how much more does U.S. regulatory compliance cost, relative to Canada’s? Unfortunately, the difficulties of measuring compliance costs are only compounded when assessing cost differences. Based on the findings discussed above, however, an indirect approach can be applied to estimate the excess compliance expenses for the six largest U.S. banks. First, based on regulatory filings, this analysis aggregates the non-interest expenses for the six largest U.S. banks—a total cost of $288.1 billion. Then, it adjusts the U.S. banks’ NIE downward based on the 2013 efficiency ratio of Canadian banks (ER\textsubscript{CAN}), 59.3% compared to a ratio of 68.1% for the U.S. (ER\textsubscript{US}). Finally, this adjusted NIE is subtracted from the original to provide an estimate of excess regulatory compliance costs.

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322. Based on 10-K filings for all six U.S. banks listed in Figure 2.
In formulaic terms:

\[
NIE_{US-2013} = \sum_{t=2013}^{T} [NIE_{JPM} + NIE_{BAC} + NIE_{C} + NIE_{WFC} + NIE_{GS} + NIE_{MS}]
\]

\[= \$288.1 \text{ billion}
\]

\[= (NIE_{US-2013} \times ER_{US}) - (NIE_{US-2013} \times ER_{CAN}) = \$25.3 \text{ billion}
\]

In other words, the relatively higher costs of regulatory compliance in the U.S. cost the six largest banks as much as $25.3 billion in 2013 alone. Discounting this figure to present value terms is somewhat nuanced due to the difficulty of estimating the right discount rate, but can also be approximated. Using the 10-year Treasury rate plus 250bp—a back-of-the-envelope assumption about funding costs—yields an NPV of $586.2 billion; based on the U.S. banks’ 2013 average ROE of 10%—likely a conservative assumption—the NPV of excess compliance costs is $253.2 billion.

3. Structural Costs

The structural costs of U.S. financial regulation are reflected in bad aggregate outcomes rather than monetary outlays. Although regulatory competition presents benefits in certain contexts, the evidence suggests that American financial regulation is not one of them. At the same time, America’s dual banking system imbeds an element of regulatory competition into the framework—reducing the risk of developing “a classic monopolistic bureaucracy.”

Regulatory capture and arbitrage dynamics in American financial regulation have been well documented in the academic literature. This

326. See also Sudipto
Comment hopes to add to the body of research through a discussion of trust preferred securities (TruPS) and TruPS CDOs—a textbook example of regulatory arbitrage that degraded capital quality for hundreds of U.S. lenders.

Traditionally, arbitrage refers to taking advantage of a pricing discrepancy for the same asset in different markets. Similarly, regulatory arbitrage refers to industry participants taking advantage of regulatory inconsistency to obtain unintended benefits or take socially suboptimal risks. However, whereas in traditional arbitrage trading eventually drives prices to convergence, there is no organic mechanism to close loopholes created by regulatory arbitrage. Further, just as a larger number of markets increases arbitrage opportunities, a larger number of regulators increases the potential for policy inconsistencies that can be profitably leveraged.

TruPS and TruPS CDOs illustrate how this works in practice, while offering another example of the wisdom of Canadian financial regulation. Essentially, TruPS allowed banks to issue securities that largely functioned like debt—including tax-deductible interest payments—but counted as capital for regulatory purposes. Thus, TruPS were a relatively cheap funding source.

As shown by Figure 17 below, TruPS pool preferred stock and then issue securities with a fixed coupon regardless of actual dividend payments into the trust by the bank holding company. TruPS CDOs are simply an


330. See generally Macey, supra note 327.


333. In good years, it can create excess that is kept in trust to make up any later shortfall. In bad years, the trust is not required to make payments, but, depending on the terms, may have to make up the shortfall in the future. See, e.g., Gregory Zuckerman, A Question of Trust, WALL ST. J., Dec. 11, 2011, http://www.wsj.com/articles/
extension of the same process, pooling TruPS instead of the underlying preferred shares, and then selling parts of the aggregate structure in risk-calibrated tranches.

Figure 17. TruPS CDO Structure

While perpetual, non-cumulative TruPS without imbedded options may well be an efficient funding mechanism, the limited life, callable vintage used in the U.S. were objectively weaker capital. For example, in S&P’s ratings, “the U.S. version of trust preferred is subject to a cap of 10% of adjusted total equity.”

The American structure developed through a multi-pronged regulatory arbitrage on both sides of the balance sheet, allowing U.S. banks to issue and invest in the same questionable securities and count both as loss-absorbing Tier 1 capital.


336. “By issuing TruPS and buying CDOs containing them, the banks in effect were propping each other up. The industry was self-financing, using loopholes in rules.” Alison Vekshin, Jody Shenn & Yalman Onaran, How Banks got Tripped up by TruPS, BLOOMBERG BUSINESSWEEK, June 14, 2010, at 40, 41. (internal quotation marks omitted).
On the liabilities side of the balance sheet, despite the FDIC’s objections, in 1996 the Fed “permitted bank holding companies to fulfill 25 percent of their core capital requirements with the TruPS, thereby allowing them to dodge the more restrictive forms of capital stipulated by the Basel Committee.”337 Banks took advantage of this discrepancy by issuing TruPS “at the holding company level, which is regulated by the Federal Reserve, and not at the bank level, where the FDIC has its insurance.”338 TruPS CDOs developed to facilitate TruPS issuance by “small banks and insurers that don’t have access to the public capital markets.”339 Approximately 1,800 small banks took advantage of the opportunity and issued securities pooled into TruPS CDOs.340 This regulatory arbitrage also helps illustrate the FDIC’s difficult position. On the one hand, as the deposit insurer, it needs banks to hold adequate capital; but, on the other, it is not operating at arms-length from the industry, making it harder to price and charge for risk to its insurance fund. Along with degrading capital quality, TruPS have also made recapitalizing troubled banks more difficult, adding to pressure on the FDIC’s deposit fund.

On the left side of the balance sheet, small American banks “purchased some $12 billion of TruPS CDOs . . . [becoming] a primary investor in the debt of the banking industry.”341 Banks are normally not allowed to count equity investments in other banks as capital. However, “no such restrictions were placed on TruPS CDO investments at banks”342 because “the opaqueness of the structure . . . made it difficult for regulators to actually determine how to account for TruPS CDOs for regulatory accounting purposes.”343

The Philadelphia Federal Reserve “estimate[s] that 77% of all TruPS CDO securities will suffer full or partial write-downs.”344 This was exceptionally problematic because “wiping out common and preferred shareholders would whack other banks’ capital levels,” exacerbating shock

338. Trust Preferred CDO Market, supra note 332.
340. Trust Preferred CDO Market, supra note 332, at 3.
341. Id.
342. Id. at 31.
343. Id.
344. Id. at 26. The Philadelphia Federal Reserve’s finding suggests the potential for significant deterioration of the “10 percent of all [Bank Holding Company] Tier 1 capital consisting of TRuPS.” Yagiz, supra note 337.
to the banking system.\textsuperscript{345} In fact, “[m]any of the 200 bank failures since the beginning of 2009 have been accelerated by losses in trust preferred securities.”\textsuperscript{346} In one case, Riverside National Bank, a mid-sized Florida-based lender, acquired TruPS CDOs “with a book value of $211 million between 2005 and 2007,” to see the value collapse to just $79 million by the end of 2009.\textsuperscript{347} These losses accelerated Riverside’s deterioration, forcing it to be placed into receivership by the FDIC, which by 2010 held over $400 million in face value of the very securities it had warned against.\textsuperscript{348} Notably, Canada’s Toronto Dominion Bank ended up purchasing “the most valuable pieces” of Riverside from the FDIC—sans the TruPS CDOs.\textsuperscript{349}

Combining the multi-pronged arbitrage of U.S. TruPS, an enterprising, risk-seeking American bank could fund 25% of its Tier 1 capital by issuing TruPS and then purchase TruPS CDOs to fill another 25%—leaving it with 50% of Tier 1 capital of questionable quality. A Canadian bank could count neither the TruPS issuance nor investment as Tier 1 capital, necessitating a greater equity cushion.

Unlike the Fed, OSFI “stuck to a fairly basic rule, which was that the bulk of Tier 1 capital had to be in equity”\textsuperscript{350}—a proposition consistent with the view of some scholars.\textsuperscript{351} Regarding TruPS, OSFI ruled that the “intercompany subordinated debt instrument associated with U.S. trust preferred securities is an instrument that would qualify as Tier 2B capital in Canada,” a lower, non-core form of regulatory capital compared to Tier 1.\textsuperscript{352} However, OSFI did allow U.S. subsidiaries of Canadian banks to count up to 15% as Tier 1 capital and the balance in Tier 2B, roughly splitting the


\textsuperscript{347} Id.

