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Deregulation Pas De Deux: Dual Regulatory Classes of Financial Institutions and the Path to Financial Crisis in Sweden and The United States

Erik F. Gerding*

This article presents a political economy model in which two classes of financial institutions subject to different regulatory regimes interact in financial and political markets. This interaction spurs deregulation and riskier lending and investment, which in turn contributes to the severity of a financial crisis. This model has the following six stages: 1) Regulation creates two categories of financial institutions. The first class faces greater restrictions in lending or investment activities but enjoys regulatory subsidies, such as an explicit or implicit

government guarantee, while the second class is more loosely regulated and can participate in riskier loan or investment markets and earn additional profits. 2) These additional profits lead to calls for deregulation to enable the first class to participate in the same lucrative lending or investment markets. 3) Deregulation allows the first class of institution either to compete with the second class in the same markets or to invest in the second class, in either case, while retaining its regulatory subsidy. 4) Deregulation spurs additional lending not only by al-

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lowing the first class to increase its total volume of lending and investment, but also in two subtler ways: i) *subsidy leakage*, which occurs when the first class can use subsidized funds to make riskier investments (including investments in the second class) without regulation compensating for moral hazard; and ii) *displacement*, which occurs when subsidized competition pushes the second class into riskier market segments. 5) Additional lending increases leverage in the financial system and fuels a boom in an asset market. 6) Asset prices collapse and threaten the solvency of financial institutions. This model explains financial deregulation in Sweden in the 1980s, which led to a 1990 bank crisis. The model also provides a framework for scholars to examine whether deregulation in the United States involving the following dual classes of institutions contributed to the current crisis:

GSEs (Freddie Mac and Fannie Mae) and sponsors of “private label” mortgage-backed securities;

Commercial and investment banks with respect to the Glass-Steagall repeal; and

Banks and hedge funds with respect to OTC derivatives.

The model would support the premises of the proposed Volcker Rule, which would restrict investment activities of banks, but suggests that imposing those restrictions may not be sustainable in the long run.

I. Introduction

Historians, economists, legal scholars and others have written much about the historical pattern of deregulation preceding financial crises. Some have suggested that deregulation may cause financial crises or contribute to their severity by leaving economies vulnerable when a financial crisis hits.¹ Still other scholars have laid the fault not on less regulation, but instead on the failure of existing and newly introduced regulations.² This article uses deregulation in a more ecumenical sense to mean regulatory changes that enabled increased lending and risk-taking by financial institutions – including the rolling back of financial regulations, under-enforcement of regulations, or even government intervention to push financial institu-

1. For just a small sample of the literature arguing that deregulation played a critical causal role in the current global credit crisis, see James Crotty, *Structural Causes of the Global Financial Crisis: a Critical Assessment of the New Financial Architecture*, 33 CAMBRIDGE J. ECON. 563 (2009); Patricia A. McCoy et al., *Systemic Risk through Securitization: The Result of Deregulation and Regulatory Failure*, 41 CONN. L. REV. 1327 (2009) (arguing that deregulation and failures of regulators to address asset-backed securities markets led to a housing bubble and widespread fraud); Brian J.M. Quinn, *The Failure of Private Ordering and the Financial Crisis of 2008*, 5 N.Y.U. J. L. & BUS. 549 (2009).

2. Some scholars assert that the crisis stemmed not from deregulation but from failed or flawed regulation. E.g. Charles W. Calomiris, *Another “Deregulation” Myth*, American Enterprise Institute On the Issues 2008-57 (Oct. 2009), available at http://www.aei.org/docLib/20081029_5723624OTICalomiris_g.pdf (last visited Jan. 10, 2010) (arguing that the Securities and Exchange Commission’s 2004 change to its net capital rule, widely blamed for contributing to the severity of the crisis, is an example of flawed new regulation rather than deregulation).

tions to make more loans or take on more risk.³ This article examines one particular way in which deregulation of financial institutions may take shape and increase the risk and severity of a crisis. This article describes how dual regulatory classes of financial institutions may interact with one another in both the financial and political marketplaces to spur deregulation and then riskier lending by institutions, which in turn increases the probability and severity of a financial crisis. These interactions can be described by a model with the following elements:

1) Financial regulation creates two categories of institutions that provide similar functional services:

a) The first class of institution faces greater restrictions in its lending or investment activities, but enjoys a higher degree of explicit or implicit backing from the government or other regulatory subsidies than the second class.

b) The second class is more loosely regulated and can take on more risk and earn additional profits by making certain categories of loans or investments.

