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*“Without wanting to appear arrogant or vain, which would be quite un-Canadian ... while our system is not perfect, it has worked during this difficult time”
Finance Minister Jim Flaherty in an interview with the Financial Times¹*

Why are Canada’s “Too Big To Fail” Banks Risk Averse?

Canada is emerging from the current financial crisis with a reputation as a “country that got things right”.² This is not to say that the Canadian banking system was unscathed by the financial crisis: extraordinary interventions to enhance systemic liquidity and other supportive measures have been put in place to help Canadian banks weather the financial turmoil.³ But in contrast to the costly bailouts of large American banks and other financial institutions, no individual Canadian bank has required a government bailout. Canada now

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enjoys acclaim for having the world's soundest banks,⁴ and influential critics have advocated for banking reforms inspired by the Canadian example.⁵

While the comparative resilience of the Canadian banking system is the result of a confluence of many factors,⁶ considerable emphasis has been placed on Canada's reputation for having cautious banking regulation and a risk averse banking culture.⁷

This brief focuses on the purported Canadian virtues of risk aversion and regulatory caution in light of one important characteristic of the banking system: it is dominated by only five large banks that are "too big to fail". Scholarship on bank regulation regards banks that are "too big to fail" as having an incentive to take greater risks than they would deem acceptable if they were uncertain of receiving government support.⁸ Thus banks that are "too big to fail" present a public policy problem in that they tend to privatize the rewards of risky banking behaviour, while its costs are socialized in the event that bank stability is threatened. In the aftermath of the financial crisis, public policy scholars and practitioners have renewed interest in the "too big to fail" problem, given that American authorities have been obliged to rescue the titans of the American banking (and other dominant financial institutions) at great public expense.⁹ As Alan Greenspan has recently commented, "of all the regulatory challenges that have emerged out of this crisis, I view the ["too big to fail"] problem and the ["too big to fail"] precedents, now fresh in everyone's mind, as the most threatening to market efficiency and our economic future."¹⁰ Thus Canada's combination of banks that are "too big to fail" alongside a seemingly a risk averse banking culture poses an intriguing puzzle for scholars and practitioners of banking regulation.

How did Canada avoid the heightened appetite for risk that is encouraged by the "too big to fail" problem? This brief addresses this question using a concept – constructive ambiguity – which is often mentioned but relatively neglected analytically in the scholarly literature on bank regulation. This neglect is perhaps understandable given that regulatory scholarship generally values clarity and precision in pursuit of both transparency and accountability. I argue that the capacity of the Canadian banking system to thus far successfully navigate the "too big to fail" problem presents an instance in which this form of ambiguity may contribute to helpful dynamics in the regulatory landscape in that it can attenuate the moral hazard dilemma posed by banks that are "too big to fail".

When banks contemplate their risk exposure, they consider what government actions may be forthcoming in the event that these risks turn out so badly that the bank is imperilled. Banks certainly do not wish to find themselves in front of their prudential regulator (the Office of the Superintendent of Financial Institutions) or deposit insurer (the Canada Deposit Insurance Corporation) on the brink of failure. A troubled bank would prefer that the central bank pre-empt this outcome by providing "lender of last resort" support or other forms of extraordinary assistance to enable it to recover. Banks that perceive themselves as "too big to fail" expect that the central bank will exert itself on their behalf well before their

failure is imminent. Thus, "too big to fail" banks have an incentive to take greater risks insofar as they expect the central bank to react favourably to them should they require urgent assistance.

Constructive ambiguity exists to the extent that it is unclear how the central bank will respond to the potential failure of a bank. A distressed bank hopes that the central bank will intervene to provide sufficient liquidity to prevent its failure, but the central banks may allow other outcomes which are detrimental to the bank, including allowing the bank to fail. To the extent that a bank has reason to fear that a future banking crisis may be resolved in a way that is unfavourable to its interests, it has an incentive to adopt a more conservative attitude towards its risk exposure. Thus, an environment characterized by a high degree of credible constructive ambiguity deters the migration towards increased risk exposure by all banks, including those which are perceived as "too big to fail". Moreover, this constructive ambiguity emboldens both central bank officials and bank regulators to be more assertive in their pursuit of both regulatory and non-regulatory interventions intended to support the stability of the banking system.