\textsuperscript{348} Id.

\textsuperscript{349} Id.

\textsuperscript{350} Alexander & Pasternak, supra note 10.


difference between the Fed’s 25% allowance and S&P’s 10% cap.\textsuperscript{353} In other words, relative to the Fed, OSFI would assess an identical structure for U.S. operating subsidiaries as having lower Tier 1 capital.

However, being reasonably accommodative of financial innovation, OSFI did allow Canadian banks to use a more robust version of TruPS—TruCS—for up to 15% of their regulatory capital. According to Standard & Poor’s, “[f]rom the perspective of capital credit . . . the Canadian capital trust securities . . . [are] fairly strong. Unlike trust preferred securities in other countries, particularly the U.S., the instrument is perpetual rather than limited life,”\textsuperscript{354} making them more akin to true equity for loss absorbing purposes. Further, unlike TruPS, Canadian TruCS were non-cumulative, meaning that if a bank couldn’t make interest payments in one period, the shortfall did not accrue into the next; in other words, banks could miss payments without default. Notably, unlike U.S. authorities, OSFI counted neither TruCS pooled into CDOs nor investments in similar structures for regulatory capital purposes.

After passage of the ‘Volcker Rule,’ there was significant uncertainty as to whether “interests in collateralized debt obligations backed by trust preferred securities (‘TruPS CDOs’) are ownership interests in Covered Funds,”\textsuperscript{355} and thus not permitted to be owned by banks. Ultimately, the five agencies involved in the deliberations “let banks keep CDOs backed by trust-preferred securities established before May 19, 2010, and obtained by Dec. 10, 2013,”\textsuperscript{356} effectively grandfathering in the initial problem.

\textsuperscript{353} Id. at 4.
\textsuperscript{354} S&P: Canadian Capital Trust Preferred Securities Approved, supra note 335.
IV. COUNTERARGUMENTS

“Canadians are like hobbits. They are just not as rapacious as Americans.”

- Matthew Winkler, former Editor in Chief, Bloomberg News

As the Financial Times points out, “[t]he first argument you are likely to hear when you start asking what made Canada different is cultural.” The second focuses on industry structure, and broadly suggests that Canada’s concentrated banking industry harms consumers. While both are theoretically reasonable, this section will show that the weight of the evidence goes against them.

A. Culture

Many, including former Federal Reserve Chairman Paul Volcker—who notably proposed reforms that “look[] more like the Canadian system than the American system”—believe that the success of Canadian banking is “partly a cultural thing—they are more conservative.” Culture is of course important, but it develops as a function of the environment—which for banking is the regulatory framework—not the other way around. Further, the evidence shows that Canadians are a lot like Americans with respect to risk-taking and rule-breaking—just not when it comes to banking in Canada.


358. Id. According to Ed Clark, CEO of Toronto Dominion Bank, “US bankers maybe see themselves as more important than we do.” Id.


360. Freeland, supra note 357.


However, in addition to strong regulation, Canadian banks have survived because a more conservative culture pervades all aspects of banking business, from lending to trading. With . . . other countries turning to examine the Canadian financial system in redesigning their own regulatory regimes, it is important to remember that prudence and conservatism do not emanate from law . . . . Rather, they are cultural phenomena particular to this country and this economy. [L]aw can only do so much.

Id.
First, Canadian pension funds are well-known as aggressive, opportunistic investors; simply put, they shatter the caricature of gentle Canadian finance. Unlike their passive American counterparts, Canada’s public pensions operate large in-house private equity firms and engage in activist campaigns—successfully “competing against every other investor in the world.” For example, the private equity arm of Ontario Teachers’ pension fund has generated annualized returns of 19.6% since its inception, “in line with top firms,” such as KKR and Blackstone. It is not intuitive how Canadians have the requisite aggressiveness to compete in private equity and hedge funds, but not in banking.

Second, when operating in the U.S.—but not in Canada—Canadian banks have run into the same regulatory and compliance issues as their American counterparts. For example, the Royal Bank of Canada (RBC) has been found liable for numerous violations in both advisory and trading roles in the U.S. Yet, its annual reports between 2008 and 2013 demonstrate no similar violations in Canada.

In 2011, RBC’s securities division paid a $30.4 million settlement to the SEC for selling “complex derivatives that were unsuitable to five

362. Between January and October of 2013, Canada’s six largest pension funds “participated directly in $18.4 billion of mergers and acquisitions[,] . . . more than double the $7.4 billion of the three biggest U.S. buyout shops, Blackstone Group, Carlyle Group, and Apollo Global Management.” Katia Dmitrieva & Matthew Campbell, Canadian Pension Funds, the New Buyout Kings, Take on Private Equity, BLOOMBERG BUSINESSWEEK, Dec. 16, 2013, at 44.

363. Id. (noting that “[m]any U.S. public pension plans are barred from participating directly in acquisitions.”).

364. See Ben Dummett, Ackman Gains Support in Proxy Fight with CP Railway, WALL ST. J. (May 16, 2012, 10:26 AM), http://online.wsj.com/news/articles/SB10001424052702303448404577408010695700338 (illustrating this difference through an example of when “two of Canada’s biggest and most active pension-fund investors”—whose “voting intentions carry outsize weight”—backed an activist campaign led by Bill Ackman.).

365. Dmitrieva & Campbell, supra note 362.


367. This assessment is based on RBC’s 10-K filings and other reports. Although it is entirely possible that this excludes instances of malfeasance, qualitatively, the volume of disclosures pertaining to U.S. legal issues relative to the dearth of similar disclosures for Canada suggests that it is a materially larger set of problems in the U.S. See generally, Annual Meetings and Reports, ROYAL BANK OF CAN., http://www.rbc.com/investorrelations/annual-meeting-reports.html (last visited Apr. 7, 2015).

Consistent with the culture argument, one could posit that the culprits were solely Americans working in RBC’s U.S. operations, but based on RBC’s Manhattan “conference room . . . filled with pictures of soothing icebergs and idyllic Canadian prairies,” one gets the image of a distinctively Canadian firm. Nathaniel Popper, Royal Bank of Canada Gains by Putting the Brakes on Traders, N.Y. TIMES, Jun. 25, 2013, http://dealbook.nytimes.com/2013/06/25/royal-bank-of-canada-gains-by-putting-the-brakes-on-traders/?_php=true&_type=blogs&_r=0.
school districts without fully informing them of the risks.” Subsequently, in March 2014, its investment banking unit was found guilty of aiding and abetting violations of fiduciary duties in connection with the 2011 buyout of the hospital chain operator, Rural Metro Corp. Vice Chancellor Laster of the Delaware Chancery Court sharply criticized the bank because “[r]ather than pushing for the best deal possible for Rural, RBC did everything it could to get a deal, secure its advisory fee, and further its chances for additional compensation from Warburg.”

The point here is not to criticize or single out RBC, but rather, to illustrate how quickly an institution with a relatively pristine track record in its home market gets caught up in a race-to-the-bottom while operating in the U.S. This shows that regulatory structure, rather than culture has altered primary behavior in the Canadian banking industry; with effective oversight, socially suboptimal conduct becomes less appealing. Attributing stark differences in regulatory performance to ‘culture’ while ignoring the underlying facts gives American regulation an unwarranted pass while doing regulatory reform a disservice.

B. Industry Structure

A second counterargument centers on Canada’s concentrated banking industry structure, which some scholars and commentators have criticized. Most notably, Professor Simon Johnson—a former Chief Economist of the International Monetary Fund now at MIT’s Sloan School of Management—stated that “[p]roposing a Canadian-type model to create

369. Vice Chancellor Laster “identified decisions that fell outside the range of reasonableness, thereby giving rise to a fiduciary breach under the enhanced scrutiny standard” and found that “[o]n the facts of this case, RBC acted with the necessary degree of scienter and [could] be held liable for aiding and abetting.” In re Rural Metro Corp., 88 A.3d 54, 96-97 (Del. Ch. 2014).
370. Id. at 95. Further, “[a]t the same time that RBC’s leveraged finance bankers were engaging in last-minute lobbying with Warburg, the RBC M & A team was working to lower the analyses in its fairness presentation to make Warburg’s bid of $17.25 look more attractive.” Id.
371. According to one commentator, “[s]omething tells us Canadian sovereign CDS, not to mention Canadian bank CDS, are both about to go quite a bit wider . . .” Tyler Durden, Is the Next Domino to Fall Canada?, ZERO HEDGE (Aug. 18, 2011, 3:25 PM), http://www.zerohedge.com/news/next-domino-fall-canada. The commentator further noted, “of the banks with a TCE ratio of under ~4% a whopping 30% are those situated in Canada, the same place where nobody thinks anything can go wrong, and which has been completely spared from the retribution of the bond vigilantes.” Id.
stability in the U.S. is, to be blunt, nonsense.” Professor Johnson argues that government support rather than underlying stability are responsible for Canadian banks’ performance, and further that the concentrated industry structure hurts Canadian consumers. For example, Professor Johnson points out that at the end of 2008, JPMorgan and Wells Fargo were less leveraged and had higher Tier 1 capital than Canada’s banks. However, there are a few flaws with the comparison.