2) Profits by the second class leads to calls for deregulation to allow the first class to participate in the same lucrative lending or investment markets.

3) Deregulation allows the first class of institution either:

a) To compete with the second class in the same (formerly restricted) markets, or

b) To lend to, or invest in, the second class, in either case, while the first class retains its regulatory subsidy.

4) Deregulation spurs additional lending not only by allowing the first class to increase its total volume of lending and investment, but also in two subtler ways:

a) *Subsidy leakage*, which describes when the first class can use subsidized funds to make riskier investments (including investments in the second class of institution) without regulation adequately compensating for the moral hazard of a government guarantee;⁴ and

b) *Displacement*, a term this paper coins to describe when subsidized competition⁵ pushes the second class into riskier market segments.

5) Additional lending increases overall leverage in the financial system and fuels a boom in an asset market such as real estate or securities.

6) Ultimately, asset prices collapse and threaten the solvency of financial institutions, starting with the class of institution that lacks explicit or implicit government backing.

This model aptly describes the deregulation of the Swedish financial ser-

3. This definition is in keeping with the author's definition of deregulation in Erik F. Gerding, *The Next Epidemic: Bubbles and the Growth and Decay of Securities Regulation*, 38 CONN. L. REV. 393, 404 (2006). A broader definition of deregulation has the disadvantage of making the model looser. The author, however, believes that this risk is outweighed by the benefit of a richer conception of "law" and "regulation" that might not be captured by a narrower definition or purely quantifiable measures.

4. John R. Walter, *Can a Safety Net Subsidy Be Contained?*, 84 FED. RES. BANK RICHMOND 1, 11 (1998).

5. *Id.* John Walter describes how a subsidy could lead to growth of banks at the expense of unsubsidized competitors, but does not describe how the competition could force those competitors into riskier segments.

vices sector in the 1980s, which led to a severe real estate crisis in that country in 1990.⁶ The Swedish government's response to the ensuing crisis became the subject of intense study and debate in the United States in 2008, as U.S. policymakers searched for models for managing their own deepening financial crisis.⁷ However, it is not only Sweden's policy response to its crisis that sheds light on the U.S. financial meltdown; Sweden's history of deregulation preceding its 1990 crisis and the model outlined above may also illuminate how deregulation contributed to the current financial crisis in the United States. The model outlined by this article – which might be labeled “deregulation pas de deux” – provides a framework for analyzing the extent to which several examples of deregulation of financial institutions in the United States contributed to the severity of the current financial crisis. The model can be used for needed empirical study of the extent to which deregulation affecting the following dual classes of financial institutions contributed to the severity of the current credit crisis in the United States:

The government sponsored entities (GSEs) Freddie Mac and Fannie Mae on

the one hand, and sponsors of “private label” mortgage-backed securities on the other;⁸

Commercial and investment banks with respect to the repeal of the Glass-Steagall Act that separated those two classes of financial institutions;⁹ and

Banks and hedge funds with respect to over-the-counter (OTC) derivatives.¹⁰

More particularly, the model allows scholars to focus on two questions for future econometric research. First, to what extent did the deregulation of GSE investments, the repeal of Glass-Steagall prohibitions on commercial banks activities, and regulatory actions that allowed banks to invest in OTC derivatives result in either market displacement of less regulated and less-subsidized financial institutions or subsidy leakage? Second, to what extent did any resultant market displacement or subsidy leakage increase riskier investments by financial institutions, fuel the increase of housing and asset-backed securities prices that ultimately crashed, and increase the leverage and thus the vulnerability of financial institutions to a market crash?

The pas de deux model argues for a reexamination of studies (which are dis-

6. See *infra* Part II.

7. Carter Dougherty, *Stopping a Financial Crisis, the Swedish Way*, N.Y. TIMES, Sept. 23, 2008, at C9; James K. Jackson, *The U.S. Financial Crisis: Lessons from Sweden*, Congressional Research Service Report for Congress, Sept. 29, 2008, available at <http://fpc.state.gov/documents/organization/110770.pdf> (last visited September 10, 2009).