I shall argue that the refusal to grant the big five Canadian banks permission to merge in the late 1990s preserved a greater range of viable policy options in the event of a banking crisis. With greater policy options at the government's disposal, the constructive ambiguity was enhanced. Thus, despite the fact that Canadian banks are "too big to fail", the moral hazard problems associated with banks that cannot be permitted to fail were reduced thanks to this constructive ambiguity. Moreover, a context characterized by a high degree of constructive ambiguity encouraged the evolution of both regulatory and non-regulatory factors that were conducive to the relative stability in Canadian banking amidst the recent financial turmoil.

The argument below requires a short general presentation of constructive ambiguity and its relationship to the "too big to fail" problem. It is followed by a discussion of the ways in which the refusal to permit mergers among the large Canadian banks in the late 1990s shaped the constructive ambiguity animating the relationships among the banks, the Bank of Canada, and bank regulators. I will argue that this policy decision both enhanced the credibility of the government's constructive ambiguity and attenuated the moral hazard implications of banks that are "too big to fail" in Canada. I conclude with a discussion of the implications of this analysis for regulatory initiatives going forward.

Contagion Risk and the "Too Big To Fail" Problem: The Case for Constructive Ambiguity

Governments are keenly aware that banks are "special".¹¹ Banks are critically important in an economy, but they also structurally vulnerable to failure. Depository banks are

necessarily highly leveraged: the amount of loans they extend far exceeds the amount of funds on deposit.¹² If depositors (and other creditors) fear the possible collapse of a bank, they will seek to withdraw their funds *en masse*, thus provoking the bank's failure. For this reason, public confidence is imperative for bank stability.

Bank failures are a particular concern for both regulators and central bank officials because they can ignite a sequence of harmful events that can jeopardize the survival of banks throughout the banking system. These so-called "contagion effects" are more severe when very large banks fail. Governments regard systemic contagion as a worst case scenario, largely because of its potentially devastating economic consequences. Instability in the banking system compels individual banks to protect themselves by contracting lending, and the resulting "credit crunch" can provoke generalized economic downturn. Indeed this fear of contagion and its economic consequences are among the justifications for the regulation of banking.¹³

In view of the potential contagion effects of bank failures, governments provide a "safety net" to preserve the stability of the banking system. This buttresses public confidence in the banking system, which deters the bank runs that threaten individual banks and potentially imperil the stability of the financial system in general and the banking system in particular. For present purposes, the analysis of this safety net focuses on the central banks' role in the provision of liquidity, although the government could use other mechanisms to provide banks with funds to weather a crisis.¹⁴ In the event that a bank is in jeopardy, a central bank may allow the bank to borrow funds (or enable the bank to secure liquidity by other more circuitous processes). Since other for-profit firms do not have explicit access to the lender of last resort facilities at the central bank, this constitutes an obvious way in which banks are "special".¹⁵ To the extent that banks are shielded from failure, banks are protected from this basic market discipline, a concern which further justifies the regulation of the banking sector.

The existence of this safety net poses a moral hazard problem (that is to say, the prospect that a party insulated from risk may behave differently from the way it would behave if it were fully exposed to the risk). To the extent that a bank believes it will receive assistance if it is in peril, the bank has a perverse incentive to migrate towards more risk exposure than it would otherwise deem acceptable.¹⁶ This moral hazard is attenuated by the fact that central banks exercise discretion in allowing access to this safety net. A credible threat that a bank in peril may be denied lender of last resort support or face other adverse consequences curbs the appetite for risk among banks. Indeed, so long as authorities are persuaded that it will not jeopardize systemic stability, they may welcome a particular bank failure for its disciplinary effects. Yet government authorities face a dilemma: while the disciplinary effects of bank failures deter a cavalier attitude toward risk among remaining banks, there is always the *possibility* that a particular bank failure will unfold in a manner

that will ignite contagion effects. This dilemma is evident in former chairman of the Federal Reserve Board Paul Volker comments:

The 1980s exposed various excesses which I think, to some degree, were becoming apparent in the 1970s. I can remember very clearly sitting in my office then, as President of the Federal Reserve Bank of New York, thinking that what this country needs is a first-class bank failure to teach us all a lesson—but please God, not in my District. When I went to Washington, I had the same feeling—we need a clear lesson from market discipline, but please dear God, not in my country.¹⁷

To the extent that central banks can maintain a credible threat that a bank may be allowed to fail (or face other adverse consequences), they enhance systemic stability by deterring banks' exploitation of the moral hazard dilemma inherent in the provision of the lender of last resort safety net. The credibility of this threat is enhanced by a deliberate lack of transparency on the part of central bankers, who typically provide no policy statement concerning what circumstances will trigger a bank bail-out. As a report from the Bank for International Settlements' Working Committee on Financial Stability in Emerging Market Economies explains: “[a]ny pre-commitment to a particular course of action in support of a financial institution should be avoided by the authorities, who should retain discretion as to whether, when and under what conditions support would be provided”.¹⁸ This intentional opacity on the part of central banks contributes to what is referred to as “constructive ambiguity” or “creative ambiguity”.¹⁹

While constructive ambiguity is a concept that is frequently employed,²⁰ financial regulatory scholarship has a somewhat uneasy relationship with it. Transparency is typically viewed as the hallmark of good regulatory governance rather than intentional opacity. Indeed the reputed originator of the term, Gerald Corrigan, gives it a rather sheepish recommendation:

While the doctrine of ‘constructive ambiguity’ as to whether, when and how central banks will resort to extraordinary actions in the face of financial disturbances is intellectually unappealing, it serves the very useful purposes of mitigating the moral hazard problems while preserving a desirable degree of policy flexibility.²¹

Constructive ambiguity is compromised by banks that are “too big to fail”. Since the failure of large and influential banks (“systemically important banks”), is likely to provoke contagion effects which may jeopardize the financial system in general, there is little ambiguity that some form of emergency support will be forthcoming should these banks be at risk of failure. Thus banks that are "too big to fail" are regarded as more susceptible to moral hazard difficulties, and a case can be made that banking systems characterized by

"too big to fail" banks are more prone to crises insofar as they exploit this moral hazard dilemma.²²

Even if banks are viewed as "too big to fail", there may be options so that a central bank may avoid having to bail out a troubled bank. For example, regulators might force it into a distressed merger with its competitors on terms that are disadvantageous to the troubled bank. If it is possible to avert bank failures while taking actions which punish banks viewed as culpable for the difficulties in the banking system, this threat mitigates moral hazard problems.²³ In an International Monetary Fund (IMF) publication, Guianni places particular emphasis on this punitive dimension of constructive ambiguity:

[Constructive ambiguity's] credibility rests on the availability of resources and high-quality information, as well as on sufficient technical autonomy and effective sanctioning powers. The latter are really key: if institutions prove incapable of exercising self-restraint, then the lender of last resort must be in a position to inflict losses upon their managements and shareholders. If it did not have, or never availed itself of, such powers, constructive ambiguity would be a rhetorical fiction. Total forbearance would then be an apter name.²⁴

The existence of credible constructive ambiguity may affect the behaviour of banks, even when banking crises are not imminent. Banks that are beholden to the good graces of a central bank in the event of a crisis are attentive to their reputation among government officials. Each bank prefers to be perceived as prudent and cooperative, rather than as an outlier in terms of its risk exposure. Thus banks are more likely to heed moral suasion by government officials in everything from closed door meetings to public statements ("jawboning").

When the central bank is empowered with a high degree of constructive ambiguity, this context also has implications for the relationship between banks and their regulators.²⁵ Banks that seek to maximize the likelihood of receiving emergency assistance in a crisis are eager to enhance their reputation as working constructively with regulators to promote systemic stability. Thus constructive ambiguity weakens (but does not remove) banks' motivation to lobby to remove or dilute regulatory safeguards or to engineer financial innovations to circumvent such safeguards. In this context, regulators are in a better negotiating position to impose regulations that banks might otherwise resist. Banking overseers (such as bank inspectors) are also better positioned to be more rigorous in the interpretation and execution of their mandates. Thus banking environments characterized by a high degree of constructive ambiguity may set in motion mutually reinforcing dynamics that support the stability of the banking system: governments are emboldened to advance regulatory and other measures that enhance systemic stability, while banks have diminished risk preference and are less inclined to apply their energies to reducing or evading explicit or implicit constraints on their activities.