First, by the end of 2008, JPMorgan and Wells Fargo had already received $25 billion each in capital infusions through the TARP program, which had the specific purpose of increasing Tier 1 capital and reducing leverage. Canada’s banks received a total of $0. Second, the comparison is stymied by selection and survivor biases. JPMorgan and Wells Fargo are widely considered to be America’s best-managed banks—as demonstrated by their crisis-era performance. Professor Johnson leaves out that at the end of 2007, the five large U.S. investment banks—Lehman Brothers, Bear Stearns, Merrill Lynch, Goldman Sachs, and Morgan Stanley—were levered more than 30:1 on average and fared less well during the crisis, having already collapsed or restructured by the end of 2008. Third, as the discussion in Part III.B.3 illustrates, capital quality matters just as much as quantity—especially in a crisis. A nominally healthy Tier 1 ratio built from callable TruPS CDOs is far less reassuring than a slightly lower one composed of equity.

Finally, given that Canada’s banking system assets are nearly double its GDP, it is unclear whether Canada would even have the resources to

372. Professor Johnson appears to critique both the industry structure and regulatory framework in his article, which has been reprinted in the New York Times Economix Blog, the Huffington Post, and Professor Johnson’s own website. Boone & Johnson, supra note 321.

373. “JPMorgan Chase was 13 times leveraged at the end of 2008, and Wells Fargo was 11 times leveraged. Canada’s five largest banks averaged 19 times leveraged, with the largest bank, Royal Bank of Canada, 23 times leveraged. It is a similar story for Tier One capital . . . .” Boone & Johnson, supra note 321.


375. See Torrie, supra note 53 and accompanying text.

rescue its banks. This uncertainty would logically be priced into CDS on Canadian banks. Yet, the analysis in Part I illustrated that this is not the case, suggesting that Canadian banks’ balance sheets, rather than government guarantees, underlie their stability.  

Professor Johnson also argues that “camaraderie” between banks and regulators allows for an oligopoly that harms consumers through higher costs of credit. In fact, one could argue that the superior efficiency of Canada’s banks, discussed in Part III, is the result of such anticompetitive behavior. However, along with the analysis of HSBC—which is similarly more efficient in Canada despite not being a member of the ‘home team’—the results provide little support for positing cartel-like conduct. There is also no evidence that Canada’s banking market is particularly onerous to enter. If supra-normal profits were being generated, powerful American banks like JPMorgan would surely enter the fray by undercutting Canada’s domestic lenders.

While Canada’s banking industry is concentrated—with its six largest banks holding 95.0% of system assets, compared to 63.6% in the U.S.—there is also no evidence of consumer harm. The analysis in Part I showed that Canadians in fact have similar access to credit on similar terms as Americans. Unlike Americans, however, Canadians actually like and trust their banks—“95 per cent [of Canadians] say that, when they see what has happened with banks around the world, it makes them proud about Canadian banks.” In short, if Canadian banks are ‘colluding’ to minimize prices and maximize consumer welfare, it sounds far closer to genuine competition than a ‘conspiracy.’  

V. IMPLICATIONS FOR AMERICAN REGULATION

The evidence demonstrates that America needs to improve both the effectiveness and efficiency of its financial regulatory architecture. While I do not advocate a wholesale transition to Canada’s model, the results do speak for themselves. Thus, this Comment suggests incorporating some of the fundamental principles that have made the Canadian regulatory

377. See supra Part I.C. (discussing that market participants deem Canadian banks so safe that there are no actively traded CDS referencing them).
378. Boone & Johnson, supra note 321 (positing that such an “oligopoly means banks can make profits in rough times – they can charge higher prices to customers and can raise funds more cheaply, in part because of the knowledge that no politician would dare bankrupt them.”).
379. See supra Part II.B.2.
380. See supra note 59 and accompanying text.
381. See supra Part I.C.
382. What Canadians Think, supra note 11.
framework effective, but adapting them to America’s unique economic and political dynamics.

Most importantly, the U.S. needs to consolidate macroprudential supervision into a regulator akin to Canada’s OSFI. As a secondary, but functionally related matter, the U.S. framework would benefit from transitioning towards sole-mandate regulators. Particularly with respect to the FDIC and the Federal Reserve, this change would simultaneously be a substantial step toward achieving the primary goal of consolidated prudential supervision.

Finally, while the dual banking system must be retained, both state-chartered banks and taxpayers could benefit from a broader range of options. As will be discussed below, merging state-specific banking regulators into ‘regional hubs’—modeled along the Federal Reserve’s branch network—could generate significant cost savings for both taxpayers and state-chartered institutions.

This section will proceed in five brief parts. First, it will outline Senator Dodd’s original proposal to consolidate prudential supervision under the OCC, while illustrating how this Comment’s recommendations incorporate legitimate concerns to make the core idea politically palatable. Second, it will elaborate on this Comment’s original proposals to consolidate supervision under a restructured agency—‘New OCC’—and changes that could be made to improve its performance. Third, it will briefly discuss the second structural priority—setting more clearly defined roles for the other regulators. Fourth, it will estimate potential federal-level cost savings from the proposed changes. Finally, it will discuss the Comment’s proposal for a state regulatory ‘regional hub’ system for state-level bank regulation.

A. Senator Dodd’s Original Proposal

Consolidating prudential supervision is not an entirely new idea; Senator Dodd’s original legislation—ultimately abandoned in favor of Dodd-Frank—sought to fold all prudential responsibilities under the OCC to create a single bank regulator. Dodd-Frank’s co-author,

383. See Alexander & Pasternak, supra note 10, at 2 (noting that “[a]s far back as January 1999, OSFI sent a letter to Canadian banks telling them to set aside at least 10 percent of total capital as a cushion for losses.”).
384. See supra Part III.A (These include: prudential supervision, central banking, consumer protection and deposit insurance.).
Representative Barney Frank, echoed the sentiment, stating that there was “great logic” to consolidation under the OCC.  

Notably, there is a level of uncertainty as to whether such integration was seriously considered at just the federal level. For instance, during a 2014 panel about the Act featuring Senator Dodd and Representative Frank, the moderator raised this point, but—and perhaps not deliberately—neither of the former lawmakers provided an answer.

For differing reasons, two powerful constituencies—community banks and other regulators—were steadfastly against Senator Dodd’s original proposal. Community banks vehemently opposed being regulated by the OCC due to the perception that it was biased towards large lenders. Sheila Bair, the crisis-era head of the FDIC, echoed this concern in a New York Times op-ed—but, notably, expressed being an “active supporter of . . . consolidat[ing] the supervision of federally chartered financial institutions in a new national bank supervisor.”

The second source of contention stemmed from regulators—for whom consolidation could mean surrendering existing powers. Bair touched on this point in her op-ed, noting that losing its “regulatory role would limit [the FDIC’s] ability to protect depositors by identifying and assessing risks in the financial system.” Similarly, Alan Greenspan, the former Chair of

386. Building on 150 Years, supra note 263. Many market commentators have agreed with Senator Frank’s sentiment; for instance, Felix Salmon, wrote that “we have to put all our regulatory eggs in one basket, [otherwise] regulatory arbitrage will simply result in a race to the least-safe basket.” Felix Salmon, Why There Can Only be One Basket of Regulatory Eggs, REUTERS (Sept. 1, 2009), http://blogs.reuters.com/felix-salmon/2009/09/01/untitled-34/.

387. Building on 150 Years, supra note 263.

388. Perhaps somewhat surprisingly, the CEO of Wells Fargo, John Stumpf, was quite public in his support for Bair’s position; he described eliminating the dual banking system as “a mistake” because it has “served this country exceedingly well.” Pat Garofalo, Wells Fargo Joins Sheila Blair to Quash Proposal for Single Bank Regulator, THINK PROGRESS (Sept. 2, 2009, 12:09 PM), http://thinkprogress.org/economy/2009/09/02/172919/wells-bair-bank/.


390. As the New York Times noted:

Some of Mr. Obama’s advisers and some senior Democratic lawmakers have suggested creating a single bank regulator. But the administration’s current version, which could be announced as early as this week, would not combine the regulatory agencies. Instead, it would give Mr. Dugan [head of the OCC] and Ms. Bair [head of the FDIC] significant new powers—and could intensify their turf battles.


