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No More Swimming Naked

The Need for Modesty in Canadian Banking

Ellen Russell

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Summary

"You only find out who is swimming naked when the tide goes out"
— Warren Buffet[1]

CANADIANS HAVE A reputation for modesty. Bragging is not supposed to be our national tendency — except when it comes to banking. Canadian politicians and bankers praise Canada's banking system so relentlessly that it has created a virtual echo chamber of self-congratulation.

This endless mantra extolling Canadian banking is a dangerous hubris in light of the prevalence of global financial turmoil in the neoliberal era.[2] Who might have imagined even a few years prior to 2008 that American regulators and financial institutions could have gone so disastrously wrong? Who dreamt that so soon after the 2008 financial crisis European banks would be facing such ominous threats?

Its cheerleaders encourage a public perception that Canadian banking is an exception to the increasing prevalence of banking crises worldwide. This notion of Canadian exceptionalism has been cultivated by an incessant focus on the comparative resilience of the Canadian banking system during the 2008 financial crisis. Much less prominent in these flattering accounts of the Canadian experience of the 2008 financial crisis is the debt of gratitude that Canadian banks owe the Canadian government.

Canadian banking has benefited from a long-standing tradition of powerful and consistent governmental support and protection. For example, Canadian banks have long benefited from the support provided by the Canadian

Mortgage and Housing Corporation (CMHC). The CMHC insures higher-risk mortgages with low down payments, and its standards regulate mortgage quality. These policies buttress the profitability of banks' residential mortgage lending, since they explicitly protect mortgage lenders from the consequences of defaults on their riskier mortgages. The CMHC also insures "mortgage backed securities" (financial securities composed of mortgages), which stabilizes the market for the securitization of these residential mortgages. Thus government policy played an important role in helping banks avoid the pitfall that fuelled the American subprime problems. Ironically, in 2006 the government loosened some of the regulations which deterred subprime excesses in Canada, but it has since reversed course from mortgage deregulation in the aftermath of the subprime bubble.

While Canadian banks escaped a home-grown subprime crisis, they were still threated by destabilizing forces once the international financial crisis gathered momentum in the fall of 2008. As the situation in financial markets deteriorated, the Canadian government came to the aid of the Canadian banking system. Canadian banks were given the opportunity to access up to $125 billion by selling CMHC-insured mortgage-backed securities to the government.[3] The willingness of the government to buy these assets enabled banks to access liquid funds at a time when they could not have secured those funds via normal financial market channels at a reasonable cost. Thanks to the government's provision of liquid funds through this and other avenues (including extraordinary loans from the Bank of Canada at near-zero interest rates), as well as its guarantee of the wholesale debts of banks, Canadian banks were sheltered banks from the most devastating consequences of the financial meltdown. Banks' capacity to survive a crisis when they have been so extensively supported by government programs is hardly an endorsement of private-sector banking.

Whatever the merits of Canadian banking regulation, and however astute the emergency stabilization initiatives of the government and the Bank of Canada, the Canadian banking system is not immune to the intense pressures threatening banking systems worldwide. Malcolm Knight, former senior deputy governor at the Bank of Canada, posed the question pointedly: "Should we conclude that banks in Canada are therefore robust in the face of any crisis?" His response: "[t]he answer, unfortunately, is no."[4]

As we shall see below, banks and banking systems are inherently vulnerable to instability, and these inherent fragilities have been exacerbated in the era of neoliberal financial globalization. The myth of Canadian ex-

ceptionalism perpetuates a denial of this ominous reality. This denial may have dire consequences.

The Canadian banking system is not exempt from the pressures that threaten global banking. The incentives for banks to increase their risk exposure do not stop at our borders. The limits of banking regulation to subdue this destabilizing appetite for risk are as relevant in Canada as they are abroad. In the era of financial globalization, banking crises can spread quickly across borders. Dismissing these threats with Pollyanna reassurances about the exemplary prudence of Canadian banks or the astute foresight of Canadian banking regulators is the most dangerous form of denial.

The comforting belief in Canadian exceptionalism must not stifle public debate about the hazards confronting the Canadian banking system. This paper encourages this debate by providing an explanation of how banks work, why they continue to be vulnerable to crises, and why regulation alone will not suffice to ensure the future stability of the banking system.

There are no easy answers to the dilemmas outlined in this paper. But the worst possible response to these threats is denial.

Pride Goeth Before a Fall?

The myth of Canadian exceptionalism ignores the fact that all banks are structurally vulnerable to failure. All contemporary private banks are highly leveraged. In general terms, leverage means that banks owe much more money then they can easily access in a crisis. As we shall see below, highly leveraged banks are structurally vulnerable to failure, regardless of their track record in previous crises and regardless of how diligently regulated and prudent they may be. Canada is no exception to this rule. Overconfidence about the Canadian banking system not only overlooks its structural vulnerability, it can invite more problems. When banks become smug, they are inclined to adopt a more relaxed attitude to the risky activities that may contribute to future financial crisis. Humility, on the other hand, breeds caution.

Consider the recent warnings about the dangers of "complacency," made by the head of the Office of the Superintendent of Financial Institutions' (OSFI), Julie Dickinson.[5] She cautioned Canadian financial institutions that their survival of the 2008 financial crisis should not be viewed as justification for giving in to the "temptation" of disregarding improvements in risk management while demanding more flexibility to expand.

Modesty is also a prudent response to the fact that regulators and bankers cannot foresee the future. Often the factors which become incendiary during a financial crisis are invisible or seemingly benign during the more euphoric phase of a financial market upswing. For example, the sophisticated risk assessment tools employed by American financial institutions and regulators did not anticipate the magnitude of the threats posed by subprime-related activities. Worse still, financial institutions did not appreciate the limitations of their ability to assess and manage risk until it was too late. Their overconfidence fuelled subprime exuberance with assurances that turned out to be flat wrong: "Don't worry" they claimed, "the subprime lending boom is sustainable because never in history have U.S. house prices dropped significantly (!), plus the credit ratings agencies have blessed subprime securities with the triple A status bestowed only on the safest investments".

This hubris is not unique to the subprime crisis. Banks and other financial institutions are often on their best behavior in the wake of a financial crisis, but the appetite for risk soon returns. Consider the recent example of the enormous losses incurred JP Morgan Chase. JP Morgan Chase has long boasted of the bank's astute risk management capacities, and the Economist magazine states that it is "widely considered the best run of all the large banks in America, if not the world".[6] But despite the lessons purportedly learned from the last financial crisis, JP Morgan Chase recently reported huge losses on its trades in complex financial securities. These losses were originally estimated at US$2 billion, but the Wall Street Journal reports that losses may grow to US$5 billion.[7] These apparent deficiencies in JP Morgan Chase's risk management strategies forced the bank's CEO to concede that these losses were the result of "a bad strategy, it was badly executed, became more complex, [and] it was poorly monitored."[8] Investigations are being launched which are likely to focus on the bank's risk assessment methods.[9]

The recent troubles at JP Morgan Chase serve as another reminder that, as Warren Buffet reminds us, we cannot presume to know which "swimmers" are exposed until the tide goes out. This paper begins with the premise that it is not possible to anticipate all of the many ways that the Canadian banking system may be affected by skinny-dipping. Individual financial institutions can be headed for trouble long before a systemic threat becomes apparent. Entire national banking systems previously held in high regard can suddenly become engulfed in systemic financial instability. More often than bankers and regulators would like to admit, it is often sheer luck that saves

banks from getting caught when the tide goes out. Unfortunately, overconfidence only emboldens the swimmers to be a little more scantily attired the next time they take the plunge.

Will Better Regulations Save Us?

Canadians are often told that the exceptionalism of the Canadian banking system rests on our superior regulatory structure. This paper considers some of the inherent difficulties in regulating leveraged private banks and concludes that regulation alone cannot hope to resolve the structural problems afflicting the banking industry. To make matters worse, globalized financial markets intensify the obstacles faced by banking regulation.

The history of recent banking crises is littered with regulatory regimes that were mistakenly thought to have surmounted these difficulties. International regulatory standards (the so-called Basel guidelines) are now in their third generation of revisions, as each successive financial crisis has exposed difficulties that were not anticipated by the previous regulatory standards. In Europe, the United States and elsewhere, the introduction of purportedly "state-of-the-art" regulations has frequently unleashed unintended consequences that contributed to further financial vulnerabilities. It is self-delusion to imagine that Canada can discern the magic formula that protects us from the travails all around us.

Ironically, the ample government support that banks received during the financial crisis of 2008 makes the challenges facing bank regulation more acute than ever. The demonstrated willingness of governments to rush to support their banks has exacerbated an ominous "moral hazard" problem (see below): banks are now likely to pursue increased risk exposure because they have a credible expectation of receiving government support if they get into serious trouble. Canadian banks — like banks worldwide — have learned the lessons of 2008: no government can afford another "Lehman event" (i.e. the failure of a major financial institution). Competitive pressures in globalized financial markets reinforce this risk-taking imperative, as every bank is pushed to keep up with those banks that engage in riskier activities to record attractive (even if temporary) profits.

We face an unhappy situation in which banks continue to be inherently vulnerable to failure, yet important incentives have increased for banks to conduct themselves in a manner which exacerbates this inherent vulnerability. The structural vulnerability of banking, alongside the perverse in-

centives created for banks to expose themselves to heightened risk, creates an environment that encourages instability.

A Proposal For Modesty

This leaves Canadians in a bind. Financial crises are becoming increasingly severe and frequent, and it is clear that the social costs of banking crises are enormous. As we shall see, banks amplify boom and bust cycles in finance and in the economy generally. Thus banking instability and economic contraction are close companions, and the longer-term effects of financial instability are persistent and debilitating. While the risks posed by banking crises are unacceptable, the obstacles confronted by regulatory safeguards caution us against blind faith that regulation will suffice to manage the threats to the banking system.

In light of these challenges, this paper puts forth a proposal for modesty. Overconfidence is part of the problem. To avoid lurching from crisis to crisis , we need to admit the inherent fragilities of contemporary banks and change the structure of how we do banking. In conclusion, two proposals are set forth to address the threat of bank instability in Canada. These are not half-measures; they are an ambitious rethinking of the way Canadian banking works.

In all likelihood, the pervasive Canadian mood of overconfidence will lead policy-makers and industry lobbyists to dismiss such ambitious measures, despite the alarming frequency of banking crises worldwide. Too bad. It would be tragic if we must be caught naked before we confront the need for systemic change.

Overview of the Paper

Section 1 describes the basic structural vulnerability of bank to instability and failure, and discusses why banking failures may spread throughout the banking system and jeopardize the entire economy. As the neoliberal era of globalized finance has progressed, financial activities of banks have become more complex, and the many channels through which this instability moves and grows have become increasingly difficult to predict.

Section 2 describes the special relationship that has evolved between banks and the government. Because banks are so very important to an economy, and because they are structurally vulnerable to failure, governments

have developed extraordinary channels to support banks. This section also considers some of the important obstacles to creating and maintaining regulation to both safeguard the stability of the banking system and to prevent banks from exploiting their special relationship with the government.