Constructive Ambiguity and the “Too Big to Fail” Problem: Legacies of the Bank Merger Debate

The degree to which any central bank enjoys credible constructive ambiguity vis-à-vis the banking sector is shaped by a great many contextual factors, including the specific market conditions during an episode of banking turmoil, prevailing legal, policy and regulatory frameworks, formal and informal international agreements, the characteristics of national and sub-national regulatory institutions as well as domestic political considerations. To investigate the degree of constructive ambiguity enjoyed by the Bank of Canada prior to the recent financial crisis, I limit my analysis to one important policy event: the refusal in 1998 to permit mergers among four of Canada’s largest five banks.²⁶ If these mergers had been permitted, the number of dominant banks in the Canadian banking market would have been reduced to three.

While Canadian authorities have allowed some financial institutions with depository operations to fail in recent memory (such as Confederation Life and Central Guaranty Trust), the last major bank failure in Canada was the Home Bank in 1923. Thus it appears that the major banks are rather secure in the assumption that they are too large and systemically important to be allowed to fail. While the 5 major banks were "too big to fail" even before the further consolidation, the existence of 5 rather than 3 firms had an important impact on the range of policy options available to the Bank of Canada in the event of a bank in crisis. By preserving this policy flexibility, the prohibition on bank mergers preserved the constructive ambiguity enjoyed by the Bank of Canada in its relationship to the banks, and thereby mitigated the moral hazard problem inherent in Canada’s oligopolistically competitive banking structure.

I begin with the premise that any of the five major Canadian banks were (and are) "too big to fail", which constitutes an obvious impediment to the maintenance of constructive ambiguity. Since an outright bank failure could not be tolerated, some other resolution would have to be found if a Canadian bank were in jeopardy. As then Finance Minister Paul Martin explained in his statement rejecting bank mergers,²⁷ authorities have historically relied on the possibility of selling the operations of a troubled bank to its remaining competitors. This is not a course of action that the government would take lightly: concerns such as the level of competition among remaining banks would no doubt pose a significant problem to any government faced with this decision. However, in a worst case scenario this possible course of action is sufficiently plausible (and unattractive from banks’ point of view) to constitute a credible threat for a bank in distress. This credible threat acts to mitigate banks’ incentive to exploit the perverse incentives inherent in their "too big to fail" status.

In a post-merger context, the possibility of dealing with a bank in difficulty by reducing the remaining number of banks carries different implications. If banking turmoil were resolved by reducing the number of Canadian banks from 3 to 2, this would trigger concerns about concentration of economic power and reduction in competition that flows from a highly

concentrated banking sector.²⁸ If the government were to decide that a duopoly would be intolerable, it might resolve the situation by permitting the sale of the troubled Canadian bank to a foreign bank. However, this option implies reversing a policy legacy which has enabled Canadian banks to maintain their dominant presence in the Canadian banking system. (A further option would be to distribute a troubled bank's operations among the smaller Canadian financial institutions such as smaller banks and credit unions. But these smaller institutions are so dwarfed by the large banks that this option would require a vast retooling of the financial sector, and would likely be an unpopular outcome in the view of the remaining major banks. Thus this option is absent from in the Martin statement.)

In the event that a Canadian bank faced imminent failure, Canadian government authorities would thus face rather unattractive options in a post-merger context. As Martin explained:

Therefore, faced with a firm in financial difficulty, and with fewer large domestic institutions, we could find ourselves in a situation where we might have to put other fundamental policy objectives, such as the need for competition or Canadian control, into question in order to preserve our ability to address potential problems.

In other words, the sheer size of the institutions that would result from these mergers would constrain the alternatives available to regulators and to government.²⁹

In a post-merger context, the lack of attractive policy options undermines constructive ambiguity. Post-merger banks would be aware that the political and economic consequences of either permitting a duopoly or orchestrating the large-scale presence of foreign banks in the Canadian banking market are highly problematic for the Canadian government – particularly in the context of the fast-paced frenzy and convulsions of public confidence that prevail when a bank failure is feared. Facing a government with constrained policy options, post-merger Canadian banks would be more secure in exploiting their "too big to fail" status by increasing their risk exposure.