391. Id.
the Federal Reserve, felt that conducting effective monetary policy necessitated the Fed having an active role as a prudential supervisor. Senator Dodd noted, however, that his staff could not “find one instance” from Fed meeting minutes even mentioning—let alone utilizing—its prudential supervision powers. At the same time, neither Canada’s Central Bank nor its Deposit Insurer have prudential supervisory roles and have had no trouble fulfilling their respective mandates.

Combined with opposition from community banks and regulators, two other factors weighed against Senator Dodd’s initial proposal. First, as Representative Frank pointed out, at the time the public’s attention was fixated on health care legislation, making it difficult to gain traction, especially regarding fairly technical regulatory issues. Second, as previously discussed, the Financial Crisis Inquiry Report significantly downplayed the importance of structural factors, which—based on this Comment’s findings appears incorrect—thus providing some justification for shifting course.

While this Comment is more concerned with forward looking prescriptions, rather than replaying past events, it humbly heeds Lawrence Summers’ important point: “[c]ritics who disagree at this late date are obliged to provide an alternative analysis of the political calculus.”

Most importantly, this Comment supports retaining—in fact, potentially strengthening—the dual banking system, thus incorporating legitimate concerns expressed by community banks and their regulators. Further, the Comment provides a potent new source of political leverage: cost savings. Since the recession—and extending to today—a broad anti-spending mood has swept through Washington. To that end, this Comment offers significant efficiency-driven savings – as much as $350 billion at the federal level and potentially over half a trillion for the financial industry, in net present value terms. While not necessarily a silver bullet, cost savings remain popular on both sides of the aisle. This could have significantly strengthened Senator Dodd’s hand politically and remains a viable tool for the future. Reducing government spending is basically the cornerstone position for some lawmakers—and also the area where they have the least room to maneuver.

392. Building on 150 Years, supra note 263.
393. Id.
394. Id.
395. See supra note 19 and accompanying text.
396. This quote is from Summers’ critique of scholars’ proposal regarding the mortgage cram-down, but is applicable nevertheless. Lawrence Summers, Lawrence Summers on ‘House of Debt,’ Fin. Times (June 6, 2014, 1:14 PM), http://www.ft.com/intl/cms/s/2/3ec604c0-ec96-11e3-8963-00144feabde0.html.
397. For officials elected on a platform of reducing government spending and
help make these changes politically palatable enough to overcome entrenched opposition.398

At the same time, significant structural changes to the financial regulatory system have been successfully implemented elsewhere. For example, in November 2014, the Eurozone transitioned towards the Single Supervisory Mechanism, which grants the “European Central Bank . . . powers to supervise all 6,000 banks operating in the 17 country bloc.”399 Relative to the political and economic complexity of a sovereign nation relinquishing such powers, a federal agency doing so is not unrealistic.

Figure 18 below presents a summary of the structural transition for the U.S. financial regulatory architecture. For ease of reference, it removes the consumer protection and crime prevention roles; while important parts of the broader architecture, these functions are less impacted by the proposed structural changes. At the same time, because no changes are proposed to the operation of the monetary policy or deposit insurance roles in the U.S., these functions are omitted from the post-transition side of the diagram to facilitate focus on the proposed changes.

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B. Consolidate Prudential Supervision

As discussed above, developing effective macroprudential supervision is the first priority for the U.S. We are not starting with a blank canvas; any proposal must be realistic about the pieces at play and how they can feasibly be moved. Thus, in a big picture sense, this Comment emphasizes consolidation of functions, rather than agencies.\footnote{See generally John C. Coffee, Jr., Competition Versus Consolidation: The Significance of Organizational Structure in Financial and Securities Regulation, 50 Bus. LAW. 447 (1995) (concluding that regulatory consolidation is unlikely, but outlining various benefits and drawbacks of regulatory consolidation and competition).}

This Comment largely agrees with the underlying premise of Senator Dodd’s original proposal, but—along with retaining the dual-banking system—it recommends more somewhat comprehensive changes. Largely as a function of regulatory history—rather than the current agency’s fault—even if structurally placed into an OSFI-like role, it is frankly unclear if the OCC could achieve the same results.

\footnote{See generally John C. Coffee, Jr., Competition Versus Consolidation: The Significance of Organizational Structure in Financial and Securities Regulation, 50 Bus. LAW. 447 (1995) (concluding that regulatory consolidation is unlikely, but outlining various benefits and drawbacks of regulatory consolidation and competition).}
The consolidation of regulatory functions should conceptually resemble something analogous to a Chapter 11 restructuring, rather than a set of acquisitions by the OCC. Changes must be made with the basic mindset that the entity is troubled and being rehabilitated, not rewarded. Although, realistically, the existing OCC will form a core of the post-transition prudential supervisor—‘New OCC,’ let’s call it—the reorganized entity will fundamentally differ in both its organization and operation, and thus, hopefully its performance.

Importantly, this Comment’s position fundamentally diverges from Dodd-Frank’s reliance on FSOC for macroprudential supervision. As previously discussed, FSOC’s unwieldy structure—with the heads of over a dozen regulators—is unlikely to be effective as a macroprudential supervisor; in fact, it codifies, rather than mitigates, many of the system’s shortcomings.

1. Structural Changes

Prudential supervision should be consolidated under the ‘New OCC’ to the extent possible—bearing in mind practical and political realities. The most important consolidation is with respect to federal-level supervision of banks and their broker-dealer subsidiaries, along with housing finance. Consolidation of prudential oversight of insurance and the current roles of the capital markets regulators would also be beneficial, but is less of an immediate need. Thus, it can be pursued as a second phase; further, in practice, doing too much at once may also not be feasible or productive.

First, the Federal Reserve and the FDIC—which serve other required functions—should transition their prudential supervisory roles to the OCC. This will require the transfer of personnel, data, and other resources to the OCC—along with a portion of the agencies’ cost savings for the first five years (as will be discussed in the subsection below) so that the OCC can fund its new responsibilities.

With respect to housing finance, the prudential functions of the FHFA should also be consolidated under the ‘New OCC’s’ expanding umbrella. Structurally, the FHFA would be maintained as an administrator overseeing housing finance—Fannie Mae, Freddie Mac, the twelve Federal Home Loan Banks, and their $7 trillion in obligations—but ultimately reporting to the OCC. Along with effective oversight of housing, this approach will also provide the ‘New OCC’ with a broader picture of financial markets.

401. This Comment does not explicitly take a position regarding the GSE’s long-term structure. Instead, the Comment assumes that due to some combination of political inertia, expedience, or exogenous factors, the GSEs will remain largely as they are now, thusly
Although the cause-effect relationship between the housing markets and recent financial crisis remain hotly debated, it would be difficult to argue that the housing market was unimportant. Further, given the impact of a housing crisis on average Americans—for whom the majority of wealth is in home equity—excluding housing finance from the macroprudential framework would appear shortsighted. Notably, despite the relatively robust performance of Canada’s CMHC during the crisis, Canada wisely looked forward towards potential future problems and restructured regulation of housing finance by placing the CMHC directly under OSFI’s oversight in 2012.

The National Credit Union Administration’s (NCUA) role is somewhat more complex, because, like the OCC, it is also solely a prudential regulator. Thus, transitioning its prudential powers could mean closing the agency—which is unlikely to be politically viable. At the same time, with over $1 trillion in assets, credit unions are too large and important to ignore. Further, the industry has rapidly grown, suggesting that if they are excluded from macroprudential supervision, risk-seeking activity will increasingly migrate there, resulting in an innate structural weakness in the framework. A potential middle ground could be to transition the NCUA to be part of the Treasury department, with the ultimate goal of making it an independent division of the ‘New OCC.’

placing even greater importance on integrating them into the broader macroprudential framework.


403. As discussed in Part II.C., the structure and priorities of Canada’s CMHC – most importantly, not maximizing home ownership or profits – facilitate more robust risk-management practices. It is likely as a result of this structure and OSFI’s prudent regulation of credit providers that the CMHC remained relatively unscathed through the crisis.


405. Credit unions have growth significantly in size, as “[t]en years ago there were only 70 credit unions with assets of more than $1 billion. Now there are 195,” and also experienced consolidation similar to banks, as “the number of credit unions has dropped by more than half since 1990.” However, “[f]or the ones that remain, growth — in members, loans, and deposits — continued almost unabated during the financial crisis. . . .” See Brendan Greeley, Have Credit Unions Become Stealth Banks?, BLOOMBERG BUSINESSWEEK, May 20, 2013, at 14.
The capital markets regulators—the SEC, CFTC, and FINRA—should also transition oversight of banks’ broker-dealer units to the OCC, while retaining full oversight of the securities and derivatives markets—including the $12.3 trillion market for U.S. treasuries, which currently suffers from an unfortunate regulatory gap. As discussed in Part II, the SEC is responsible for overseeing the securities units of bank-holding companies. Along with clouding the SEC’s mandate, this results in multiple agencies overseeing parts of the same bank, but no agency overseeing all of it. Further, Dodd-Frank has only expanded the prudential responsibilities of the SEC and CFTC. While coordinating with the securities regulators will continue to be important, the OCC should assume the prudential oversight of banks’ securities units, which, past experience has shown, are often the nexus of risk-taking for the institution.