Section 3 considers the increased vulnerability of the banking system in the wake of the financial crises of recent years. Thanks to the demonstrated willingness of governments to come to the aid of their banking sectors, banks have an increased incentive to pursue the risky activities that make banking crises more likely.

The conclusion outlines two proposals for structural change in the banking system.

Bank Failures 101

The Threat to the Banking System and the Economy

A BANK IS like other private sector firms in some respects: it competes with other banks (and sometimes non-bank financial institutions) in pursuit of profit. But as we shall discuss below, banks have many attributes that make them special among private, for-profit firms.

What makes banks "special"? Banks have unusually important economic attributes — they provide loans to facilitate economic activity, for example. While granting loans they create new money (in the form of new credit) that is critical in for economic growth. Banks also play a critical role in the payments system, meaning that they facilitate transactions in the economy by such mechanisms as clearing cheques. Both of these functions are jeopardized when banks become destabilized.

Not only do banks fulfil important economic functions, they are inherently fragile. All leveraged private banks — even those administered with great prudence — are susceptible to failure. The same structural characteristics that leave banks vulnerable to failure also mean that instability can spread quickly to jeopardize the entire banking system. And since banks have such important economic functions, a destabilized banking system can threaten the entire economy.

This first section discusses the structural vulnerability of banks to instability and failure in both a simplified bank and in more complex bank-

ing situations, and explains how problems in one bank can create "contagion effects" that threaten the banking system and the larger economy.

How Does a Bank Work? A "Plain Vanilla" Example

In today's highly complex financial environment, it is increasingly difficult to discern what is and is not a bank.[10] Initially we will discuss a simple model of "plain vanilla" banking, which is old-fashioned in comparison to the complexity of modern banks in the neoliberal era. In the interest of simplicity, we will leave aside the government's role in banking until the next section.

Our simple plain vanilla bank engages only in "core" banking activities: it takes deposits and makes loans. Its profits are derived from the difference between the income it makes from the interest charged on loans, and its various costs (including paying interest to depositors).

Banks have reason to lend cautiously, for loans that are not repaid will be detrimental to the bank. But there are also pressures in a competitive, profit-driven banking industry that undermine this caution. The more loans a bank advances, the higher its potential profits. Any bank that is too cautious in its lending standards may lose profitable business to its more aggressive competitors.

Banks are a highly unusual type of private sector firm because they "create" money as part of the lending process. When a bank grants a loan, the newly created money appears as a deposit in the account of the borrower. That loan is also an asset of the bank. Canadian banks no longer have to hold gold to back their lending; money is created out of thin air by the bank's lending activities. Since money creation through the credit system is crucial for any growing economy, it is in the public interest to oversee banks' activities to ensure that credit is created smoothly and reliably.

Why Banks Fail and Why Bank Failures Spread

Banks are vulnerable to failure because they are "leveraged", meaning that banks grant loans worth many times more than their capital.[11] Leverage enhances bank profitability, since the more loans a bank makes, the more potential interest income the bank will receive. But leverage is a double edged sword, because leverage implies that any bank will fail if it is subjected to a "run on the bank".

In our plain vanilla example, a run on the bank occurs when a substantial proportion of a bank's depositors become nervous about the safety of their deposits, and seek to withdraw their funds. No leveraged bank can survive a full-fledged run on the bank (unless it has government assistance). Since deposits have been created while banks grant loans, banks cannot access enough currency or other liquid funds to cover withdrawals if all depositors rush to empty their accounts at once. This is why every bank is structurally vulnerable to failure: banks are by necessity highly leveraged, and this leverage exposes banks to the possibility of failure if depositors lose confidence.

Because banks are highly leveraged, confidence is paramount for bank stability. So long as depositors have confidence in a bank's solvency, they are content to keep money on deposit. This enables a bank to owe much more cash to depositors (and others) than it can easily raise. Even a dubious bank can survive so long as suspicions are not aroused which provoke a run on the bank. But an otherwise stable bank will fail in the event that anything — including a rumour — undermines confidence and provokes a run on the bank.

Confidence is also crucial for the stability of the banking system as a whole. If one bank fails — especially a particularly large and important bank — other banks may be swept up in a crisis of confidence about the banking system. Because a failing bank cannot honour its deposits (in the absence of deposit insurance, which we will introduce further in the paper), depositors have an incentive to withdraw their money quickly rather than wait to see which banks prove to be stable. Thus a crisis of confidence can become self-fulfilling as fearful depositors provoke bank runs which destabilize banks throughout the banking system.

From Banking Crisis to Economic Crisis: The Credit Crunch

Banks try to protect themselves when they fear that they may be subjected to a run on the bank. Banks hope to deter a bank run by building up their cash reserves to reassure depositors that they have ample funds available to honour withdrawals. This defensive action by banks can devastate the larger economy, even if an actual bank failure does not happen.

Banks try to enhance their cash reserves by contracting their lending, which creates a so-called “credit crunch”. As banks contract lending and charge higher rates on the loans they do make, businesses and consumers

have difficulty securing new loans (or refinancing existing loans). Consumers are forced to reduce their purchases and firms cut their business activities. As business activity slackens unemployment increases, which further squeezes consumers, workers and businesses. In this way, a credit crunch can provoke a severe economic contraction.

Moreover, a credit crunch can create a vicious, self-reinforcing cycle. As banks reduce lending and the economy contracts, consumers and businesses are less able to repay their bank loans. Thus banks face greater loan defaults and are obliged to reduce their lending still further, which intensifies the downward economic spiral.

The downward economic spiral fueled by a credit crunch can create a severe economic contraction. Moreover, the effects of a banking crisis can linger for years as chastened banks are nervous about lending, and these adverse credit conditions impede economic recovery.

Beyond Plain Vanilla Banking: How Leverage Amplifies Boom and Bust Cycles

Today banking is vastly more complex that our "plain vanilla" example. Financial deregulation, globalization and other attributes of the neoliberal era have enabled banks to seek profits both from their traditional business of making loans and from other non-core ventures. These new complexities threaten bank stability in several respects, and the perils of leverage are implicated in many of these new threats.

To a large extent, this wide array of activities is financed with money borrowed from many sources, including from other banks. The more highly leveraged a bank is, the more profitable it is (provided, of course, that it succeeds in using the borrowed funds to generate profit). But the more highly leveraged a bank is, the more vulnerable it is to failure. If a bank's creditors seek to reclaim their money *en masse*, any bank will fail.

The levels of leverage that characterize contemporary banking activities magnify all of the problems that afflict plain vanilla banking. Bank profits are higher in good times thanks to the leverage made possible in today's financial markets. But bank failures happen more quickly and brutally when today's highly leveraged banks are punished by their creditors. In the past, a bank failure happened over several days as panicked depositors lined up to withdraw their money. Today large scale creditors can push a bank into failure in a few hours with an "electronic" run on the bank. This reduces

the response time of both banks and government officials to react to imminent problems. Since both banks and government are acutely aware that it is hard to protect a bank once creditors lose confidence in that bank, prompt action to preserve confidence in the banks is the highest priority.

Leverage is "procyclical", meaning that it magnifies the boom and bust cycles that afflict banking. During good times, banks are confident and more tolerant of risk, thus they seek to increase their leverage to profit from these good times. This increased leverage lubricates the financial system with more readily available cash, which encourages speculative bubbles and other dubious financial activities. In bad times, highly leveraged banks must scramble to decrease their leverage precipitously to protect themselves from a run on the bank. Asset bubbles that relied on leveraged credit creation may burst, and many of the naked swimmers become quickly exposed.

The cyclical perils of leverage in today's banking system also affect the wider economy. When banks take on more leverage, banks "push" credit to their customers more aggressively, and this tends to encourage economic activity (and indebtedness). Thus economic upswings are magnified by the increased availability of credit in an environment in which banks and other financial institutions are both highly leveraged and have increased appetite for risk. But highly leveraged banks make downturns more extreme. Because highly leveraged banks and other financial institutions must deleverage precipitously during a downturn, credit crunches becomes more harsh.

Overnight and Wholesale Funding Markets: The Trigger of Current Banking Crises

Where do banks borrow money? They can borrow and lend money to each other on the so-called "overnight market". Every day banks move vast amounts of money back and forth in very short term transactions (often overnight). The interest rate on these loans ("the overnight rate") is the key reference point shaping other interest rates throughout Canada (and thus the Bank of Canada seeks to influence this rate when it conducts monetary policy).[12] Because overnight markets lend funds on such short terms, lending in overnight markets must be refinanced ("rolled over") constantly.

Banks also access funds on the broader wholesale funding markets. These markets enable banks, other financial institutions, and non-financial corporations to borrow and lend money in various forms.[13]

Wholesale markets exacerbate procyclicality, as a noteworthy Bank of Canada paper discusses.[14] In troubled times these transactions tend to be for quite short durations as nervous wholesale markets fear that shifting conditions may make it difficult for banks to honour their debts. This short-termism in wholesale funding markets exacerbates instability since borrowers may suddenly face a crisis if they are unable to refinance their loans.

The interbank and wholesale funding markets are exquisitely sensitive to issues of confidence. If suspicions are aroused that a particular bank may be in difficulty, it will become very expensive — or impossible — for it to access funds. If it is able to borrow, the loan will be very short-term. Thus at the very time that a bank may need extra funds to weather some difficulty, funds will only be available on punitive terms, if funds can be secured at all.

Events of 2008 graphically illustrated how dysfunctional wholesale funding markets can create havoc in the financial system. As a financial panic gathered momentum, it became more difficult to ascertain the health of any given bank (or other financial institution). The more complex and convoluted the underlying problem (such as the opaque nature of the financial instruments at the heart of the subprime crisis), the more difficult it was for financial markets to accurately assess a bank's exposure to a particular source of financial instability.[15]

In a full-blown financial panic, wholesale funding market participants shoot first, and ask questions later. Since time is short and risks are huge, the wholesale funding market may refuse to lend to a bank that is even rumoured to be in trouble. Thus even an otherwise healthy bank that is — rightly or wrongly — suspected of being seriously weakened by fast-breaking financial instability may fail if it becomes difficult or impossible to access funds on the wholesale funding market. The suspicion that a bank might fail becomes a self-fulfilling prophecy.

The more highly leveraged a bank is, the greater the likelihood that its difficulty accessing funds on these markets will be a sudden death sentence. Banks that have difficulty accessing funds face a "liquidity" crisis (i.e. they cannot access liquid funds to meet their obligations). But in the heat of a financial crisis, a liquidity crisis can suddenly become a solvency crisis (a question of whether the bank will fail).

Financial Contagion

If a sufficiently important bank (or group of banks) is perceived to be in danger of failure, bank failures may spread to other banks. This is referred to as "contagion risk". Banking panic may spread throughout a national banking system, as happened repeatedly during the Great Depression, when the American stock market crash and the ensuing failure of about one third of U.S. banks set the stage for a long and profound global economic calamity.