A case can be made that the constructive ambiguity preserved by the refusal to grant bank mergers contributed to the creation of an environment that was conducive to the stability of the Canadian banking system prior to the recent financial crisis. For example, Canada has been able to impose and maintain higher capital ratios for Canadian banks (and at times banks have even exceeded the required capital standards) despite the fact that holding greater capital is a constraint on bank profits. The requirement to hold higher capital dissuades banks from pursuing some of the riskier activities that require high leveraging and which thereby contribute to fragility in the banking system. While banks may have had other motives in acquiescing to these relatively high capital ratios, it may be that the credible threat implied by the Bank of Canada's constructive ambiguity encouraged Canadian banks to embrace these standards.

This is not to say that Canadian banks have found this environment inhospitable. They have continued to be highly profitable in the time prior to the financial crisis, in part by regulatory design. A regulatory structure that seeks to encourage banks to forgo the more risky and exotic will tend to be sympathetic to the need to preserve the profitability of the more prosaic banking activities.³⁰ Canadian banks have been supported by a regulatory structure that enabled them to create and preserve a lucrative and comparatively stable retail banking business, which has proven to be an important buttress of bank profitability during the financial crisis.

Conclusion

In the aftermath of the financial crisis, regulators and policy makers have much to ponder about constructive ambiguity and systemic stability going forward. Numerous regulatory proposals are being considered in both domestic and international arenas to address the activities that heightened systemic risk in the time leading up to the financial crisis. But whatever the ultimate content of these regulatory and other initiatives, regulation intended to curtail systemic risk always suffers from the inability to perfectly anticipate future circumstances and the pressures they will exert on regulatory safeguards. Indeed, several generations of regulatory reforms (Basel I and II for example) were crafted to address the weaknesses in previous regulatory regimes, and in each case, new activities emerged which often compromised the intent of these regulations. Whenever it is profitable to circumvent regulatory safeguards, pressure builds to do so.

This does not suggest we should abandon the attempt to craft new regulations that reflect the regulatory lessons of financial crises. But because of the inability to perfectly foresee the weaknesses in new regulatory safeguards, governments must have other tools at their disposal to ensure that banks and other financial institutions conduct themselves in a manner that does not subvert the regulatory foundations of financial system stability. This is particularly true when governments must regulate banks that are "too big to fail", for when these banks take advantage of unintended regulatory loopholes to exploit moral hazard problems, financial system instability becomes more likely.

Thus, alongside any regulatory reform, regulators and policymakers should be mindful of the benefits of constructive ambiguity in incenting banks (and other financial institutions) to conduct themselves in a manner that is supportive of regulatory attempts to enhance financial system stability. Governments need to reserve the ability to issue credible threats to financial institutions – particularly those that are "too big to fail" – should they behave in a manner that runs counter to the public interest.

However, the credibility of constructive ambiguity has been undermined by the massive bailouts that many countries provided during the recent financial crisis. Constructive ambiguity has a "honeymoon period"³¹: the ambiguity concerning a central bank's actions in the face of potential systemic risk is greatly attenuated or eliminated once the central bank's response to

potential systemic instability has been observed. Actions taken by central banks during the financial crisis allow market participants to discern what circumstances are likely to trigger a bail-out. For this reason, observers like Feldman and Stern of the Federal Reserve Bank system argue that constructive ambiguity is ineffective over the long run.³²

These limitations on the credibility of constructive ambiguity in the aftermath of the most recent financial crises provokes concerns about the Canadian banking system going forward. The Bank of Canada's support of the banking sector during the height of the financial crisis, as well as the bail-out measures taken by other countries (particularly of their "too big to fail" institutions), have eliminated much of the mystery surrounding the probable course of action of the Bank of Canada during a future financial crisis.