Insurance supervision presents a unique set of challenges because the market has long been overseen at only the state level. The establishment of the Federal Insurance Office (FIO) within the Treasury Department is thus a welcomed development. However, given the potential systemic importance of insurers, demonstrated by American International Group, it would be much preferred if the FIO, like the NCUA, ultimately transitioned towards becoming a unit of the OCC, rather than a standalone regulator.

2. ‘New OCC’ & its Operation

There are at least three baseline drivers for cautious optimism about the ‘New OCC.’ Most importantly, improving the regulatory system itself—through structural streamlining and elimination of regulatory gaps and arbitrage opportunities—will make the overall framework stronger and more robust.

Second, the OCC is a practical choice for leading this effort. A significant portion of financial regulation also already occurs within the

406. See Matthew Leising, The Treasury Market Needs a Lifeguard, BLOOMBERG BUSINESSWEEK, Dec. 15, 2014, at 37 (noting “[w]hile the U.S. Department of the Treasury and the Federal Reserve Bank of New York exercise some oversight, there’s no one central authority charged with policing the market to prevent illegal trading activity in what is the world’s largest, most active bond market.”).


Treasury Department—including, FinCEN, OFAC, and FIO—facilitating coordination and regulatory consistency while generating economies of scale and scope. At the same time, due to the OTS integration, the OCC is the only financial regulator with recent experience consolidating another agency’s functions and personnel—which are not easy matters.

Finally, the OCC’s organizational culture and mindset appear conducive to change and improvement. The OCC’s staff take their jobs seriously—a culture rooted in the venerable history of an agency founded to fund the Civil War. To this day, its bank examiners “are commissioned like military officers” and “view themselves as an elite, tight-knit group” that takes pride in starting their day far earlier than other regulators. The OCC has also acknowledged past shortcomings and has taken some—albeit, not enough—steps to improve. For example, its recent unilateral decision—and not one followed by other agencies—to have its operations peer-reviewed and audited by other regulators (including those from Canada) was a positive move, although, perhaps more in theory than in practice.

Like any reorganizing entity, ‘New OCC’ needs to take aggressive steps to address past weaknesses and position itself for success—ideally matching OSFI’s. To that end, the ‘rebranding’ aspects of this proposal are beneficial by removing the stigma of the past while reinforcing the idea that changes are not only needed, but actually happening. Such changes for ‘New OCC’ fall into two broad buckets: (i) operational, which are largely

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409. Gina Chon, US Regulator to Take Tougher Stance on Big Banks, FIN. TIMES, Dec. 5, 2013, http://www.ft.com/intl/cms/s/0/a041f652-5fcf-11e3-a558-00144feabdc0.html#axzz3IX3RAGIM (noting that Comptroller Thomas Curry remarked that “‘[i]t’s important to show externally that we are top notch and with the OCC, you are getting strong, credible supervision.”).

410. Id.

411. See Michael R. Crittenden, Bank Examiners To Face Rigorous Reviews, WALL ST. J., Sep. 30, 2013, http://online.wsj.com/articles/SB10001424052702304795804579101471233121750 (describing new review program for OCC, which will be combined with a “separate initiative allowing regulators from Canada, Singapore and Australia — all of which weathered the financial crisis — to perform their own independent evaluations of the OCC.”); see also Andrew Martin, Does This Bank Watchdog Have A Bite?, N.Y. TIMES, Mar. 27, http://www.nytimes.com/2010/03/28/business/28dugan.html?pagewanted=all (finding that “[i]ke his recent predecessors, [Comptroller] Mr. Dugan often takes positions that align with banks, even as they have come under withering attack for their role in the financial crisis.”).

412. Although criticized by some for not being sufficiently independent, the recently completed study - led by a former deputy Comptroller and regulators from Canada, Australia, and Singapore—called for the agency to make “‘safety and soundness’ of financial institutions . . . its main goal.” Gina Chon, Review of US Regulator OCC Calls for Focus on Sound Institutions, FIN. TIMES, Dec. 5, 2013, http://www.ft.com/intl/cms/s/0/3b93cace-5db9-11e3-95bd-00144feabdc0.html#axzz3IX3RAGIM.
actionable in the near term, and (ii) political, which are outside of the agency’s control, and thus must be assessed over a longer time horizon.

Operationally, the new OCC should align its capabilities and supervisory process with the needs of the banking industry while enhancing its human capital. The financial services industry has rapidly changed, and as illustrated by the ‘London Whale’ incident described in Part III, in part because of the fragmentation of responsibilities in the current framework, the OCC has not necessarily kept up. In the short-to-medium term, much of this void can be filled through transitioning staff from other agencies, in particular the Fed. In the longer run, however, the new OCC should enhance its hiring pipelines and training frameworks, while potentially adjusting the allocations of current employees.

Naturally, the supervisory process itself must evolve alongside the industry that it oversees; but, while conceptually innocuous, this proposition is difficult in practice. Although the OCC’s recent decision to deemphasize on-site monitoring is a step in the right direction, more remains to be done. In part, this may be aided by the ‘rebranding’ benefits of the proposal: the industry may perceive the new agency differently and thus be more attuned to staying in its good graces. Further, the ‘fresh start’ may make it easier to integrate staff from other agencies and wrest control of the ‘New OCC’ from the old. In practice, having higher caliber staff that is more attuned to cutting-edge developments in academia and the financial industry will help the agency position and rebalance its role over time.

To enhance its human capital, the OCC should broadly look to the Federal Reserve as a successful model. There is nothing inherently ‘sexier’ about conducting monetary policy than prudential supervision. Yet, in qualitative, but widely accepted terms, the Fed’s capability to recruit and retain top-caliber staff outmatches other financial regulators—both amongst its top brass and also at more junior levels, which are crucial for analytics and day-to-day operations.

An important—though hardly the only—factor underling this dynamic is the Fed’s deep relationship with academia, particularly at top economics departments. This creates a natural pipeline of scholars seeking to apply their work through public service, which the Fed facilitates. The FOMC structure, for instance, nicely meshes with universities’ requirements for maintaining tenured positions. The OCC can take similar steps to encourage top-caliber faculty from law schools and finance departments to serve on key decision-making and oversight committees. Incorporating more influence from academia would also dilute the politicized nature of appointments to the OCC. As the Fed’s experience bears out, relative to
political appointees, the incentive structure for tenured academics may be better aligned with the public’s long-term interest.\footnote{413}{It is difficult to parse the precise drivers of this dynamic. However, it can be posited that academics with tenure are generally—but certainly not always—more concerned with preserving their intellectual credibility by making the ‘right’ decisions, rather than the right moves politically.}

For the ‘New OCC,’ the first step may be retaining—but also repositioning—the Office of Financial Research. While enhanced research capabilities are positive, integrating the OFR into the ‘New OCC’ may mean clouding its intellectual independence and degrading research quality. Thus, at least initially, it may be best to operate the OFR as more akin to a think-tank than an in-house research division. In this role, the OFR could also be responsible for hosting conferences and events for academics and practitioners. Such events may be important for building the new OCC’s relationships within academia—ultimately expanding its pipeline of talented employees. At the same time, the OCC could also incorporate positions for visiting scholars, while also encouraging its staff to conduct academic research.\footnote{414}{Google, for instance, is known for giving employees a built-in window—about ten to twenty percent of total hours—to work on essentially their own intellectual pursuits. As one engineer described it, they can spend “one day a week working on projects that aren’t necessarily in our job descriptions.” Alex K., \textit{Google’s ‘20 percent time’ in Action}, GOOGLE OFFICIAL BLOG (May 18, 2006) http://googleblog.blogspot.com/2006/05/googles-20-percent-time-in-action.html (describing a program’s development during twenty percent time).} Since the organization will not be able to compete with the private sector purely with respect to compensation, this may be a unique benefit that it could offer—a strategy that has been successful for the Fed.

The new OCC would also benefit from greater independence and a level of insulation from the political process, akin to OSFI. As a function of being situated within the Treasury, the OCC is directly accountable to the executive branch and the President.\footnote{415}{See supra note 266 and accompanying text.} This oversight has notable benefits, such as the use of Cost-Benefit Analysis described in Part III. However, the complex linkages between financial regulation and social policy—best exemplified by housing policy—suggest this structure may be suboptimal relative to providing greater independence for the agency, as is the case with the Federal Reserve.