8. The GSEs and private label securitization are described in *infra* Part IV.a.

9. The Glass-Steagall Act was formally known as the Banking Act of 1933, 48 Stat. 162 (1933). It was repealed in 1999 by the Gramm Leach Bliley Act, formally known as the Financial Services Modernization Act of 1999, Pub.L. 106-102, 113 Stat. 1338, enacted November 12, 1999. The Glass-Steagall Act and its repeal are analyzed in *infra* Part IV.b.

10. Regulation and the relationship between banks and hedge funds in OTC derivatives are discussed in *infra* Part IV.c.

cussed in Part IV.b.) conducted just before the repeal of the Glass-Steagall Act that examined whether the repeal would result in deposit insurance subsidizing riskier bank investments that were off-limits under that Depression era statute.¹¹ The *pas de deux* model can thus frame the empirical research needed to evaluate current financial reform proposals, particularly the so-called “Volcker Rule,” a still vague Obama Administration proposal first announced in January 2010 that would restrict proprietary trading by bank holding companies.¹² The Volcker Rule appears to be premised in large measure on the argument that subsidy leakage contributed to the current financial crisis; in other words, banks allegedly used funds subsidized with a Federal Deposit Insurance Corporation

guarantee to make investments in asset-backed securities and hedge funds.¹³

Beyond immediate policy debates, the *pas de deux* model reveals two more general risks. First, the model highlights the inherent legal, political, and economic instability of creating separate dual classes of financial institutions that provide functionally similar economic services. A sharp legal division between classes of institutions will be subject to political and economic pressure, as less regulated institutions earn higher profits and capture more market share. This creates incentives for the more regulated class both to develop legal “work-arounds” to sidestep regulatory restrictions on their lending and investment and to push for deregulation to enable them to compete.¹⁴ Second, the model – and particularly the risk of displacement and subsidy leakage argues

11. See *infra* notes 110-119 and accompanying text.

12. President Barack Obama, Remarks on Additional Reforms to the Financial System (Jan. 21, 2010), available at <http://www.whitehouse.gov/the-press-office/remarks-president-financial-reform> (last visited Jan. 23, 2010) [hereinafter “President Obama Remarks”]; *Prohibiting Certain High-Risk Investment Activities by Banks and Bank Holding Companies: Hearing Before the Senate Comm. on Banking, Housing & Urban Affairs*, 111th Cong. __ (Feb. 2, 2010) (statement of Paul Volcker, Former Chairman of the Federal Reserve Board), available at http://banking.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=54b42cc0-7ecd-4c0d-88c0-65f7d2002061&Witness_ID=091f5a89-dec4-4905-9fa1-678bfbec823a (last visited Feb. 4, 2010) [hereinafter “Volcker Testimony”]. See also Jackie Calmes & Louis Uchitelle, *Obama to Propose Limits on Risks Taken by Banks*, N.Y. TIMES, Jan. 20, 2010 at A1.

13. See President Obama Remarks, *supra* note 12 (“These are rules that allowed firms to act contrary to the interests of customers, to conceal their exposure to debt through complex financial dealings, to benefit from taxpayer-insured deposits while making speculative investments. . .”); Volcker Testimony, *supra* note 12. Former Federal Reserve Chairman Volcker, now an advisor to the Obama Administration, explained that part of the rationale for the proposed restrictions on bank proprietary trading was to prevent government subsidies from supporting risky speculation: “The basic point is that there has been, and remains, a strong public interest in providing a “safety net” – in particular, deposit insurance and the provision of liquidity in emergencies – for commercial banks carrying out essential services. There is not, however, a similar rationale for public funds taxpayer funds - protecting and supporting essentially proprietary and speculative activities. Hedge funds, private equity funds, and trading activities unrelated to customer needs and continuing banking relationships should stand on their own, without the subsidies implied by public support for depository institutions.” *Id.*

14. Developing regulatory “work-arounds” for clients represents an essential role of transactional and regulatory attorneys, whom Professor Ronald Gilson has famously called “transaction cost engineers.” See Ronald J. Gilson, *Value Creation by Business Lawyers: Legal Skills and Asset Pricing*, 94 YALE L.J. 239, 243 (1984).

that when deregulation of a subsidized class of financial institution occurs, regulators must either remove the subsidy or actively and continuously adjust prudential regulation of that deregulated class to counteract the potential for abuse of that subsidy. Otherwise, deregulation might allow the deregulated but still subsidized class of institutions to compete unfairly with an unsubsidized second class and drive that second class into riskier market segments. Alternatively, deregulation might allow the deregulated but still subsidized class to use its government subsidy to place bets using taxpayer funds.