Today banking crises increasingly spread internationally, as the globalization of financial markets adds new avenues for banking crises to spill across borders. There are many labyrinthine channels through which a banking crisis may spread, so we consider only a few examples below. But the very complexity of the transmission mechanisms of bank instability should give us reason to pause. Since it is notoriously difficult to anticipate how the problems in a particular bank or other financial institution will ramify worldwide, it is wise to err on the side of caution in assessing the vulnerability of any given bank to systemic instability. As Warren Buffet warns us, we cannot see which swimmers are naked until the tide goes out. Worse still, it is increasingly difficult to ascertain when, where and how the tide might flow.

A prominent transmission mechanism is the wholesale funding market. If a bank is suspected of being in crisis, all banks to which the troubled bank owes money will come under pressure. Fears escalate that these other banks will become unstable if they have difficulty recovering their funds from the bank in crisis. Thus in a self-fulfilling prophecy, these other banks become vulnerable as wholesale funding markets make it difficult for banks that are creditors of the bank in crisis to access financing. Thus interconnections among banks raise the possibility that the failure of one bank will provoke a domino effect, causing other banks and financial institutions to be swept up in the carnage.

Even banks that are not directly linked to the troubled bank will come under pressure. In response to the potential spread of instability from the original troubled bank to other banks, wholesale funding markets become nervous. Panic is inflamed because wholesale market participants cannot be sure of the precise extent to which troubles in the original bank will expose other banks to pressure.

If the wholesale funding market teeters, various punishing market forces are unleashed which can drive the banking sector into full-blown systemic crisis. One such mechanism is a financial asset price deflation. As lending conditions in wholesale markets deteriorate, each bank or other financial

institution will attempt to meet its liquidity needs by selling financial assets. This puts downward pressure on the price of all such assets as troubled institutions flood the market with assets at fire sale prices. As the price of assets falls, other banks or financial institutions holding similar assets will experience pressure as the value of their assets shrinks too. Thus a bank that is not even involved in the original problem that upset wholesale lending markets may find itself vulnerable as the value of its assets shrinks.

Banking Crises on Steroids: New Financial Activities of Banks

Thus far we have emphasized the "core" role of banks as depository institutions that make loans. In the neoliberal era, contemporary banks engage in a much wider range of sophisticated domestic and international financial activities. As banks become involved in a dazzling array of activities in addition to plain vanilla banking, the banking system is exposed to further sources of instability that can provoke or accelerate financial contagion.

While many factors have contributed to banks' migration into these activities, the deregulatory trend associated with neoliberalism deserves special mention. As the financial sector successfully lobbied for a more permissive regulatory framework, banks became deeply involved in fields such as investment banking. Investment banking was previously forbidden to banks because it was viewed as too risky for institutions entrusted with the public's deposits, but banks grew to dominate investment banking activities thanks to the erosion of Canada's "four pillars" regulatory framework (comparable to the elimination of the Glass-Steagall Act in the U.S.[16]). This deregulatory momentum alongside the globalization of financial markets has encouraged the proliferation of new financial instruments and practices which pose new risks.

The banking sector claims that the diversification of banks into a wide variety of financial activities is supportive of bank stability. Banks that engage in a wider variety of financial activities may be better able to withstand limited losses or disruptions in one of their lines of business if they are compensated by the performance of their other activities. While this diversification may insulate banks from minor upsets, the real threat occurs when one or several of banks' diverse financial activities are swept up in a financial crisis. What follows are two examples of financial activity pursued by contemporary banks that may exacerbate contagion risks.

1. Derivatives and the Perils of the Credit Default Swap

In addition to their traditional core banking business, over the last generation banks have garnered considerable revenue from activities related to derivatives (as well as other sophisticated financial instruments). A derivative is a contract that obliges one party to pay another counterparty if some event comes to pass. Typically the value of a derivative is "derived" from prices of other assets at some future date, so the value of the derivative varies depending on future events. Derivatives have been constructed to derive their value from virtually any aspect of financial or economic activity (even the weather). While derivatives can generate high profits for banks, they pose notorious risks. Warren Buffet has famously dubbed derivatives "financial instruments of mass destruction".[17]

One especially dangerous type of derivative is known as credit default swap. A credit default swap operates like a kind of insurance. Let's say that some entity (a pension fund or hedge fund, for example) has lent money to a bank in Europe, and it is worried that the European bank might default on this loan if adverse events cause the European bank to become unstable. The entity that has lent money to the troubled European bank could secure a credit default swap that (for a fee) would pay the amount it is owed by the European bank in the event that it defaults.

Banks have become highly involved in credit default swaps and similar derivatives since they can be very lucrative (in upbeat times). Because market participants want to purchase this kind of "insurance" from entities that they expect will have deep pockets at a time of crisis, banks' access to government safety nets (see below) help them dominate this sort of derivative business.

However, credit default swaps expose a bank to new problems, particularly during a financial crisis. When financial markets become unstable it is likely that defaults will rise, thus a lot of credit defaults swaps will suddenly be "in the money" (i.e. payable). Since the amount of money the bank will owe to honour these derivatives varies depending on how these derivatives have been constructed, it is virtually impossible to ascertain just how much money a bank will owe to honour these obligations in a time of extensive financial market turmoil.

Thus credit default swaps cause serious problems for banks at the worst possible time. At the height of financial panic, banks are called upon to honour payments triggered by the financial panic. The money owing on credit default swaps intensifies whatever other pressures a bank may be experi-

encing in a financial crisis, as fears about the extent of a banks' derivative exposure can further undermine confidence in a vulnerable bank.

Not only do credit default swaps add to the pressure on individual banks during a financial crisis, they also spread a financial crisis in complicated and unforeseen ways. If a bank in Europe fails, this failure puts pressure on any institution that must honour credit default swaps written to "insure" the creditors of the failed bank. Conceivably, institutions that must honour the credit default swap may fail, which in turn will trigger payments on further credit default swaps that had insured the creditors of those institutions. A daisy chain of payments may ensue, which may spread financial instability throughout the financial system to banks that seemingly had no connection to the events that ignited the financial crisis.

2. Proprietary Trading

Another important way in which banks have strayed from traditional banking is through their own proprietary trading. Financial deregulation has permitted banks to form units within a bank that buy and sell financial instruments to generate a profit "on their own account". Bank traders use their privileged position at the centre of the financial system to profit from early access to information to exploit arbitrage opportunities and other trading strategies not accessible to other investors. Critics see proprietary trading desks as speculative hedge funds lodged within a bank.

Proprietary trading poses many troubling issues, but we limit our discussion to only the most obvious concerns regarding bank stability. First, banks are exposed to losses incurred when their proprietary traders make the wrong bets. The recent difficulties at JP Morgan Chase illustrate the possibility that trading losses might be sufficiently large to undermine a banks' stability in a challenging financial environment. Even less extreme trading losses from proprietary trading desks can undermine confidence in the bank as a whole, thus possibly compromising the stability of the bank. In this way, pressures in a range of financial markets activities may infect the banking system.

Moreover, proprietary trading activities are often financed with borrowed money. This use of borrowed money increases the profitability of proprietary trading activities in good times. But this leverage amplifies the negative impact on the bank when proprietary trading activities go sour.

Speculative Attacks and Financial Contagion

Risks of financial contagion are also fuelled by speculative attacks that are prompted when banks are revealed to be under pressure. When a bank is struggling for survival, all sorts of financial assets connected to that bank are likely to go down in price. Speculators hope to profit from the troubles of the bank by "short selling"[18] these assets. Short selling serves to further depress the prices of the assets which are "shorted".

Speculators can bet against a struggling bank by shorting the bonds issued by the bank, or by shorting the stock of the bank. There are much more exotic ways to bet against a bank by using derivatives. If it is suspected that a government bail-out may be imminent to protect a vulnerable bank, this may intensify speculative pressure as speculators hope to profit both when the assets issued by the troubled bank decreases in price as the crisis mounts, and then increase in price once government help is offered.

Whatever form it may take, a speculative attack will dramatically undermine confidence in the troubled financial institution. Signals that financial markets are betting against a troubled bank will cause the banks' creditors to become even more likely to initiate a "run on the bank". Thus speculative pressure can be self-fulfilling as speculation both fuels and profits from the pressure it exerts on its victims. At the same time, it will become even more difficult for a bank facing a speculative attack to borrow money to withstand these pressures. Thus speculative attacks and bank runs reinforce each other to create an unsustainable situation for a struggling bank.

Speculators also realize that the contagion risks posed by problems at one bank may spread throughout the banking system. Speculators may put pressure on other banks that they suspect might be threatened by these contagion effects. This may undermine the stability of the banking system as a whole as speculative pressure compounds the fragility of a banking system facing a crisis of confidence.

Chronic Bank Crises in the Neoliberal Era

Leveraged banks are inherently vulnerable to failure. Today this inherent structurally fragility of leveraged banks is compounded by a host of new developments. Thanks to neoliberal deregulation and globalization, contemporary banks pursue profit-making opportunities in a wide variety of domestic and international financial markets using rapidly evolving financial innovations. These new financial instruments and practices often en-

able banks to increase their leverage and expose them to risks that were not dreamt of in "plain vanilla" banking.

These new developments in banking and financial markets pose many grave concerns. The dynamics of leverage tend to amplify economic instability by making economic booms more exuberant and economic downturns more severe. In these conditions, economic activity can become the hostage of the schizophrenic behaviour of the financial sector as it alternatives between its excessively expansionary and excessively contractionary phases.

The financial instruments and practices that enable banks to pursue more risky and highly leveraged activities also expose banks to pressures not imagined in a "plain vanilla" banking system. While the recent losses at JP Morgan Chase underline this danger, the credit rating agency Moody's has for some time been signaling the threats posed by these complex financial activities in large and important banks for some time. Their rating downgrade of Royal Bank of Canada's capital markets arm emphasized the possibility that "rapidly changing risk positions expose these firms to unexpected losses that can overwhelm the resources of even the largest, most diversified groups."[19]

These same complex financial activities that can rapidly compromise the survival of an individual bank also compound the contagion risks inherent in any banking system. In contrast to the relative stability in banking experienced a generation or two ago, banking crises in the neoliberal era have become much more frequent and severe. As we shall see in the following section, the capacity of governments to safeguard the stability of the banking system is no match for this incendiary combination of factors which characterize contemporary banking.

The Special Relationship Between Banks and the Government

Governments recognize that banks are inherently vulnerable to instability, and are fearful of the economic fallout from instability in the banking sector. Largely because of fears of banking crises, governments have a special relationship to their domestic banks. Governments stand ready to help if they deem that a bank's difficulties threaten the stability of the banking system.