\textbf{C. Untangle the Allocation of Responsibilities}

Closely related to the core goal of effective macroprudential supervision is that of untangling the other regulatory functions. Especially
with respect to the Fed and FDIC, transitioning their prudential roles to the ‘New OCC’ will have the added benefit of streamlining the allocation of other essential responsibilities.

As a consequence, the Federal Reserve will be able to focus on its dual mandate – maximum employment and price stability—rather than prudential supervision. The importance of the Fed’s role cannot be overstated; in fact, the Fed’s consolidated power—and political independence—is likely a substantial factor underlying America’s economic recovery. In contrast, the Eurozone—which employs fragmented, country-specific monetary authorities—has been less able to steer out the crisis.

The FDIC will also be able to concentrate on providing properly priced deposit insurance and protecting its fund without conflicting mandates as a supervisor of the same banks. Additionally, since the FDIC and Fed currently oversee state chartered banks in conjunction with state level regulators, integrating their responsibilities within the OCC will also help mitigate some of the fragmentation resulting from America’s dual-banking system.

As discussed in Part II, while reasonable arguments can be made for integrating prudential supervision and monetary policy under the Central Bank, there are a number of considerations weighing against combining prudential supervision and monetary policy in the U.S. First, in practice, this would mean closing the OCC—almost surely a non-starter, at least, politically. At the same time, such a model is relatively untested in large advanced economies—although, the United Kingdom’s newly streamlined regulatory architecture under the Bank of England416 and the European Central Bank’s Single Supervisor Mechanism (SSM) will provide important test cases. If the SSM—which is likely a closer analog for the U.S. than the U.K.’s transition—proves effective, the possibility of integrating the OCC into the Fed’s structure could later be researched and explored.

However, irrespective of the SSM’s performance, as previously discussed, there is the clear potential for conflict amongst the roles. This has been identified by Professors Calomiris and Litan—“weakness in the financial sector can tempt a central bank with supervisory authority over financial institutions to pursue a looser monetary policy than it would

otherwise follow,\textsuperscript{417} which others have noted “would be particularly acute if the Fed were the systemic regulator.”\textsuperscript{418} In either case, pursuing a monetary policy based on the needs of constituent institutions, rather than its dual mandate could impair the Fed’s credibility—which is essential for conducting effective monetary policy.

Public perception and accountability present an additional consideration. As discussed, the Fed has a uniquely politically insulated structure, extending to the boards of its regional branches, which are largely composed of academics and business leaders, rather than elected or appointed officials. While the structure has been effective, it is important to tread carefully, as assuming too much power without political oversight may result in an eventual overcorrection, through which the Fed is forced to succumb to the political branches. In short, the macroprudential regulator “should have the health of the institutions it supervises solely in mind when it makes its decisions;”\textsuperscript{419} on balance, it is unclear if the Fed could be in a position to do so.

\textbf{D. Potential Cost Savings}

Along with enhancing regulatory effectiveness, the changes proposed by this Comment will also create a more efficient system, generating significant—potentially even tremendous—cost savings. Given the aforementioned complexities of calculating regulatory costs, estimating cost savings with sufficient precision is even more difficult. However, this section will attempt to do so by applying models—largely borrowed from corporate finance—to value potential cost savings in net present value (NPV) terms.

As discussed in Part III, 2013 institutional costs for U.S. federal-level financial regulation were approximately $6.16 billion. Based on two benchmarks—Europe and Canada—this Comment estimates that regulatory changes in the U.S. could generate federal-level institutional cost savings of $82.6 and $350.2 billion, respectively.

The European benchmark is based on a comprehensive study to estimate the cost of Europe’s pre-SSM regulatory framework, previously discussed in Part III.\textsuperscript{420} Conceptually, the study found that “increasing

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419. \textit{Id.}

\end{footnotesize}
economies of scale in banking supervision”421 drive much of the cost savings from regulatory consolidation. In other words, once a regulator is already established, the incremental cost of overseeing more banks decreases—a phenomenon well documented in the economics and business literature. Specifically, the study, found that a 1 percent increase in the size of the banking sector supervised corresponded to increased institutional costs of “only some 0.5 percent.”422 Building off these findings, the study “predict[ed] institutional cost saving of around 15 percent in a plausible simulation scenario representing a cost-efficient European supervisory framework.”423

Given the innate differences in the nature of regulatory fragmentation in the U.S. and Europe, it is unclear to what extent this finding can be interpolated to the U.S.—it simply provides a benchmark. The other benchmark is based on Canada’s regulatory system, which, as discussed in Part III.B.1, was 63.4% less costly than America’s between 2010 and 2013, after adjusting for banking sector size.

Figure 19 below illustrates potential cost savings based on a synergy and efficiency enhancement valuation model, commonly applied in the private equity and investment banking industries. The model computes cost savings based on both the European and Canadian projections—15% and 63.4%, respectively—resulting in savings with a net present value of $82.64 billion based on the European figures and $350.23 billion based on Canada’s.

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421. Id. at 1.
422. Id. at 13.
423. Id. at 1-2.
A number of model adjustments and assumptions are important to point out. First, the model assumes that U.S. institutional costs at the federal level will grow by the OCC’s level of average cost growth rate between 2010 and 2013—8.4% a year—over the next five years. This is a notably conservative estimate; it is well below the 10.4% annualized growth rate for federal level institutional costs as a whole. It also assumes that costs will stop growing after five years; while unlikely, this provides a built-in hedge against potential overestimates elsewhere in the model. The model also incorporates $300 million in total restructuring costs for the OCC spread out over the five-year period. It is assumed that the ‘New OCC’ will need the most money upfront, estimated to be about 10% of its annual budget—$100 million—which declines by $20 million a year until 2019, at which point the terminal value is computed. All figures are discounted to present value directly off the U.S. treasury yield curve—the Federal government’s borrowing rate—per standard practice under the Federal Credit Reform Act of 1990.424

424. Scholars at Harvard Business School critiqued this approach in a 2014 paper, as it fails to sync the discount rate with the relative riskiness of the specific cash flows and also generally ignores the costs of, and potential distortions from, accruing tax revenue. While an important point—and in the author’s view, likely correct—this Comment nevertheless performs the computation as the Federal government would. Samuel G. Hanson, David S. Scharfstein & Adi Sunderam, *Fiscal Risk and the Portfolio of Government Programs* 1 (Harvard Bus. Sch., Apr. 3, 2014), available at, http://www.people.hbs.edu/shanson/Govt_Programs_20140624.pdf.
Irrespective of where in between, or outside of, the two benchmarks the U.S. ultimately falls, the potential institutional cost savings are clearly significant. Further, combined with compliance cost savings—estimated to be between $253.2 and $570.3 billion in Part III—the total direct benefits are likely well into the twelve-figures.

E. State-Level Regulation

This proposal unambiguously supports retaining the dual-banking system. At the same time, changes are not essential at the state level; unlike larger institutions, state chartered banks do not pose systemic risks—and thus societal consequences. For instance, approximately 464 small banks failed between 2009 and 2013 without causing harm to the broader economy.

However—though sensitive to the fact that the states cannot, and should not, be required to do anything—state-level regulation could make changes that benefit its constituents while strengthening the dual system for the future. In my view, adopting a system of ‘regional hubs’ could generate tremendous cost savings while retaining the core benefits of—and ultimately buttressing—America’s unique dual banking system. If successful, this approach could also be applied to state-level regulation of insurance and securities, potentially creating integrated state-level cross-product regulation.

Such a hub system could be modeled along the Fed’s time-tested branch network, but with notable changes to reflect the nation’s evolution since the Fed was founded. As shown in Figure 20 below, the Fed’s branch network is heavily centered on the east coast. It also includes some historic quirks—such as two Missouri branches (Kansas City and St. Louis)—that

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425. For example, Professor Arthur E. Wilmarth, Jr. wrote:

An experimental role for the states with regard to the desirability and safety of new bank powers would be consistent with the history of our nation’s dual banking system. Under that system, the federal and state regulatory components have each played a creative role in helping the banking industry to adapt to changing competitive conditions.


426. For large banks, it is an entirely different matter, however. Current legislation proposes amending the bankruptcy code to facilitate reorganization of such institutions. See generally Lev Breydo, Can We Finally Fix ‘Too Big to Fail’?, REGBLOG (Jan. 29, 2015), http://www.regblog.org/2015/01/29/breydo-banks-and-bankruptcy/.