It is important to underscore the limited scope of this article and the model it describes. The model does not seek to explain all examples of the deregulation of financial institutions.¹⁵ Nor does the model seek to provide an explanation for all asset price booms or financial crises or even an exclusive explanation of particular booms and crises. Indeed, scholars have examined how other factors, such as monetary policy, trade imbalances, and exchange rate shifts contributed to the Swedish financial crises and the current global crisis.¹⁶ The pas de deux model de-

scribed below, nevertheless, may serve as a valuable complement to these other explanations. The model provides a template upon which two historical episodes of deregulation crises may be evaluated. To the extent that Sweden and the U.S. examples fit this model, then scholars should consider looking for other historic examples of dual regulatory classes of financial institutions that came to compete in the same lending and investment markets. Testing more historical examples could then address a number of questions including, whether other dual classes of financial institutions providing similar functional services or competing in the same market space led to deregulation of the more regulated class, the extent to which this type of deregulation then led to a lending or investment boom, and the extent to which subsidy leakage or displacement occurred.

This article proceeds as follows: Part II elaborates on the deregulation pas de deux model. Part III outlines how the deregulation of financial institutions in Sweden in the 1980s fits this model. Part IV examines whether this model can explain the interaction and deregulation of several classes of regulated entities in the

15. For a survey of literature on the connection between financial liberalization and asset booms, see Arthur E. Wilmarth, Jr., *Does Financial Liberalization Increase the Likelihood of a Systemic Banking Crisis? Evidence from the Past Three Decades and the Great Depression*, in *TOO-BIG-TO-FAIL: POLICIES AND PRACTICES IN GOVERNMENT BAILOUTS* 77 (Benton E. Gup, ed., 2003).

16. *E.g.*, Urban Bäckström, *What Lessons Can be Learned from Recent Financial Crises? The Swedish Experience*, 1997 FED. RES. BANK K.C. PROCEEDINGS 129 (exploring expansionary monetary conditions that led to Swedish crisis); JOHN B. TAYLOR, *GETTING OFF TRACK: HOW GOVERNMENT ACTIONS AND INTERVENTIONS CAUSED, PROLONGED, AND WORSENERED THE FINANCIAL CRISIS* (2009) (examining causes of current global crisis with a focus on monetary policy); Arthur E. Wilmarth, Jr., *The Dark Side of Universal Banking: Financial Conglomerates and the Origins of the Subprime Financial Crisis*, 41 CONN. L. REV. 963, 1005-08 (2009) (identifying following factors leading to global credit boom preceding current crisis: (i) lax U.S. monetary policy; (ii) exchange rate policies of Asian and oil-exporting nations; (iii) social contagion of "boom thinking"; and (iv) financial conglomerates).

United States in the 1990s and 2000s. Part V concludes and sketches policy implications of the pas de deux model, including for the Volcker Rule.

II. The Model

This Part elaborates on the nuances and some variations in the six elements of the pas de deux model of deregulation outlined in the introduction:

1) *Two categories of financial institutions*: The model assumes a regulatory regime that has two categories of financial institutions that provide functionally similar economic services. The first category of institution is more tightly regulated and faces restrictions on its business activities, including on particular types of loans or other investments it can make. These restrictions might take various forms, including:

regulations that limit financial institutions to particular lines of business to

shield them from excessive losses and to allow regulators to assess better the risks that the institutions face;¹⁷ restrictions on the types of investments that financial institutions may make, including, for example, restrictions on investments in real estate¹⁸ and riskier classes of securities, such as equity;¹⁹ prudential restrictions on the number of loans to certain types of borrowers;²⁰ and caps on interest rates that banks may charge their borrowers²¹ or offer to their depositors.²²

In return for being subject to these regulatory restrictions, this first class of institution enjoys certain regulatory subsidies. This subsidy may take the form of a government guarantee that may be explicit (for example, deposit insurance²³) or implicit (for example, a widely held perception in the marketplace that a government would back the debts of this type of institution should it become insolvent). One variant on this implicit guarantee is the “too-big-to-fail” (or “too-intercon-

17. For example, U.S. federal banking law circumscribes the non-banking commercial business in which banks may engage or own. *See e.g.*, 12 U.S.C. § 24 (2008) (enumerating powers of national banks).