Governments have assumed the responsibility for safeguarding the stability of the banking system because they are the only entity that can credibly underpin confidence once systemic stability is in question. Financial markets know that only governments have sufficiently deep pockets (and other powers) to restore confidence during a panic. Thus banks are "special" for another reason: no other for-profit company enjoys the benefits of comparable mechanisms of government support when it is under pressure. This constitutes another compelling reason that the oversight of banking activities is in the public interest: should banks fall into crisis, government will be called upon to handle the situation, sometimes at great public cost.

Of course, governments prefer to avoid having to perform heroics to stabilize the banking system, so they regulate banks in hopes of preventing crises. But regulations alone cannot suffice to prevent future banking crises.

There are intrinsic difficulties in regulating for-profit banks in a competitive banking market, and these difficulties limit the capacity of regulations to prevent future crises. The deregulation and globalization of the neoliberal era has exacerbated these difficulties. As we shall discuss in the following section, these difficulties have become even more acute since the financial crises of 2008.

Formal Avenues of Government Support to Banks

There are two prominent official mechanisms that governments use to protect banks from crisis: deposit insurance and lender of last resort support.

The government runs an insurance system for bank deposits (Canada Deposit Insurance Corporation). Since deposits are protected (up to a ceiling) if a bank fails, deposit insurance buttresses depositor confidence and deters a "run on the bank". If a bank failure does happen, deposit insurance reduces contagion effects, since depositors are less worried that a problem in one bank will threaten deposits in other banks.

Banks may also receive "lender of last resort" support, meaning that the government (via the central bank) may provide loans to help banks that are threatened with a "run on the bank". For example, a bank having difficulty borrowing on wholesale funding markets may borrow from the central bank until the crisis passes. Access to lender of last resort facilities is not automatic — the central bank provides emergency lending only if it believes it must support a bank to protect the banking system from potential contagion effects.

Lender of last resort support was originally intended to address the structural vulnerability of a banking system composed of "core" banks that take deposits and make loans. As banks have become diverse financial institutions engaged in proprietary trading, derivatives activities, and many other pursuits, it may be these "non-core" activities that provoke a banking crisis. As we shall see below, the possibility that the government safety net may be stretched far beyond its original purpose to address crises emanating from these varied financial activities poses an important problem for public policy.

Informal Avenues of Government Support for Banks

Governments would prefer to buttress the stability of their banking systems without revealing that their banks are in dire need of emergency assistance.

Once a bank accesses formal lender of last resort channels, financial markets realize that the bank is in peril. This will alarm wholesale funding markets and intensify speculative pressures that further threaten the troubled bank and may also destabilize the banking system. If banks can be supported by the government while being shielded from the reputational damage of having to seek emergency supports, the pressures faced by the bank- and the banking system- will be greatly attenuated.

To shelter banks from the stigma of being seen to need emergency government help, governments prefer to avert a full-blown crisis with all sorts of informal and ad-hoc arrangements.[20] These ad hoc measures include allowing banks to access funds from the government in ways other than lender of last resort loans, or relaxing regulatory requirements in order to give banks flexibility to withstand turbulent times. Ad hoc arrangements played a large role in stabilizing Canadian banks in 2008.

If a banking crisis becomes severe, governments may respond in a variety of ways. For example, they may recapitalize a private-sector bank, or a troubled bank may be nationalized. If the bank survives thanks to an injection of government capital, these funds may or may not be repaid over time. In the midst of a financial crisis, it is always uncertain whether banks will be able to repay these funds in the future.

Whatever measures a government uses to support its banks, these actions are by necessity implemented quickly under very difficult circumstances. Public debate is minimal, as lengthy public discussions would create uncertainty and delay, thereby fuelling speculation and other financial market responses that would worsen the problem facing government officials. However the speed and secrecy with which extraordinary government support to the banking sector are devised poses important challenges to democratic oversight of government policy.

Canada's Response to the 2008 Financial Crisis

During the financial crisis in the fall of 2008, no Canadian bank failed or was taken over by the Canadian government. This is not to say that Canadian banks did not receive extensive financial support from the state and its agencies. During the frenzy of the events of the fall of 2008, the Canadian government abruptly announced several new initiatives designed to buttress confidence in Canadian banks (and the Canadian financial system more generally) — despite their reputed stability and the high past profitability of

these banks. Indeed, all of the major Canadian banks remained profitable on an annual basis right through the dramatic events of the global crisis.

Perhaps the most prominent measure taken to support Canadian was the government's enabling the Canadian Mortgage and Housing Corporation (CMHC) to purchase pools of CMHC-insured residential mortgages (packaged into mortgage-backed securities) from banks and other lenders. The goal of the program was to provide a channel for banks to secure large sums of liquidity in their moment of most dire need. The government initially announced that it would purchase up to $25 billion of these mortgage pools, but in subsequent weeks it repeatedly raised the potential purchases under this program until up to $125 billion was made available. Banks availed themselves of this program to borrow $69 billion.[21] This sudden use of a crown corporation to purchase these high quality assets from banks demonstrated the government's commitment to Canadian banks by using its own balance sheet to enable banks to access liquid funds.

The Bank of Canada was also active in supporting banks. It created more flexible arrangements for banks to "borrow" funds from the central bank, at near zero interest rates, using an expanded variety of assets as collateral. These programs enabled financial institutions to access almost $41 billion at the peak of these programs.[22] The government took further steps to ease pressure on Canadian banks in wholesale funding markets by guaranteeing in the wholesale debts of banks.

The government also supported Canadian banks by relaxing regulation. The OSFI gave banks greater latitude to count preferred shares in the calculation of their highest quality "Tier 1" bank capital, thus increasing the flexibility of banks to meet their regulated capital requirements during a period of intense pressure.[23]

This ensemble of measures demonstrated the government's extraordinary commitment to Canadian banks. By sending an unmistakable and credible signal to financial markets that it was willing to do whatever was necessary to support the Canadian banking system, these measure attenuated pressure on the banking system, thus averting the necessity of even more dramatic government interventions.

Government Regulation To Prevent Banking Crises

Governments would prefer to avoid situations which compel them to provide extraordinary supports to the banking system. Thus governments regulate

banks in hopes of obliging them to conduct themselves in a manner that is most conducive to the stability of the banking system.

Certainly regulatory improvements can make important differences in the stability of the banking system. But despite the importance of pursuing regulatory improvements, regulation alone will not "fix" banking problems. Regulation is always imperfect, and despite its good intentions, it can often set the stage for a variety of unintended consequences that further inflame destabilizing dynamics. Below we consider three issues that make banks hard to regulate, even under ideal conditions.

Why Banks Are Hard to Regulate (1): There Is No Crystal Ball

Architects of banking regulation have an arduous job: they must attempt to foresee how today's banking activities may contribute to a banking crisis in the future. Despite their best efforts, regulations are often shown to be inadequate only after a crisis has hit.

For example, international regulatory standards (the so-called Basel guidelines) are now in their third generation of revisions, as each successive financial crisis has exposed difficulties that were not anticipated by the previous Basel regulatory standards. Basel II was announced in 2004 to remedy the problems apparent in Basel I, and the ink was barely dry on those standards before their inadequacies became painfully apparent as the subprime crisis accelerated.

Unfortunately for regulators, the lessons of past financial crises do not enable them to fully anticipate future crises. Each financial crisis is distinguished by a unique confluence of contextual factors: shifting economic circumstances, evolving legal issues, challenges in securing compliance with existing regulation, unforeseen financial innovations that undermine or even evade regulatory constraints, competitive pressures that compel banks to transform their activities, extra-jurisdictional influences, and so on. This kaleidoscopic array of contextual factors is constantly shifting, and a particular banking activity that may appear benign in one context may create havoc under the right confluence of circumstances.

Not least among the factors that shape future banking crises are the impacts of new regulations that were intended to prevent banking crises. In the aftermath of a financial crisis, architects of new regulatory safeguards seek to remedy issues that contributed to that financial crisis. Yet they are unable to foresee how these new safeguards will impact an ever-changing financial environment. As banks and other financial market players seek com-

petitive advantages in this new regulatory landscape, they adapt and transform their activities in ways that may unleash unintended consequences, including new destabilizing pressures.

How then are bank regulators to cope? In the absence of perfect foresight, it is impossible to prohibit every future action that might pose a systemic risk. Because regulators cannot anticipate future problems with certainty, they must exercise their judgement in identifying which activities are likely to be the most problematic. As the subprime crisis and the current problems in Europe have taught us, precisely what banking activities are likely to turn sour is often evident only in retrospect. Thus in a classic case of closing the barn door when the horse is long gone, banking regulations are often well-designed to address the previous financial crisis.

This problem is not unique to regulators. Banks themselves have difficulty anticipating when their activities will continue merrily along, and when they may go badly wrong. The events of 2007–08 have cast profound doubt on the highly sophisticated risk assessment tools of financial institutions. Recent problems at JP Morgan Chase have intensified these concerns. Both banks and regulators rely on these methodologies of assessing risk. While these risk assessment tools may function adequately in relatively calm and stable times, they fall apart just when they are needed the most: when "game-changing" events come to pass which were previously viewed as highly improbable.

Why Banks Are Hard to Regulate (2): Competitive Pressures and the Evasion of Regulation

Let us imagine for the moment that regulators have made good educated guesses about the kinds of bank regulations needed to promote the stability of the banking system. What difficulties may ensue by enacting regulations to address these threats to systemic banking stability?

Consider the example of a regulation that seeks to enhance bank stability by limiting banks' ability to ratchet-up their risk exposure when they see fit to do so.[24] Since risky activities enhance profit (so long as they succeed), regulations designed to enhance bank stability by forcing banks to moderate their risk exposure are, to some degree, at odds with the profitability of banking.[25]

If some lucrative activity is prohibited by regulation, pressure will begin to build. Since banks operate in a competitive industry, each bank fears that its competitors will find some way to reap the profits from that prohibited

activity. Thus even though bank officials understand that the regulation is motivated to enhance overall stability in the banking system, the competitive pressure to exploit profitable opportunities may compel them to find ways around regulations. They may seek to have regulations changed, or attempt to prevail upon regulators to apply regulations more permissively. In the heat of competitive pressure, banks may simply attempt to evade regulations.

Banks may evade regulations by continuing the prohibited activity but making it more covert in order to slip "under the radar" of regulators. Banks deploy their considerable resources to find ways to conceal or otherwise cosmetically alter their participation in these prohibited activities to prevent — or at least delay — compliance with regulations. Often financial innovations can be devised to carry on the offending activity in a form that exploits some loophole in the regulation. Or banks might create a separate legal structure that moves offending activities into some other legally constituted entity that artificially separates the prohibited activities from the core activities of the bank.

This evasion of regulation may pose new and more complex threats to the banking system. Once banks react evasively to regulations, the threat to systemic stability becomes twofold: not only is the prohibited activity continuing in some form, but the lack of transparency about this activity makes it more difficult to monitor the threat.

The architects of banking regulation face a quandary. To the extent that it is profitable to evade a regulatory safeguard, competitive pressures will build for banks to do so. Thus the regulatory restrictions intended to prevent systemic banking instability may ironically set in motion destabilizing dynamics as banks employ their artistry to continue these activities in a more covert manner.