427. Based on FDIC historical data; there were 140, 157, ninety-two, fifty-one, and twenty-four failures in the years between 2009 and 2013, respectively. Failed Bank List, FD. DEPOSIT INS. CORP._https://www.fdic.gov/bank/individual/failed/banklist.html (last updated Mar. 27, 2015).
should not be incorporated into the new model. Given the composition of the modern banking system, additional western hubs would likely be needed, with Salt Lake City and Seattle—both significant regional banking centers—arguably being two of the logical choices. Additionally, rather than serving as hubs, Philadelphia and Richmond may be better served by consolidating their regulators with New York and D.C., respectively.

Figure 20. The Fed System - A Model for Regional ‘Hubs’

In practice, the ‘regional hub’ model will empower the states while enhancing productive regulatory competition by making state charters more attractive. At the same time, it may also better reflect changes in the banking industry. As discussed in Part III, the number of banks in the U.S. has dropped 55% over the last two decades. This, in and of itself, may support the view that fewer agencies are required to cater to individualized needs of the institutions.

Harmonizing regulations across regions could also reduce the costs of doing business—a benefit that accrues to society. Further, it could facilitate stronger regional lenders as a viable alternative to the large full-service banks, which may be valuable for consumers and smaller businesses. The ‘regional hubs’ would still benefit single-state lenders by making compliance overall cheaper—reducing their costs as well as those

429. As the FDIC points out, “competition . . . for member institutions has led the OCC to assert its authority to preempt certain state laws that obstruct, limit, or condition the powers and activities of national banks,” which state regulators could counter through uniform regional regulations. Christine E. Blair & Rose M. Kushmeider, Challenges to the Dual Banking System: The Funding of Bank Supervision, 18 FDIC Banking Rev. 1, 4 (2006). In the future, there may be a hypothetical potential for regulatory arbitrage between ‘New OCC’ and the hubs. While I do not think that in reality this would be a major issue—since the two systems would be serving different types of institutions—steps could be taken to mitigate any potential harms that may arise in the future.
of multistate banks. Especially for regions with tight economic integration, a more powerful regional regulator may also be better equipped in resources and political clout to influence policy in Washington (or even abroad)—giving constituents a voice that they may otherwise lack.

Admittedly, multistate collaboration has a mixed track record. For example, the two multistate infrastructure banks failed to even get off the ground. Yet, the Port Authority of New York and New Jersey has been a successful, albeit politically messy, long-term partnership—showing that when diligently structured, multistate collaboration is entirely feasible.

An example based on New York (NY) and New Jersey (NJ) will help illustrate the operation and potential cost savings of the ‘regional hub’ model. In 2013, NY spent approximately $552 million on bank regulation, while NJ spent $64 million. Because of the economies of scale in banking supervision, the incremental cost of supervising additional banks is much smaller for NY than it is for NJ. The finding that a 1% increase in banking assets only generates a 0.5% increase in regulatory cost suggests that New York could oversee New Jersey’s banks for about half the cost, generating annual cost savings of $32 million. Under this structure, NJ would annually compensate NY for the cost of supervising its banks, roughly $32 million, plus a royalty payment of about half of the generated cost savings, $16 million.

Putting all this together, NJ would save roughly $16 million a year—a net present value of nearly $880 million—and relinquish concerns over bank oversight. New York would similarly gain $16 million a year, which it can use to offset its institutional costs. If the ‘regional hub’ was expanded to include Connecticut and other nearby states—along with

430. The partnerships proved ineffective due to “disagreements about which projects to finance.” See ROBERT PUENTES & JENNIFER THOMPSON, BROOKINGS-ROCKEFELLER PROJECT ON STATE AND METROPOLITAN INNOVATION, BANKING ON INFRASTRUCTURE: ENHANCING STATE REVOLVING FUNDS FOR TRANSPORTATION 6 (2012) (summarizing activities of two multi-state infrastructure banks).

431. For example, the Port Authority is structured such that each state’s governor selects six commissioners. See Governance, PORT AUTHORITY N. Y. AND N.J., http://www.panynj.gov/corporate-information/governance.html (last visited Apr. 7, 2015) (describing the structure of the Port Authority of New York and New Jersey).

432. Figures are from annual budgets of New York and New Jersey. See infra app. tbl. 2.


434. This also conservatively assumes a consistent cost of supervision relative to assets across the two states, suggesting that the savings could be even higher. See Id., at 5-6.

potentially insurance and securities regulation—it could generate even greater savings.

Entity structure could also assuage states’ potential apprehension about the ‘regional hub’ model. For instance, it could include an out-provision for the ceding states in case performance or other enumerated factors are not satisfactory within the first three to five years, for example. The hub also need not be perpetual; it could include a provision requiring re-chartering every ten years—thus providing states continuous opportunities to reassess their best interests (which may also change and evolve). The ‘regional hub’ regulator’s board could also be an important tool for balancing priorities and providing monitoring. In this respect, the board structure for Fed branches—which typically includes representatives from the banking industry and academia—provides an interesting model. While this structure need not be applied in full, broadening the base of constituents directly represented could improve performance while mitigating political influence—which has been a notable problem for the Port Authority.

The ‘regional hub’ model requires ceding regulatory powers—an inherently difficult course of action for lawmakers. However, with respect to the aggregate welfare, the baseline inquiry is much simpler: why would New Jersey want to keep regulating its banks, wouldn’t it rather have $880 million?

**CONCLUSION**

Through forward-looking analysis, Canada proactively developed a strong and effective regulatory framework tailored for the changing global economy. In contrast, the U.S. has looked backward, reforming the system to prevent the last crisis but failing to anticipate the next. However, through practical structural changes, the U.S. can achieve a better outcome.

At the federal level, prudential supervision should be consolidated under the ‘New OCC’ to create a true macroprudential regulator overseeing banking, housing finance, insurance, and securities. Structurally, this would require transferring the prudential supervisory powers of agencies with multiple mandates—such as the Fed, FDIC, SEC, CFTC, and FINRA—to the OCC. Agencies focused on prudential supervision, such as the NCUA, FHFA, and FIO should be transitioned towards becoming divisions of the new OCC with the potential for full integration in the future. As a direct consequence, the newly enhanced OCC will have full macroprudential jurisdiction over the financial sector. At the same time, the other agencies will be able to focus on their respective roles without the burden of conflicting mandates.
Along with substantially strengthening the regulatory framework, such an approach will also generate tremendous cost savings for taxpayers and financial institutions. At the federal level, structural changes could generate institutional cost savings with a net present value of nearly $83 billion based on projections from Europe—and over $350 billion based on Canada’s efficiency level. Further, based on the lower compliance costs enjoyed by Canadian banks, the 6 largest U.S. banks alone are projected to realize savings with a net present value between $253.2 billion and $586.2 billion, depending on model assumptions. Putting all this together implies institutional and compliance cost savings ranging from $335.84 to $936.43 billion—before factoring in savings at the state-level, lower compliance costs for banks outside of the top 6, or the benefits of reduced structural costs. In short, the aggregate value to society may be immense, likely in excess of a trillion dollars, in net present value terms.

The efficacy of the regulatory framework and amount of cost savings could be further increased through modest changes at the state-level. Instead of utilizing solely state-specific regulators, states could consider adopting the ‘regional hub’ model. Based on the example above, this approach could generate cost savings with net present value of nearly $880 million each for both New Jersey and New York. The value of the regional hubs could also be increased by including additional states or products, such as securities or insurance.

By incorporating insights that have proven extraordinarily effective for Canada, the United States has the opportunity to realize billions in savings and, most importantly, vastly increase the safety and stability of its financial system for the future.
APPENDIX

App. Table 1: Bank Index Selection

The primary bank data set used in this Comment is composed of the 6 largest banks in the United States and Canada, shown in Figure 2. These banks were selected as a proxy for the each nation’s aggregate banking sector. As discussed in the text, the comparison is inherently imperfect; for instance, Canada’s index encompasses 95% of banking sector assets, compared to only 63.6% for the U.S. index. However, Canada’s banking sector structure—6 large banks and a number of much smaller lenders—did not readily lend itself to expanding the index in a meaningful way.

With respect to the U.S. index, selection of constituents was somewhat more nuanced. Inclusion of the large universal lenders—JPMorgan, Bank of America, Citigroup, and Wells Fargo—was relatively straightforward. However, selection of the two additional banks—specifically whether to use Morgan Stanley and Goldman Sachs (large investment banks) or State Street and Bank of New York Mellon (custodial banks)—proved more challenging. Ultimately, the former pair was selected as they were perceived to be a better proxy for the U.S. banking sector and a better comparable for the Canadian banks, given the underlying similarities in business models.

Importantly, as illustrated by Figure 5, altering the U.S. index does not diminish—and, in fact, may buttress—the results discussed in Part 1. As shown below, the Canadian Index remains the same as in prior analyses; the U.S. index, however, includes a larger portion of banking sector assets and a wider dispersion of banks with respect to size and business model.