18. *E.g.*, 12 U.S.C. § 29 (2008) (restricting ability of national banks to invest in real estate).

19. *Supra* note 17 (specifying categories of securities investments which national banks are permitted to make).

20. For example, U.S. federal banking laws limit the loans that banks may have outstanding to one borrower. 12 U.S.C. §§ 84, 1464(u) (2008); 12 C.F.R. § 32.1(b) (2008). Another set of laws restrict a bank's loans to other depository institutions to prevent the collapse of one institution from threatening others. 12 U.S.C. § 371b-2 (2008); 12 C.F.R. § 206 (2008).

21. For a description of how federal law in the United States has cut back on state usury laws, *see* Michael S. Barr, *Banking the Poor*, 21 YALE J. REG. 121, 148 (2004); Christopher L. Peterson, *Federalism and Predatory Lending: Unmasking the Deregulatory Agenda*, 78 TEMP. L. REV. 1, 35-37 (2005); Elizabeth R. Schlitz, *The Amazing, Elastic, Ever-Expanding Exportation Doctrine and its Effect on Predatory Lending Regulation*, 88 MINN. L. REV. 518 (2004).

22. For example, the Federal Reserve Board's now defunct Regulation Q imposed caps on the interest rates depository institutions could offer to depositors. 12 CFR Pt. 217 (1979). The Depository Institutions Deregulation and Monetary Control Act of 1980 required the phased elimination of Regulation Q. Pub. L. No. 96-221, 94 Stat. 132 (codified as amended in scattered sections of 12 U.S.C.) *See* R. Alton Gilbert, *Requiem for Regulation Q: What It Did and Why It Passed Away*, FED. RES. BANK ST. LOUIS REV. 22 (Feb. 1986).

23. Steven L. Schwarcz, *Systemic Risk*, 97 GEO L.J. 193, 210 (2008) (describing deposit insurance as a tool to mitigate systemic risk).

nected-to-fail”) financial institution; scholars have argued that many investors believe that the government would have to assume the obligations of large, “systemically significant” financial institutions – even absent an explicit guarantee – because the insolvency of those institutions might trigger severe cascading losses in financial markets.²⁴ Regulatory subsidies may take still other forms such as tax breaks or exemptions from other fields of regulation, such as securities regulation. Institutions in the second regulatory category do not enjoy these subsidies (or at least not to the same extent as the first category), but are also not subject to the same restrictions on lending, investment, or business operations.

The tradeoff in this dual regulatory scheme has a certain economic logic. If the government grants a regulatory subsidy – particularly a guarantee – to a class of institution it wants to limit risk-taking to mitigate moral hazard.²⁵ This division may also offer creditors of (including depositors) and investors in fi-

ancial institutions a choice between lower risk (the first class) and higher reward (the second class). The restrictions on the first class of institution not only limit excessive risk-taking, but prevent that class of institution from using its regulatory subsidy to gain a competitive advantage over the second class (a topic discussed in more detail in Part II, Section 5 below).

2) *Pressure to deregulate of the first class of institution:* The second class of institutions earns higher profits on the activities that are foreclosed to the first category. This success may occur because higher risk produces higher reward or, more particularly, because a specific loan or investment market begins to heat up. The less regulated second class may win market share as investors or borrowers flock to the market segment closed to the more regulated class of financial institution. These profits of the second class create pressure to relax the restrictions on the first category to allow those institutions to participate in that same lucrative market. This push for deregulation