Why Banks Are Hard to Regulate (3): The Shadow Banking System

Even if regulatory authorities are successful in compelling banks to forgo a prohibited activity, this alone will not eliminate the problem. So long as an activity is perceived to be sufficiently profitable, an incentive exists for some sort of financial sector firm to engage in this activity. Thus financial sector firms that are not subject to banking regulations will take on the activities banks are prohibited from doing. When this happens, banks will complain bitterly that they have been competitively disadvantaged by regulation, yet the risks to financial stability continue since the prohibited ac-

tivity has only migrated to a more shrouded venue which poses even more risks to financial stability.

Activities that are prohibited or limited in the banking system are likely to move to the "shadow" banking system. The shadow banking system has proliferated in the neoliberal era, as deregulatory trends and the new financial instruments and practices have enabled a variety of financial institutions[26] to behave in ways similar to banks.[27] Shadow banks are prevented offering insured deposits, but they may lend money and engage in other activities that banks do. Because they are denied the ability to offer insured deposits, shadow banks finance much of their activity in wholesale funding markets.

Shadow banks are even more vulnerable to instability than banks. Since they have no deposit base, they are more reliant on wholesale funding markets than are banks. Shadow banks are not regulated as tightly as banks — both because they cannot participate in deposit insurance and because the central bank never conceived of extending its lender of last resort support to shadow banks.

Because shadow banks are more lightly regulated than banks, they can be more highly leveraged than banks. The combination of their need to constantly secure funds in wholesale funding markets coupled with their high leverage leaves shadow banks vulnerable to crisis. Moreover, because shadow banks are not subject to the same regulations as banks, they may engage in quite opaque and highly complex activities. This also increases their vulnerability to panic, as shadow banks may be shut out of wholesale funding markets because it is so difficult to discern the precise ways in which a shadow bank is exposed to an impending crisis.

These same complexities make it difficult for government officials to foresee the ways in which financial instability in the shadow banking system may spread to the banking system. As Bank of Canada Governor Carney argues, the systemic risk posed by shadow banks played an important role in the events leading up to the 2008 financial crisis:

> The regulatory system neither appreciated the scale of this activity nor adequately adapted to the new risks created by it. The shadow banking system was not supported, regulated, or monitored in the same fashion as the banking system. With hindsight, the shift towards the shadow banking system that emerged *in other countries* [emphasis added[28]] was allowed to go too far for too long.[29]

The relationships between shadow banks and the banking system creates a chilly climate for regulation in support of systemic stability. If bank

regulation becomes too rigorous, this will create a powerful incentive to move prohibited activities to other financial institutions, which may be even more destabilizing and difficult to monitor. Since regulators recognize this incentive, they may soften their regulatory measures lest they push activities into the more shrouded corners of the financial system.

Even if regulators were able to regulate all domestic financial entities regulated on the same footing as banks (which is itself a daunting task), this would not shield Canadian regulations from the pressures of financial globalization. Stringent regulations in Canada would push the prohibited activities to other jurisdictions, which would encourage Canadian financial institutions to create complex relationships with institutions abroad to continue these activities with offshore partners.

Regulation Since the Crisis: The Dilemmas of Basel III

In response to the most recent financial crises, many regulatory proposals have been advanced to enhance bank stability. Most prominent among these proposals has been the revision of the Basel rules to create so-called Basel III.

The Basel regulatory framework seeks to make banking systems more stable by ensuring that banks have the capacity to withstand adverse conditions without having to rely on government help. Basel pays special attention to bank capital as the buffer that provides this resilience. Capital reflects the equity of a bank's owners, which is intended to act as a buffer to absorb losses. Thus to some extent a generous capital cushion protects a bank from being swept up in contagion effects. It must be emphasized that a generous capital cushion is not a failsafe protection against bank failure. In an accute crisis of confidence precipitated by a major financial crisis, even a well capitalized bank can collapse.

While raising capital adequacy standards may enhance bank stability during modest difficulties,even generous capital holdings may not protect banks during the most extreme moments of systemic instability. How much capital banks will require depends on how dire a scenario banks must face. The *Economist* recently examined several financial crises scenarios, and offered a banker's assessment of the capital needed should the European sovereign debt crisis jeopardize the Euro: "There is no amount of capital that banks could reasonably hold that would insulate them from a break-up of the euro zone".[30]

Being well-capitalized does not mean that banks sit on ready cash with which to respond to financial turbulence. Even a well-capitalized bank must turn its assets into liquid cash in order to weather a crisis. Particularly during moments of crisis, asset price deflation may gravely undermine the value of these assets just as a bank is seeking to convert them into liquid funds. Having to liquidate financial assets at rock-bottom prices may seriously weaken a bank.

If bank capital protects banks, why don't they voluntarily have more of it? Bank capital requirements constrain leverage, thus they also constrain profitability. Moreover, if banks believe they will be rescued in a crisis, they will be less inclined to hold generous capital buffers. As the former Chairperson of the U.S. Federal Deposit Insurance Corporation recognized prior to the 2008 financial crisis:

> There are strong reasons for believing that banks left to their own devices would maintain less capital—not more—than would be prudent. The fact is, banks do benefit from implicit and explicit government safety nets. Investing in a bank is perceived as a safe bet. Without proper capital regulation, banks can operate in the marketplace with little or no capital. And governments and deposit insurers end up holding the bag, bearing much of the risk and cost of failure. History shows this problem is very real…as we saw with the U.S. banking and S&L crisis in the late 1980s and 1990s. The final bill for inadequate capital regulation can be very heavy. In short, regulators can't leave capital decisions totally to the banks.[31]

Because bank capital constrains bank profits, banks have considerable incentive to reduce their capital holdings, particularly in good times when profitability opportunities are enticing and fears about systemic stability seem remote. This incentive to reduce capital holdings is amplified by competitive pressures. Each bank fears that its competitors will succeed in finding ways to circumvent bank capital regulation in order to generate larger profits by minimizing bank capital. These complex manoeuvres designed to evade the intention of capital regulations is a major reason that previous incarnations of Basel rules have failed to achieve their desired result.

This is not to say that banks always wish to skimp on their capital holdings. As Hyman Minsky has pointed out in his work on endogenous financial instability, attitudes towards leverage and capital positions can vary in a manner that fuels instability.[32] In periods of stress, banks will seek to protect themselves from punishing market forces by demonstrating that they have ample capital. If banks enhance their capital buffers by deleveraging,

this can provoke a credit crunch that produces an economic downturn. In good times, banks seek to stretch their capital holdings by finding ways to apply capital adequacy regulations more leniently. This sets the stage for more leverage and the easier availability of credit, which in turn can amplify upswings such as speculative bubbles. Thus banks' attitude to their capital holdings tends to exacerbate procyclical instability.

The Next Basel Rules

After each financial crisis, questions emerge about how much capital is "enough" to protect the stability of the banking system. The third version of Basel standards (like its predecessors) attempts to answer this ultimately unanswerable question. This embroils the drafters of the Basel standards in debates about what should count as capital, how capital holdings should be adjusted to reflect the riskiness of a bank's activities, and how to assess the riskiness of those activities. This is an endless task of mythological proportions. As *The Economist* has commented, "Sisyphus was lucky. He could have wound up on the Basel committee".[33]

In its attempt to address the shortcomings of its predecessors, Basel III is immensely complex. It raises capital standards, while trying to ensure that capital holdings are of acceptable quality and meaningfully reflect risk exposure. But in recognition that capital alone will not suffice to buttress systemic stability, new regulations also attempt to improve banks' liquidity during financial market turmoil, reduce procyclicality, moderate leverage and decrease bank reliance on short-term funding.

Basel III does not come into full force until many years hence. Certainly, plenty of problems can unfold before these measures are in place. Yet the delay in implementation was necessary because domestic regulators feared that fragilities in their banking systems meant that their banks would not be able to meet the higher standards more quickly.

The Unintended Consequences Of New Banking Regulations

Basel III and other new international and domestic regulations create a complex new regulatory landscape. These new regulatory edifices will provoke unintended consequences. As was the case in both the subprime crisis and the current problems among European banks, the previous Basel standards

were intended to promote systemic stability, yet they inadvertently contributed to systemic instability.[34]

Even holding aside the foreseen and unforeseen difficulties in interpreting, applying and enforcing these new regulatory standards, one possible adverse consequence always accompanies the requirement that banks should hold more capital and reduce leverage. To the extent that banks meet these standards by reducing lending, there is the possibility that revised regulatory requirements will undermine economic growth.

As was the case with previous generations of regulatory standards, Basel III and other domestic and international regulations will come under pressure if it is possible to profit by circumventing the regulations. Banks will attempt to find ways of creating new financial activities or regulatory loopholes unforeseen by the architects of these regulations, or they will move activities to entities in the shadow banking market that are differently regulated.

The "Special" Relationship Revisited: Government's Regulatory Dilemma in a Neoliberal Age

While governments must regulate banks to safeguard the stability of their banking system, there will always be weaknesses in any regulatory architecture. These weaknesses will be exploited if competitive pressures and the lure of profits entice banks (and other financial sector firms) to subvert regulatory constraints. Thus despite the best efforts of regulators, any regulatory regime may be unable to sustain the stability of the banking system.

Since regulations are always far from perfect, and banks are inherently vulnerable to failure, systemic stability depends on how banks conduct themselves in an imperfect regulatory environment. Very prudent and risk-averse banks enhance systemic stability by restraining themselves from exploiting regulatory weaknesses. On the other hand, a perfect storm may be brewing when overconfident banks respond to competitive pressures by exploiting every regulatory weakness in their aggressive pursuit of increased risk. Thus banks' appetite for risk is an important consideration in the assessing the sustainability of any regulatory regime.

The neoliberal era has provided a hothouse environment for banks seeking to increase their risk exposure. Banks and other financial sector firms have been successful in lobbying for deregulation and subverting existing regulations via an immense variety of financial innovations. These deregulatory trends have enabled banks to find new avenues for heightened risk

taking. Often these new avenues for increased risk-taking have opened up thanks to increasingly globalized financial markets. At the same time, globalized financial markets encourage meek regulation or deregulation, for if one regulatory jurisdiction takes a more permissive regulatory stance, others must follow lest financial sector activities move offshore.

While the neoliberal era of financial globalization has created a propitious environment for banks to pursue risky activities, the following section explores the ways that recent financial crises have intensified incentives for banks to heighten their appetite for risk.

The Aftermath of Recent Financial Crises

A Clothing Optional Beach For Banks

SINCE REGULATORY STRUCTURE is imperfect, and banks are inherently vulnerable to failure, banks' appetite for risk is an important determinant of the stability of any banking system. Cautious banks will enhance the resilience of an imperfect regulatory structure, while banks eager to increase their risk exposure will exploit and exacerbate regulatory imperfections.