Bank Index Constituents for Figure 5

<table>
<thead>
<tr>
<th>CAN: S&amp;P/TSX Equal Wt. Index (TXDE)</th>
<th>US: KBW Bank Index (BKX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Index Weight</td>
</tr>
<tr>
<td>Bank of Montreal</td>
<td>16.67%</td>
</tr>
<tr>
<td>Bank of Nova Scotia</td>
<td>16.67%</td>
</tr>
<tr>
<td>Canadian Imperial Bank of Commerce</td>
<td>16.67%</td>
</tr>
<tr>
<td>National Bank of Canada</td>
<td>16.67%</td>
</tr>
<tr>
<td>Royal Bank of Canada</td>
<td>16.67%</td>
</tr>
<tr>
<td>Toronto-Dominion Bank</td>
<td>16.67%</td>
</tr>
<tr>
<td>Commerce Bancshares Inc</td>
<td>2.00%</td>
</tr>
<tr>
<td>Cullen/Frost Bankers Inc</td>
<td>2.09%</td>
</tr>
<tr>
<td>First Niagara Financial Group Inc</td>
<td>1.00%</td>
</tr>
<tr>
<td>JPMorgan Chase &amp; Co</td>
<td>8.27%</td>
</tr>
<tr>
<td>M&amp;T Bank Corp</td>
<td>4.27%</td>
</tr>
<tr>
<td>New York Community Bancorp Inc</td>
<td>2.74%</td>
</tr>
<tr>
<td>Northern Trust Corp</td>
<td>1.84%</td>
</tr>
<tr>
<td>People's United Financial Inc</td>
<td>1.29%</td>
</tr>
<tr>
<td>PNC Financial Services Group Inc</td>
<td>4.09%</td>
</tr>
<tr>
<td>Regions Financial Corp</td>
<td>4.24%</td>
</tr>
<tr>
<td>SunTrust Banks Inc</td>
<td>4.99%</td>
</tr>
<tr>
<td>US Bancorp</td>
<td>3.71%</td>
</tr>
<tr>
<td>Wells Fargo &amp; Co</td>
<td>7.82%</td>
</tr>
<tr>
<td>Zions Bancorporation</td>
<td>4.02%</td>
</tr>
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</table>
App. Table 2: State-Level Expenditure on Financial Regulation

The table below illustrates state-level expenditures on financial regulation between 2012 and 2015, for states for which annual budget data was available. Computations of total expenditures are based off the year 2013, or the closest to 2013 that was available for the respective state.

<table>
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<tr>
<th>State</th>
<th>Name of Regulator</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Final*</th>
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<td>13.1</td>
<td>16.3</td>
<td>15.1</td>
<td></td>
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<td>2</td>
<td>Alaska Consumer Protection Dept</td>
<td></td>
<td>36.2</td>
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<td>$36.2</td>
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<td>3</td>
<td>Arkansas State Banking Dept</td>
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<td></td>
<td></td>
<td>$14.2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Arizona Dept of Financial Institutions</td>
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<td>$6.2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>CA Department of Business Oversight</td>
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</tr>
<tr>
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<td></td>
<td></td>
<td>$5.4</td>
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</tr>
<tr>
<td>7</td>
<td>Connecticut Dept of Banking</td>
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<td></td>
<td></td>
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<td>8</td>
<td>Delaware State Banking Commission</td>
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<tr>
<td>9</td>
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<td>10</td>
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<td>$11.2</td>
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<td>13</td>
<td>Idaho Dept of Finance</td>
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<td>16.2</td>
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<td>Minnesota Dept Commerce: Fin. Institutions</td>
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<td>Mississippi Banking &amp; Consumer Finance</td>
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<td>Total</td>
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<td></td>
<td></td>
<td>$1,146.9</td>
<td></td>
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*2013 or closest year available. This value was used in corresponding computations.
App. Table 3: U.S. Federal-Level Expenditures

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<td>2</td>
<td>16</td>
<td>36</td>
<td>62</td>
<td>167</td>
<td>188</td>
<td>226</td>
<td>297</td>
</tr>
<tr>
<td>SEC</td>
<td>8</td>
<td>22</td>
<td>74</td>
<td>154</td>
<td>357</td>
<td>1,003</td>
<td>1,161</td>
<td>1,502</td>
<td>1,672</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>122</td>
<td>482</td>
<td>1,499</td>
<td>2,387</td>
<td>4,349</td>
<td>4,933</td>
<td>5,856</td>
<td>6,162</td>
</tr>
</tbody>
</table>

II. Employees

<table>
<thead>
<tr>
<th>Agency</th>
<th>Total: Finance &amp; Banking Regulators</th>
<th>OCC</th>
<th>FDIC</th>
<th>CFTC</th>
<th>SEC</th>
<th>Total Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,509</td>
<td>13</td>
<td>15</td>
<td>1,007</td>
<td>4,644</td>
<td>7,288</td>
</tr>
<tr>
<td></td>
<td>5,618</td>
<td>30</td>
<td>121</td>
<td>1,490</td>
<td>7,033</td>
<td>12,033</td>
</tr>
<tr>
<td></td>
<td>9,524</td>
<td>13,317</td>
<td>2,050</td>
<td>2,927</td>
<td>12,033</td>
<td>17,965</td>
</tr>
<tr>
<td></td>
<td>15,308</td>
<td>15,124</td>
<td>17,650</td>
<td>2,130</td>
<td>17,965</td>
<td>15,308</td>
</tr>
<tr>
<td></td>
<td>16,483</td>
<td>16,483</td>
<td>17,650</td>
<td>2,130</td>
<td>17,965</td>
<td>16,483</td>
</tr>
</tbody>
</table>

Cost per Bank ($): 98,902 241,014 567,903 670,518 826,768 904,580

Regulators per Bank: 1.40 1.62 2.46 2.68 2.88 3.02

Sources:
1 Based on FDIC data
2 Total Cost / Total FDIC Insured Institutions
3 Total Regulatory Employees / Total FDIC Insured Institutions

Note: Unless otherwise stated, data is from Dudley & Warren, supra note 283.

App. Table 4: Canada - Total Costs of Financial Regulation

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All figures are in $MM</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>OSFI</td>
<td>103</td>
<td>109</td>
<td>124</td>
<td>128</td>
<td>464</td>
</tr>
<tr>
<td>FCAC</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>13</td>
<td>49</td>
</tr>
<tr>
<td>CDIC</td>
<td>-</td>
<td>-</td>
<td>+180</td>
<td>-</td>
<td>+180</td>
</tr>
<tr>
<td>Bank of Canada</td>
<td>353</td>
<td>353</td>
<td>476</td>
<td>606</td>
<td>1,788</td>
</tr>
<tr>
<td>Total (w/o surplus or industry levies)</td>
<td>365</td>
<td>365</td>
<td>488</td>
<td>619</td>
<td>1,836</td>
</tr>
<tr>
<td>Adj for size of bank sector (*4.25)</td>
<td>1,550</td>
<td>1,550</td>
<td>2,073</td>
<td>2,631</td>
<td>7,804</td>
</tr>
</tbody>
</table>

1 FCAC is primarily funded through levies on financial institutions.
2 CDIC earned FY 2011/12 net income of $180 MM, which is not netted against other costs.
App. Table 5: U.S. Industry-Level Cost Savings

<table>
<thead>
<tr>
<th>Bank (By Ticker)</th>
<th>($MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAC</td>
<td>69,214</td>
</tr>
<tr>
<td>JP</td>
<td>70,467</td>
</tr>
<tr>
<td>C</td>
<td>49,185</td>
</tr>
<tr>
<td>WFC</td>
<td>48,842</td>
</tr>
<tr>
<td>GS</td>
<td>22,469</td>
</tr>
<tr>
<td>MS</td>
<td>27,935</td>
</tr>
<tr>
<td><strong>Total: NIE_{US-2013}</strong></td>
<td><strong>288,112</strong></td>
</tr>
</tbody>
</table>

\[ ER_{US} = 68.11\% \]
\[ ER_{CAN} = 59.32\% \]

**Estimated 2013 Excess Compliance Cost for U.S. Banks:**

\[ (NIE_{US-2013} \times ER_{US}) - (NIE_{US-2013} \times ER_{CAN}) = $25.32 \text{ billion} \]

**NPV of Excess Compliance Costs**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10 yr Treasury:</td>
<td>1.82%</td>
</tr>
<tr>
<td>+ Est. Spread (250bp)</td>
<td>4.32%</td>
</tr>
<tr>
<td><strong>NPV (based on 2013)</strong></td>
<td><strong>$586.2 \text{ billion}</strong></td>
</tr>
</tbody>
</table>

**Sources:** Banks' 10-K filings for 2013