24. For an earlier article analyzing “too-big-to-fail” financial institutions, see Arthur E. Wilmarth, Jr., *Too Big to Fail, Too Few to Serve? The Potential Risks of Nationwide Banks*, 77 IOWA L. REV. 957 (1992). See also Walter, *supra* note 4, at 7-8 (A more recent variant of the “too-big-to-fail” concern is the “too-interconnected-to fail” financial institution. Under this theory, a government may not allow some financial institutions to fail for fear of the repercussions to their financial institution counterparties.). See Onnig H. Dombalagian, *Requiem for the Bulge Bracket?: Revisiting Investment Bank Regulation*, 85 IND. L. J. __ (forthcoming 2010). It is difficult, however, to detect an implicit guarantee *ex ante*. A subsequent government bailout of a financial institution does not necessarily mean that the institution or financial markets behaved before the bailout as if the institution enjoyed an implicit guarantee. A more rigorous *ex ante* test of an implicit guarantee might compare the credit spreads of a financial institution with those of similar financial institutions not believed to enjoy a guarantee.

25. Moral hazard refers to the perverse incentives for insured parties to take on excessive risk. For an analysis of how deposit insurance may contribute to moral hazard, see Patricia A. McCoy, *The Moral Hazard Implications of Deposit Insurance: Theory and Evidence*, in INTERNATIONAL MONETARY FUND, CURRENT DEVELOPMENTS IN MONETARY AND FINANCIAL LAW, Vol. 5 417 (2008), available at <http://www.imf.org/External/NP/seminars/eng/2006/mfl/pam.pdf> (last visited Jan. 30, 2010).

can come from various sources. These sources might include:

the institutions in the first category or their investors (both of which groups are motivated by the prospect of increased profits); politicians interested in the subsidized entities becoming more competitive or less dependent on the government subsidy;

regulators looking to minimize regulatory arbitrage caused by dual classes of entities; and groups pursuing other social objectives, such as increasing the availability of credit to consumers and businesses.

Arguments for deregulation may include rhetoric in favor of "leveling the playing field" for the more heavily regulated institution. Pressure to deregulate the first class of entities may be augmented by a number of factors. An extensive literature in political economy suggests that political capture (*i.e.* when an interest group, such as a sector of industry, captures political branches) and regulatory capture (*i.e.* when an interest group captures regulatory agencies) might contribute to the deregulation described by this article's model. Public

choice theories of regulation have articulated conditions under which interest groups (for example, a sector of the financial services industry) may successfully push policymakers to deregulate.²⁶ For example, an interest group with a small, cohesive number of members, significant resources, and a large stake in a regulatory outcome can exercise greater influence over regulation and deregulation. A comprehensive public choice analysis of deregulation in Sweden and the United States is beyond the scope of this article. Nevertheless, the *pas de deux* model described herein meshes with a public choice analysis of regulation. The *pas de deux* model explains why interest groups, such as the first class of institution, have strong incentives to push for deregulation. On the other hand, economic theories of regulation might explain when the presence of dual regulatory classes results in deregulation of the first class rather than tighter regulation of the first class.²⁷

3) *Deregulation takes shape but the subsidy remains*: The political pressure to deregulate culminates in loosening the

26. For a small sample of the germinal public choice literature on regulatory capture and deregulation, see George J. Stigler, *The Theory of Economic Regulation*, 2 BELL. J. ECON. & MGMT. SCI. 3 (1971); Sam Peltzman, *Toward a More General Theory of Regulation*, 19 J. L. ECON. 211 (1976); Gary S. Becker, *A Theory of Competition Among Pressure Groups for Political Influence*, 98 Q. J. ECON. 371 (1983); Richard A. Posner, *Theories of Economic Regulation*, 5 BELL. J. ECON. & MGMT. SCI. 335 (1974). For an account of political capture in banking regulation, see Jonathan R. Macey, *The Political Science of Regulating Bank Risk*, 49 OHIO ST. L.J. 1277 (1989).

27. For example, the first class of institutions as a group may calculate that it will earn larger profits by being deregulated (yet retaining a subsidy) rather than the second class being more tightly regulated. The first class might also calculate that deregulation might be more rewarding because other political actors might have difficulty identifying the persistent government subsidy and arguing for its removal. Regulating the second class, by contrast, might allow institutions in that class to share that same subsidy with the first class. Whether the first class gets deregulated or the second class gets regulated, and who enjoys a government subsidy depends on the political resources and strategies of the various political actors.

restrictions on the first class of institution in one or two ways:

Direct competition: deregulation may allow the first class of institution to compete directly with the second class of institution in previously restricted (or even off-limits) lending or investment markets.