Banks' attitude to risk is shaped by a variety of factors, many of which will not be explored in this paper. One notable concern is that bank's can become more aggressive about their risk exposure in a manner that exacerbates procyclical instability. Hyman Minsky's work has encouraged much discussion of endogenous financial instability,[35] a situation in which banks and other financial institutions can amplify economic and financial boom and bust cycles. Traumatized banks are often paragons of caution in the wake of a financial crisis, but increasingly welcome more risk as the memory of the last crisis fades, thus contributing to the exuberance that hastens the next financial crisis.[36]

This section examines an additional factor which encourages banks' appetite for risk in the wake of recent financial crises. Because banks worldwide received massive support during the financial crises of recent years, these precedents may further undermine the caution of banks. Banks ex-

pectation that governments will support them during troubled times diminishes their incentive to err on the side of caution. Ironically, the very efforts of government to stabilize the banking system during crises have sown the seeds for future bank instability.

Not Your Typical For-Profit, Private Sector Firm: Market Discipline and Banks

For-profit firms must always weigh two conflicting imperatives when deciding how much risk they are willing to bear. They may wish to increase their risk exposure in hopes of garnering higher profits and outperforming their competitors. However for-profit firms do not increase their risk exposure willy-nilly. They must balance the competitive pressure to increase risk exposure against the possibility of losses if risky activities fail.

As mainstream economic theory tells us, this threat of failure is a critical component of market discipline. A typical for-profit, private sector firm will moderate its risk exposure because it fears that unwise decisions will force it out of business. Even if regulations and other relevant laws and policies do not specifically address certain destabilizing activities, a for-profit private sector firm may restrain itself lest unwise actions lead to its failure.

While for-profit private sector firms have an important incentive to moderate their conduct for fear that they will fail in a worst case scenario, banks face a different situation. Banks realize that they may be the beneficiaries of official (and ad hoc) channels of government support in a worst case scenario. To the extent that banks believe they will receive special government support to protect them if they are threatened with failure, market discipline is undermined.

Of course, banks recognize that they will not necessarily be protected from all difficulties. Banks — particularly Canadian banks - are consistently profitable companies, so if some of their risky activities turn sour in an otherwise good financial climate they will be capable of absorbing these occasional losses. Even if a bank is close to failure, this does not necessarily mean that government support will be forthcoming. A struggling bank may be allowed to fail if the government believes its failure is unlikely to threaten overall systemic banking stability. A government may even welcome the occasional failure of a relatively unimportant individual bank, insofar as it will warn other banks to be more cautious.

If a government believes that trouble in a particular bank will ignite contagion effects, it will come to the aid of the struggling bank because it cannot afford to allow the banking system to become destabilized. Thus every bank adjusts its attitude towards risk exposure according to its judgement about the likelihood that government support will be forthcoming should it be faced with a dire situation. If banks believe that the government will be obliged to come to their aid, their appetite for risk is encouraged.

Moral Hazard and the TBTF Problem (TBTF): Private Benefits and the Social Costs

The more large and important the bank, the more likely it will be that government authorities will be compelled to intervene on its behalf in order to protect the stability of the banking system. Large and important banks that are likely to pose contagion risks if they are destabilized are referred to as "too big to fail" (TBTF).

TBTF banks pose a so-called "moral hazard" dilemma. The term "moral hazard" refers to a situation in which banks have an incentive to act in a manner that they would find unacceptably risky if they were bearing the full consequences of their actions. Because very big and important banks view themselves as highly likely to be protected by the government if they are under great pressure, TBTF banks have an incentive to increase their risk exposure to a level that they would find intolerable if they were uncertain about the possibility of receiving government support in a crisis. Ironically, the moral hazard created by TBTF banks creates a perverse incentive for banks to engage in the sorts of activities that make it more likely that a government safety net will be needed.

The TBTF problem makes the regulation of banks more challenging than ever. The credible threat that a bank may be permitted to fail is a disciplinary measure that compels banks to curtail their exploitation of weaknesses in the regulatory structure. Since it is apparent that government will be compelled to come to the aid of TBTF banks in a crisis, TBTF banks are emboldened to take greater liberties exploiting regulatory loopholes. The very financial institutions that have the greatest resources to subvert regulatory safeguards are the same institutions that have the greatest incentive to do so.

Banks regarded as "too big to fail" benefit from implicit government support for their profitability. TBTF banks are at greater liberty to pursue risky activities, thus enhancing their potential profitability. In addition,

TBTF status acts as an implicit subsidy for large banks. Because financial market realize that a bank perceived to be TBTF will be supported during a crisis, the TBTF bank will be able to access funding at better rates than are available to smaller and less important banks. The perception that a bank will be viewed as TBTF also encourages the bank to engaged in more exotic pursuits (including derivatives activities and proprietary trading). By reducing their costs and increasing their latitude to earn profits, the public safety net that stands ready to help TBTF banks translates into a private benefit for a TBTF bank.

Banks recognized that TBTF status confers many benefits. Thus banks have an incentive to increase their size — via mergers or other means — in order to attain or reinforce their TBTF status. They also have an incentive to diversify into more financial activities, for if they play a central role in many important financial markets they are more likely to be regarded as too systemically important to be allowed to fail. Thus apart from any other business considerations, banks tend to expand in size and take on roles that are influential within the financial system in order to increase the likelihood that they will be viewed as TBTF. At times, this incentive to increase a bank's size and importance so as to secure TBTF status may even override a bank's own qualms about increasing their risk exposure to do so. By the same token, large and important banks will fight tenaciously to retain their size and systemic importance, lest they lose the benefits that flow from TBTF status. This intrinsic incentive for banks to defend their TBTF status will be important concern as we consider potential opposition to the recommendations in the conclusion of this paper.

At the same time that banks reap private benefits from their TBTF status, TBTF banks create enormous potential social costs. The perverse incentive for TBTF banks to increase their risk exposure makes banking crises more likely, which in turn means that governments are more likely to be forced to step in to help TBTF banks. This emergency assistance may impose costs on the government and create other detrimental effects for the public, including the potential downward economic spiral that accelerates when banking sector instability ignites a credit crunch.

The TBTF Dilemma After 2008

Since 2008, the TBTF problem has intensified. Fear of a "Lehman event" compels governments and their central banks to avoid the failure of a large

and important financial institution at all costs. In the words of the Superintendent of Financial Institutions, “Unfortunately, as a result of the global financial crisis, there is now a deeply embedded presumption that governments will use taxpayer dollars to bail out banks, creating a strong incentive for banks to take undue risks”.[37]

We now live in an era in which any remaining doubt about the TBTF status of the major Canadian banks has been eliminated.[38] The extraordinary supports offered by the government of Canada during the financial crisis, as well as the precedents set in other jurisdictions, reassure Canadian banks that they are TBTF. A former senior Bank of Canada official recently confirmed: “Owing to their massive size relative to the Canadian market, the largest Canadian banks create a major ‘too-big-to-fail’ risk.”[39] Major Canadian banks recognize that they are viewed as TBTF and conduct themselves accordingly. As TD bank CEO Ed Clark reassured investors, “Maybe not explicitly, but what are the chances that TD Bank is not going to be bailed out if it did something stupid?”[40]

The obvious threat posed by banks and other financial institutions which are manifestly TBTF has provoked extensive debate on ways of subduing this moral hazard problem. Proposals have been made internationally to institute a tax on these TBTF financial institutions in order to force them to shoulder some of the potential public costs implied by their TBTF status. This tax was vigorously opposed by the Canadian government, and this proposal has been largely abandoned (although it may be revisted in the context of current problems among European banks).[41] Attention is focused on requiring that large systemically important banks and other financial institutions to hold additional capital beyond normal capital adequacy requirements and subjecting these institutions to additional regulatory requirements. This approach suffers from the problems mentioned earlier concerning capital adequacy requirements and the limitations of regulatory safeguards. In addition, new problems will be created as lines are drawn determining which institutions are sufficiently systemically important that they will be subjected to these requirements.[42]

Moreover, reforms that formalize TBTF status also formalize the ways in which government support enhances bank profitability. Financial markets will systematically lower borrowing costs for those with this explicit guarantee. TBTF institutions will be viewed as more reliable counterparties in other lines of business — such as derivatives activities— which will encourage them to engage in various “non-core” financial activities which pose threats to bank stability.

Another approach to the TBTF problem is to make it more feasible for very large institutions to fail. The Financial Stability Board wants banks and other large financial institutions to create "living wills" to enable them to be liquidated in an orderly manner rather than forcing authorities to bail them out. It is immensely difficult for a large and influential financial institution to devise a credible plan for its own demise. Perhaps one might imagine a way to allow a very large and complex bank to fail in an orderly fashion during otherwise tranquil financial circumstances. But in all likelihood this sort of bank would only be facing failure during extremely tumultuous financial conditions. Any TBTF bank teetering on the verge of failure in a volatile financial environment would create adverse systemic ramifications that would jeopardize even the best laid plans. Moreover, it is entirely possible that more than one TBTF institution might be under threat at the same time. In the midst of a systemic financial crisis, how likely is it that several prominent TBTF banks could simultaneously implement their living wills in an orderly fashion?

TBTF: A Clothing Optional Beach

The TBTF problem does not imply that banks will always conduct themselves recklessly. It implies that they will tend to conduct themselves recklessly at the worst possible time.

Bank's attitude to risk varies. When the chastening effects of recent financial crises dampen risk tolerance, big banks are likely to be the model of prudence. The difficultly begins when circumstances shift so that banks become more comfortable with risk.

Thus the TBTF dilemma provides the wrong incentives at the wrong time. If conditions encourage increasing risk exposure and banks see their competitors begin to skinny dip, they too begin to disrobe.

A Proposal For Modesty

Bragging and Denial

The threat of profound banking problems — this time emanating from Europe — compels us to confront the dangers threatening the Canadian banking system. Bragging about the resilience of Canadian banks in the past, and denial about the threats to banking in the future, should not be allowed to overshadow earnest consideration of the dangers we face.

Democratic debate about banking cannot flourish so long as only a few insiders grasp the challenges. This paper presents an accessible overview of the complex world of contemporary banking in hopes of encouraging public debate about how we can confront these threats.

As we have seen through the analysis of how contemporary banks work, all leveraged private banks in competitive banking systems are structurally vulnerable to failure. This fragility implies the continuous threat of instability throughout the banking system (and the financial system more generally) which can provoke severe and sustained economic contraction. Neoliberal deregulation and financial globalization have compounded these challenges. The dominance of TBTF banks and their perverse incentives to increase risk, their participation in complex financial activities that are not connected to the traditional role of banks, and the swift transmission of contagion effects through various and convoluted national and international channels compound the fragility of the contemporary banking system.

In Canada, all of these concerns are obscured behind a mantra of self-congratulatory denial. Canadians have been lulled into complacency with incessant platitudes portraying Canadian banks as somehow more virtuous than their competitors elsewhere, or Canadian regulators as somehow more far-sighted than regulators in other jurisdictions. This is a very perilous delusion.