In the foregoing, I postulated and then argued in favour of the idea that credible constructive ambiguity supports cautious regulatory posture and conservative attitudes towards risk. To the extent that constructive ambiguity has been undermined by the demonstrated willingness of central banks to support their "too big to fail" institutions, regulators and other policy practitioners should be cautioned against the assumption that the Canadian banking system will automatically replicate this relative resiliency in the future. If regulators are to impose and maintain vigilant regulatory safeguards, and if financial market participants are to acquiesce to the both the letter and the spirit of these constraints, central banks and other government authorities must preserve some credible threat that encourages compliance with them.

Endnotes

¹Simon, Bernard "Canadian Lenders Not Immune" *Financial Times*. November 30, 2008 <http://www.ft.com/cms/s/0/78f66854-bf08-11dd-ae63-0000779fd18c.html>

² Economist "Special Report on International Banking", May 16th 2009, p. 7.

³ A description of the Bank of Canada's actions in response to the financial crisis can be found in the *Financial System Review*, December 2008, p. 143 http://www.bank-banque-canada.ca/en/fsr/2008/fsr_1208.pdf

⁴ The World Economic Forum, 2008, *The Global Competitiveness Report 2008-2009* <http://www.weforum.org/pdf/GCR08/GCR08.pdf>

⁵ For example, Paul Volker, former Federal Reserve Chairman and adviser to US President Obama, recently told a Toronto audience that "What I'm arguing for looks more like the Canadian system than the American system." (See Kelly McParland, "Paul Volker: the Banking World needs more Canadas", *National Post Web Edition*, February 17, 2009 <http://network.nationalpost.com/np/blogs/fullcomment/archive/2009/02/17/paul-volcker-the-banking-world-needs-more-canadas.aspx>)

⁶ A useful overview can be found in Pietro Nivola and John Courtney, 2009, "Know Thy Neighbor: What Canada Can Tell Us about Financial Regulation," Brookings Institution http://www.brookings.edu/papers/2009/0423_canada_nivola.aspx?p=1 and Lev Ratnovski and Rocco Huang. July 2009. *Why Are Canadian Banks More Resilient?* IMF Working Paper. <https://www.imf.org/external/pubs/ft/wp/2009/wp09152.pdf>

⁷ For example, see Prime Minister Stephen Harper's remarks at <http://www.pm.gc.ca/eng/media.asp?category=2&id=2826>

⁸ Of course, banks that find themselves relying on government support face a variety of negative consequences, thus the appetite for risk of "too big to fail" banks is moderated by these considerations.

⁹ See for example the recent hearings "Regulating and Resolving Institutions Considered 'Too Big to Fail'" at the Senate Banking, Housing and Urban Affairs Committee at http://banking.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=7d66a948-69e4-407e-a89504cec6a4f541

¹⁰ Speech delivered June 3, 2009 at the American Enterprise Institute in Washington, D.C. <http://www.aei.org/speech/100052>

¹¹ This is perhaps most famously articulated in Corrigan, E. Gerald, 1982, "Are Banks Special?" in *Annual Report: Federal Reserve Bank of Minneapolis*. Minneapolis: Federal Reserve Bank of Minneapolis, and his 2000 update "Are Banks Special?: A Revisitation" in *The Region, Federal Reserve Bank of Minneapolis* http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=3527

¹² Indeed the more highly leveraged a bank is (i.e. the more loans are supported by a dollar of deposits), the more profitable it will be (holding all else constant).

¹³ Governmental regulation of financial institutions is often justified on three grounds: 1) to prevent the deleterious consequences of monopolistic or oligopolistic market structure, 2) to protect smaller retail customers who may be unable to assess the safety and soundness of financial institutions (prudential regulation) and 3) to ensure systemic stability. See Goodhart, Charles, Philipp Hartmann, David Llewellyn, Lialanna Rojas-Suarez and Steven Weisbrod, 2008, *Financial Regulation: Why, How and Where Now?* London: Routledge, p. 4.

¹⁴ For example, in October of 2008, the federal government introduced the Insured Mortgage Purchase Program that supplied liquidity by empowering the Canadian Mortgage and Housing Corporation to purchase eligible mortgage pools from banks and other lenders.

¹⁵ This explicit access to forms of government support during bank distress confers other advantages on banks. For example, banks typically borrow money more cheaply than other firms that do not have access to these channels of government support, thus this status enhances the profitability of banks.