In response to the many pressures that threaten contemporary banking systems, governments around the world have been compelled to play an increasingly active role in safeguarding systemic banking stability. It is abundantly clear that all governments — including the Canadian government — will do anything in their power to protect their banks should the need arise. The certainty that governments will come to the aide of TBTF banks intensifies their perverse incentive to engage in activities that contribute to instability in the banking system.

Today's large banks operate as a pathological public-private partnership: the profits belong to the privately-owned banks, while the most profound downside risks belong to the public. As profits are privatized while severe problems are socialized, we have an environment which encourages the worst attributes of banking.

It is inconceivable that regulation alone will resolve this dilemma. If profits are sufficiently lucrative, banks will be enticed to find ways avoid regulatory deterrents. Regardless of capital requirements or other safeguards, the incentives for banks to behave badly can overwhelm the ability of regulations to constrain bad behaviour. The banking giants have the resources and expertise to exploit every opportunity to overcome the letter or the intent of regulation put in their path. This is not to say that banks will always behave in ways that exacerbate systemic instability. The real threat is that they will collectively engage in these destabilizing activities at the worst possible times.

What should we do to confront these dangers? There is no tidy answer which easily resolves these enormous challenges. The purpose of this paper has been to stimulate public debate rather than to encourage the perception that an easily implemented policy fix is available. Indeed, the complexity of these problems should encourage suspicion of painless cures and minimal refinements of existing protections. What follows is one perspective on possible actions, offered with the hope that the public can be emboldened to ask critical question and seek ambitious solutions.

What Banks Owe Canadians

Public debate must acknowledge that the success of banks is predicated on public support. Because banks' profits and stability are premised on the government protection, they owe a debt to society. The advocacy arm of the banking industry works tirelessly to portray banks as good corporate citizens thanks to the corporate taxes they pay, their charitable donations and the people they employ. This does not even begin to cover the extraordinary ways that Canadians are exposed to the continuous possibility that we — via our government — must rush to protect them, often from problems of their own making.

Canadians must demand a *quid pro quo*. Since banks are "special" in a myriad of ways, Canadians are entitled to impose special requirements on banks commensurate with the extraordinary public support they receive. Since bank profits are partly based on the security conferred by the government safety net, Canadians have a claim on these profits that exceeds the usual requirements of the corporate income tax system. Additional bank levies should be designed to reflect that fact that bank profitability is built on a foundation of public support.

In addition, we should entertain the many proposals for more comprehensive regulation of both banks and other financial market actors. Proposals abound to enhance the stabilizing aspects of bank capital, address systemic liquidity issues, constrain proprietary trading, regulate derivatives trading, and deter speculative capital flows (by such measures as a securities transaction tax, for example). Certainly these and other proposals can mitigate pressures which compromise bank stability. All measures are welcome which reduce the ways in which bank's access to public safety net can be exploited to buttress exotic financial activities with dubious or no connection to wider economic wellbeing (such as economic growth).

While endorsing efforts to make important reforms, this paper places these reforms in a particular light: reforms must be formulated that reflect the debt banks owe the public. We must scrutinize all proposed reforms to ensure that banks impose as little as possible on public generosity, and that the public is compensated for the support given banks.

A Modest Proposal: Banks Should Be Banks

Despite all of the important avenues that might be pursued to improve banking regulation, the current context is not hospitable for regulatory reforms.

Regulatory weaknesses are now exploited ruthlessly by banks that engage in all manner of financial activities. These financial activities evolve faster than regulations can be adapted, and they create many channels through which the banking system is exposed to unacceptable risk.

It is simply not possible for regulation to shoulder the entire burden of addressing these complex dynamics. Banks must be made simpler institutions so that regulations can keep up with emerging challenges. To simplify banks, the activities that are not part of the "core" or fundamental function of banks should be removed from the multifaceted financial institutions now called banks. Paul Volker has argued on behalf of this separation of what he calls the "fundamental" banking activities (taking deposits, making loans and facilitating the payments system) from "extraneous" functions now performed by banks:

> I think that fundamental (i.e. core banking function) is going to remain. People are going to think it is important, it needs regulation and in extremis it needs protection — deposit insurance, lender of last resort and so forth. I think that it is extraneous to that function that they do hedge funds, equity funds and that they trade in commodities and securities, and a lot of other stuff, which is secondary in terms of direct responsibilities for lenders, borrowers, depositors and all the rest. There is nothing wrong with any of those activities, but let you nonbank people do it…. If you fail, you're going to fail, and I am not going to help you, and your stockholders are going to be gone, and your creditors will be at risk, and that is the way that it should be.[43]

If banks were compelled to return to their more traditional roles, they would be deprived of some opportunities to act on the temptations of the more speculative financial activities, and this in turn would shield the government from stretching the government safety net far beyond its intended purpose.

If a bank accepts the protections of deposit insurance, access to lender of last resort support and other sources of emergency assistance, it should be required to forgo non-bank activities. Other financial activities can continue in non-bank financial sector firms, but they must continue without benefit of a government safety net. Financial markets would be well served by the demise of those activities that are not viable without the protection of government support.

In some respects current regulatory debates consider this principle, but stop short of taking this principle to its logical conclusion. For example, "firewalls" might be created to distinguish between the core bank and the

other activities that take place within a bank. Unfortunately, the incentive always exists to blur these “firewalls” so that a bank can stretch the intended coverage of implicit government support. The only way to ensure that government safety nets only shield core banking functions is to place these functions in entities that are completely separate from financial sector firms that engage in other sorts of financial activities.

Naturally debates must happen about precisely where to draw the line that distinguishes core banking activities from other pursuits. There will be unforeseen consequences flowing from decisions made concerning where that line is drawn. But because there are difficulties in implementing this principle does not mean that we should abandon it. All options before us pose challenges.

Regardless of these challenges, the message sent to banks and financial markets by firmly separating core banks from other for-profit financial sector firms is that the public will no longer be imposed upon to save all manner of financial sector activities from the consequences of reckless, unproductive risk-taking. The disciplinary effect of this message will do much to add sobriety to a financial system riddled with perverse incentives to act in a manner contrary to the public interest.

Core Banking Should Not Be a Private Business

Would the creation of “core” banks that are confined to core banking activities suffice to address the problems outline in this paper? Not quite.

The creation of core banks that receive the full range of government support will create powerful incentives to subvert the distinction between core banking activities and other financial activities. If core banks are organized as for-profit private sector firms, they will stand to make lucrative profits by bringing further financial activities under the protection of government safety nets. Indeed, this incentive to bring as many financial activities as possible under government protection will create all sorts of confusion in regulatory debates about how to draw a line around what is deemed core banking activities.

So long as banks are private, for-profit corporations operating in a competitive marketplace, it will be extraordinarily difficult to prevent abuse of the public safety net supporting core banks. The profits to be made by imposing on government safety nets are lucrative, and the competitive pressures to so will be irresistible.

This temptation to exploit the government safety net for profit is compounded by the TBTF dilemma. Even stripped of their non-essential financial activities, large contemporary "core" banks would still be TBTF. Particularly in the Canadian market, where five chartered banks dominate domestic banking, these five banks would continue to be plagued with moral hazard concerns.

One option to address the TBTF dilemma is to insist the core banks continue as for-profit, private sector firms, but be limited in size. If core banks were small enough that their failure might be tolerable, this would provide government with a credible threat of failure to constrain their destabilizing activities. This is not an attractive solution given the fact that there are grave economic implications of a system composed of small banks that are allowed to fail with sufficient frequency that bank failure (or other gravely adverse consequences) acts as a disciplinary threat on remaining banks.

A better approach is to reconstitute banks so that their "core" functions no longer reside in private sector firms. Instead banks should be viewed as having a public service mission, accomplishing many tasks (such as creating credit money and clearing transactions) that are in the public interest by conducting the rather boring (but mildly profitable) business of taking deposits and making loans.

This case was argued eloquently by Willem Buiter (chief economist of Citigroup) at the height of the 2008 financial crisis:

> Is the reality of the modern, transactions-oriented model of financial capitalism indeed that large private firms make enormous private profits when the going is good and get bailed out and taken into temporary public ownership when the going gets bad, with the tax payer taking the risk and the losses?
>
> If so, then why not keep these activities in permanent public ownership? There is a long-standing argument that there is no real case for private ownership of deposit-taking banking institutions, because these cannot exist safely without a deposit guarantee and/or lender of last resort facilities, that are ultimately underwritten by the taxpayer.
>
> Even where private deposit insurance exists, this is only sufficient to handle bank runs on a subset of the banks in the system. Private banks collectively cannot self-insure against a generalized run on the banks. Once the state underwrites the deposits or makes alternative funding available as lender of last resort, deposit-based banking is a license to print money.[44]

Since government safety nets are a necessity given the inherent fragility of leveraged banks, and government safety nets are central to the profitability of contemporary banks, the government is entitled to go beyond regulation to ensure that these safety nets are not abused. So long as the unfettered pressure of competitive conditions in private sector banking drives banks to increase risk in pursuit of profits, the potential for abuse of government safety net is encouraged.

The creation of these "core" banks might be accomplished in a variety of ways. Core banking activities could be extracted from existing financial sector firms and placed within institutions designated solely as core banks. These institutions might be newly minted, or may be created by reconstituting existing financial sector entities. For example, core banks could be built by extending the mandates of existing government institutions, such as the Export Development Canada or the Business Development Bank, or transforming the mandates of institutions like credit unions. Various ownership structures could be considered for these new core banks.

While deliberate planning to create core banks is preferable to the creation of core banks in response to crisis, sometimes it is only during the threat of systemic crisis that the political will exists for ambitious policy measures. In the midst of an unfolding future crisis, Canada's major banks could be compelled to relinquish their core banking activities as the *quid pro quo* of receiving emergency support.

This is not to say that a new system of core banks will be a panacea. For example, no doubt critics will claim that these banks will produce a sub-optimal allocation of capital to the extent that political or other extra-market concerns influence lending. That concern is instructive but not persuasive. In the wake of the subprime crisis and the European debt crisis, the contemporary banking system has not distinguished itself for its astute allocation of credit. Certainly regulations must be created to ensure that these banks allocate capital in a manner that is conducive both to systemic stability and to other elements of the public interest. However, core banks would face a degree of market discipline in that core banks would compete with private, for-profit financial sector firms in the making of loans. In some respects, their allocation of capital would be enhanced because these banks would not be afflicted by the intense moral hazard problems that abound when the private sector makes decisions that the government must pay for.

Still Swimming Naked?

Ambitious proposals for structural change are often ignored until circumstances become dire. Certainly bankers and their allies have no incentive to disrupt the goose that lays the golden eggs. They benefit a great deal from the perception of Canadian exceptionalism that thwarts the political appetite for structural changes that would disrupt the profitable comforts of operating TBTF banks.

As challenging as it is to examine meaningful proposals for change, the alternative is worse. Inaction bred of complacence threatens us with a repetition of the spiral of instability that brought the world to the brink of financial chaos in 2008. Certainly the immensely challenging problems confronting European banks should only underline the importance of taking action long before crises erupt. If we are seduced by the reassuring spin of bankers and their allies, we are complicit in allowing the myth of Canadian exceptionalism to blind us to ways in which the status quo threatens us with future banking crises. As the President of the Federal Reserve Bank of Kansas City warns us:

> We know now that despite the violence of the shock, both the big banks and the cadre of bank regulators and supervisors — and academics — are shaking off the awful memories of 2008 and are setting up the same pins in the same alleys for the same players to try again. We will have to do this, at least, once more before we even try to get it right.[45]

Notes

1 http://www.berkshirehathaway.com/2001ar/2001letter.html

2 In their "Episodes of Systemic and Borderline Financial Crises"(2003), Caprio and Klingebiel find 117 systemic banking crises in 93 countries since the 1970s see http://siteresources.worldbank.org/INTRES/Resources/469232-1107449512766/648083-1108140788422/EPISODES_OF_SYSTEMIC_BORDERLINEFC_Dataset2.pdf

3 CMHC Insurance and Securitization Activities", Canadian Mortgage and Housing Corporation, http://www.cmhc-schl.gc.ca/en/corp/nero/jufa/jufa_007.cfm

4 Carmichael, Kevin. "The Bigger They Are, The Harder Canadian Banks Could Fall, Expert Warns" Globe and Mail, May 3, 2012 http://www.theglobeandmail.com/report-on-business/the-bigger-they-are-the-harder-canadian-banks-could-fall-expert-warns/article2420660/

5 "The Lasting Impact of the Crisis on the Global Financial System" September 26, 2011 http://www.osfi-bsif.gc.ca/app/DocRepository/1/eng/speeches/jd20110926_e.pdf

6 "A Billion Here, A Billion There", *The Economist*, May 12, 2012. http://www.economist.com/blogs/schumpeter/2012/05/jp-morgan%E2%80%99s-trading-mistakes

7 Langley Monica, "Inside J.P.Morgan's Blunder", *Wall Street Journal*, May 18, 2012. http://online.wsj.com/article/SB10001424052702303448404577410341236847980.html?mod=WSJ_hp_LEFTTopStories

8 Mackrel, Kim. "JPMorgan Trading Losses Climb to $3-Billion, Paper Reports" *Globe and Mail*, May 17, 2012. http://m.theglobeandmail.com/globe-investor/jpmorgan-trading-losses-climb-to-3-billion-paper-reports/article2435398/?service=mobile

9 Henry, David. "JPMorgan to be Haunted by Change in Risk Model" Reuters, May 19, 2012. http://in.reuters.com/article/2012/05/19/jpmorgan-risk-idINDEE84H0J720120519

10 Increasingly, various financial sector firms — and even grocery stores, car companies and many other businesses — perform functions similar to banks. Meanwhile banks have moved into business pursuits that were once prohibited, including the activities that used to occur in stand-alone investment banks, hedge funds and other financial sector firms. As banks now engage in more exotic financial activities, the banking system is exposed to risks that did not exist in the trad-

itional “plain vanilla” banking business of taking deposits and making loans. As we shall see, the increasingly complex (and risky) activities of banks, as well as the migration of non-banks into bank-like activities, plays an important role in systemic financial instability.

11 In this simple model, bank capital is the difference between a banks’ assets (currency and loans outstanding) and its liabilities (deposits)

12 The federal funds market is the analogous interbank lending market in the United States, and the federal funds rate is a key variable of monetary policy.

13 Vehicles used in wholesale funding markets include institutional deposits, repos, commercial paper and banker’s acceptances.

14 See “Leverage, Balance Sheet Size and Wholesale Funding” by H. Evren Damar, Césaire A. Meh and Yaz Terajima (Bank of Canada Working Paper 2010-39, December 2010). http://www.bankofcanada.ca/wp-content/uploads/2010/12/wp10-39.pdf

15 For example, during the 2008 financial crisis it was not immediately clear how various banks’ were exposed to the crisis emanating from the subprime housing market. This uncertainly tended to punish banks even if it later turned out that they were not as vulnerable to subprime problems as was originally feared.

16 The Glass-Steagall Act is discussed at length in my *New Deal Banking Reforms and Keynesian Welfare State Capitalism* (New York: Routledge Press, 2008).

17 Berkshire Hathaway Annual Report, 2002.

18 Short sellers will “borrow” and asset that they do not own, and immediately sell the borrowed asset. They hope that the price of the asset will go down at a later time, allowing them to buy the asset at the lower price and return the asset to its original owner. Because short sellers sell the assets in question, they drive down the price of these assets.

19 Kiladze, Tim, “RBC defends its capital markets exposure” *Globe and Mail*, June 3, 2012. http://www.theglobeandmail.com/globe-investor/investment-ideas/streetwise/rbc-defends-its-capital-markets-exposure/article4227815/

20 There is a provocative irony in this reliance on informality during a crises. It is usually stated that transparency is crucial to a stable banking system, but when a crisis is looming transparency is sacrificed lest it provoke a crisis.

21 CMHC Insurance and Securitization Activities”, Canadian Mortgage and Housing Corporation, http://www.cmhc-schl.gc.ca/en/corp/nero/jufa/jufa_007.cfm

22 See Zorn et.al, “Bank of Canada Liquidity Actions in Response to Financial Market Turmoil” Bank of Canada Review, Autumn 2009, http://www.bankofcanada.ca/wp-content/uploads/2010/06/zorn.pdf

23 See the advisory issued by the Office of the Superintendent of Financial Institutions Canada found at http://www.osfi-bsif.gc.ca/app/DocRepository/1/eng/guidelines/capital/advisories/Flex_Maint_Con_Capital_Strength_e.pdf

24 Banks will not always have extreme appetites for risk. Their risk appetite will vary according to general financial conditions, thus during a speculative bubble they may be more inclined to increase their risk exposure than during a downturn. In this way banks risk tolerance can be procyclical, thus further compromising financial and economic stability.

25 While there is a conflict between regulators attempts to enhance stability and banks’ pursuit of profits, this conflict is not absolute. A destabilized banking system is also detrimental to bank profitability, thus to some degree it is in banks self-interest to ensure that regulators are enforcing rules that will support systemic banking stability. Consider, for example, the advan-

tages Canadian banks have enjoyed because of the reputation the Canadian banking system has of being well regulated.

26 Bank of Canada governor Mark Carney defines shadow banks as including investment banks (in other countries), mortgage brokers, finance companies, structured investment vehicles (SIVs), hedge funds, and other private asset pools. See Carney, Mark, "What are Banks Really For?". Remarks to University of Alberta School of Business, March 30 2009. http://www.bankofcanada.ca/2009/03/speeches/what-banks-really-for/

27 Banks that create separate entities to engage in activities prohibited in chartered banks can also constitute part of the shadow banking system.

28 The portrayal of the shadow banking system as a problem in countries other than Canada. This assertion ignores such events as the asset-backed commercial paper problems of 2007.

29 Carney, Mark, "What are Banks Really For?". Remarks to University of Alberta School of Business, March 30 2009. http://www.bankofcanada.ca/2009/03/speeches/what-banks-really-for/

30 "Holey Grail: how much capital do lenders need?" Economist, October 1, 2011. http://www.economist.com/node/21530994

31 Remarks By Sheila Bair Chairman, U.S. Federal Deposit Insurance Corporation; 2007 Risk Management and Allocation Conference, Paris, France June 25, 2007. http://www.fdic.gov/news/news/speeches/archives/2007/chairman/spjun2507.html

32 See, for example, Hyman Minsky's Stabilizing and Unstable Economy. (New Haven: Yale University Press, 1986)

33 "Uphill Work: Market Turmoil Raises Concerns about Basel 2 Banking Accord" Economist, September 6, 2007. http://www.economist.com/node/9769530

34 Basel II attempted to compel banks to hold less capital against their activities perceived as "low-risk". But sometimes regulators have difficulty correctly identifying which activities are low risk. For example, banks were encouraged to hold assets with rated as low-risk by credit rating agencies, yet highly-rated subprime securities were at the heart of the 2008 crisis. Similarly, Basel standards which looked favourably on sovereign debt have encouraged European banks to lend to Greece and other highly-indebted countries.

35 See for example "The Financial Instability Hypothesis", Working Paper # 24, the Jerome Levy Economics Institute, 19943.

36 Bankers' shifting conventions about appropriate risk levels are reinforced by market dynamics (for example, when the value of banks' assets rise in market value during the boom phase, this enables banks to become more aggressive).

37 Dickson, Julie, "Protecting Banks is Best Done by Market Discipline" *Financial Times*, April 9, 2010. http://www.osfi-bsif.gc.ca/app/DocRepository/1/eng/media/2010_04_10_e.pdf

38 This is not to say that prior to 2008 the TBTF problem was unknown. However prior to 2008, government authorities had more credible "constructive ambiguity" with which to compel Canadian banks to curb their exploitation of the moral hazard dilemma. See my "The Case for Constructive Ambiguity in a Regulated System: Canadian Banks and the "Too Big to Fail" problem". http://www.regulatorygovernance.ca/sites/default/files/publications/RGB6.EllenRussellSeptember2009.pdf.

39 Carmichael, Kevin. "The Bigger They Are, The Harder Canadian Banks Could Fall, Expert Warns" *Globe and Mail*, May 3, 2012 http://www.theglobeandmail.com/report-on-business/the-bigger-they-are-the-harder-canadian-banks-could-fall-expert-warns/article2420660/

40 Toronto-Dominion Chief 'Wrong' on Aid, Official Says (Update1) *By Theophilos Argitis and Sean Pasternak - January 22, 2009* http://www.bloomberg.com/apps/news?pid=conewsstory&refer=conews&tkr=BNS:US&sid=acNbWVxi5rmk

41 McKenna, Barry, "Europeans Eye Safety Net Funded by a Tax on Banks", *Globe and Mail*, May 28, 2012. See http://www.theglobeandmail.com/report-on-business/international-news/european/europeans-eye-safety-net-funded-by-a-tax-on-banks/article2445804/

42 One discussion of the perils of formalizing and extending the TBTF designation can be found in Peter Wallison's May 23, 2012 article in the Wall Street Journal article entitled "Dodd-Frank's Too-Big-to-Fail Dystopia: The Government Expands Crony Capitalism To Insurers, Securities Firms And Other Non-Banks" http://online.wsj.com/article/SB10001424052702303610504577420234053483326.html?mod=googlenews_wsj

43 See http://www.financialstabilityboard.org/publications/r_101111a.pdf

44 "Paul Volcker: Think More Boldly" December 14, 2009 Wall Street Journal http://online.wsj.com/article/SB10001424052748704825504574586330960597134.html

45 Martin Mayer quoted by Thomas Hoenig in "Financial Reform: Post Crisis?" 2011 http://www.kansascityfed.org/publicat/speeches/hoenig-DC-Women-Housing-Finance-2-23-11.pdf

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