¹⁶ Banks' decisions concerning their desired risk exposure is shaped by many considerations (such as regulatory restrictions, the activities of competitors both within and without the banking system, reputational considerations and so on) in addition to their assessment of the likelihood of being granted access to government support in the event that their stability is imperilled. Thus the existence of a moral hazard problem alone does not suffice to explain banks' risk preferences.

¹⁷ In Mayer, Martin. 2001, *The Fed*. New York: Penguin Books., p. 101

¹⁸ Report of the Working Party on Financial Stability in Emerging Market Economies, 1997, *Financial Stability in Emerging Market Economies: A Strategy for the Formulation, Adoption and Implementation of Sound Principles and Practices to Strengthen Financial Systems*. Bank for International Settlements, p. 44. <http://www.bis.org/publ/gten02.pdf>

¹⁹ See the International Monetary Fund, 2005, "Evaluating Financial Sector Supervision: Banking, Insurance, and Securities Markets" in *Financial Sector Assessment: A Handbook*, p. 5. <http://imf.org/external/pubs/ft/fsa/eng/pdf/ch05.pdf>

²⁰ "Constructive ambiguity" is also used to discuss the benefits to central banks of conducting foreign exchange interventions with an element of surprise. (see Chiu, Priscella, 2003, Transparency Versus Constructive Ambiguity In Foreign Exchange Intervention. Bank for International Settlements Working Papers No. 144.

²¹ quoted in Stern, Gary and Ron Feldman, *Too Big To Fail: The Hazards of Bank Bailouts*, Brookings Institution Press, Washington, DC, 2004, p. 96.

²² The "too big to fail" problem may exacerbate the fragility of banking systems for other related reasons. For example, a bank facing imminent demise has an incentive to increase risks precipitously. If these risky strategies succeed, the bank may be able to earn its way out of difficulties. If these strategies fail, the risky strategies that it has pursued may increase contagion risks of its failure, thus compelling the central bank to orchestrate a bail-out.

²³ "Constructive ambiguity places the risk of bad decisions squarely on the shoulders of the senior management of a bank." Singh, Dalvinder. *Banking regulation of UK and US Financial Markets*, Ashgate, 2007, p. 7.

²⁴ Guiannini, Curzio. *The IMF and the Lender-of-Last-Resort Function: An External View in Finance and Development*, September 1999, Volume 26, Number 3. <http://www.imf.org/external/pubs/ft/fandd/1999/09/giannini.htm>

²⁵ The following point is relevant whether bank regulation is housed to some degree within the central bank, as is the case in the United States-, or if bank regulation is housed separately, as is the case of the Office for the Superintendent of Financial Institutions in Canada. In either event, banks that must position themselves to increase their likelihood of receiving support in a crisis are influenced by this fact as they engage with regulators.

²⁶ The proposed mergers were between the Royal Bank of Canada and the Bank of Montreal on the one hand and the Canadian Imperial Bank of Commerce and Toronto-Dominion Bank on the other.

²⁷ Statement by the Honourable Paul Martin, Minister of Finance, on the Bank Merger Proposals, December 14, 1998. <http://www.collectionscanada.gc.ca/webarchives/20071122063125/http://www.fin.gc.ca/news98/98-124e.html>

²⁸ Statement by the Honourable Paul Martin, Minister of Finance, on the Bank Merger Proposals, December 14, 1998.

²⁹ Statement by the Honourable Paul Martin, Minister of Finance, on the Bank Merger Proposals, December 14, 1998.

³⁰ An extended discussion of this concern as it applied to the design of the Glass-Steagall Act in the United States is contained in my *New Deal Banking Reforms and Keynesian Welfare State Capitalism*, Routledge: 2008. Chapters 4 and 5.

³¹ Stern, Gary and Ron Feldman, *Too Big To Fail: The Hazards of Bank Bailouts*, Brookings Institution Press, Washington, DC, 2004, p. 96.

³² Stern, Gary H. and Ron J. Feldman. 2005. Constructive Commitments: Communicating Plans to Impose Losses on Large Bank Creditors. In *Systemic Financial Crises: Resolving Large Bank Insolvencies*, edited by D.D. Evanoff and G.G. Kaufman. World Scientific Publishing Co.