Symbiotic lending or investment: alternatively, deregulation may allow the first class to extend credit to or invest in the second class. This allows the first class to increase its indirect participation in those lucrative, riskier lending or investment markets. These two forms of deregulation are not mutually exclusive; policymakers may implement both simultaneously or sequentially. Regardless of the form of deregulation, after it occurs, the first class still retains much of its government subsidy.

4) *Consequences of deregulation:* Regulators often fail to ensure that other appropriate prudential regulatory safeguards are in place, including adequate supervision of the newly deregulated class and enforcement of existing regulations. Deregulation combined with a government subsidy may result in increases in overall lending or investment in a particular market. To some extent, this may result merely from an increase in the volume of lending or investment by the previously pent-up first class of insti-

tution. Deregulation may also result in two subtler effects::

a) *Subsidy leakage:* Without adequate safeguards, the deregulated financial institutions may take on excessive risk due to subsidized government funds or the moral hazard of a government guarantee. This risk-taking comes in the forms of new loans or investments that were previously off-limits. The government subsidy of a deregulated firm's core activities – such as bank lending from depositor funds – begins to leak to the new investment activities of the institution.²⁸ This leakage may be *intrafirm* – if the institution uses funds from a subsidized affiliate to fund investment operations of a less regulated affiliate²⁹ – or *interfirm* – if the institution uses subsidized funds to invest in an unaffiliated entity (such as a financial institution in the second, less regulated class). The new investment activities thus shifts greater risk to a government guarantee originally intended to provide more limited protection (for example, protecting bank depositors) against more traditional risks (for example, bank runs) with taxpayers bearing greater risk.³⁰

b) *Displacement:* if deregulation allows the first class to compete with the second class, the unsubsidized second class may face a competitive disadvan-

28. Walter, *supra* note 4, at 11. Arthur Wilmarth argued in 2002 that banks that were “too-big-to-fail” could transfer this implicit subsidy to (“cross-subsidize”) non-bank affiliates. Arthur E. Wilmarth, Jr., *The Transformation of the U.S. Financial Services Industry, 1975-2000: Competition, Consolidation, and Increased Risk*, 2002 U. ILL. L. REV. 215, 446-449.

29. Intrafirm subsidies may take the form of intracompany loans, or asset purchases, dividends, or equity investments in direct subsidiaries. Walter, *supra* note 4, at 11-13.

30. *Id.* at 11.

tage.³¹ The government subsidy may afford the first class a lower cost of capital.³² For example, deposit insurance or an implicit government guarantee allows the first class of institution to raise capital more cheaply. If deregulation allows the first class to form a new business unit to compete with the second class in a new market, this lower cost of capital may enable institutions in the first class to cross-subsidize that business unit. This competitive advantage enjoyed by the first class of institution enables those institutions to gain market share and pushes the unsubsidized second class of entities into riskier market segments. For example, the second class of institution newly forced to compete in a loan market with the first class may lower underwriting standards and extend loans to less creditworthy borrowers.

5) *Increased Lending and Leverage Fuels Market Boom*: Either displacement or symbiotic lending increases the overall level of lending in the economy. Higher asset prices may in turn generate various feedback loops. For example, higher prices may encourage further risky lend-

ing, mask inadequate underwriting standards, and lull regulators, creditors, and investors into a false sense of security.³³ Alternatively, Professor John Geanakoplos has recently outlined how a feedback loop may develop through what he labels the leverage cycle. This cycle may be summarized as follows: when firms investing in an asset market increase their leverage, more money flows into asset markets causing prices to rise. Rising prices increase the value of the collateral that leveraged firms have posted. Higher-valued collateral frees up the firms to invest additional capital, causing asset prices and the value of collateral to rise even further. A feedback loop develops.³⁴

6) *Asset Prices Collapse and Financial Crisis*: Ultimately, asset prices collapse and threaten the solvency of financial institutions starting with the second class of institution that was forced into riskier market segments. If asset prices fall far enough and enough borrowers default, the first class of institution may also be threatened, triggering government guarantees.

31. *Id.*

32. *Id.* at 10.

33. This is what some scholars argue happened in Sweden after deregulation of banks in the 1980s. See *infra* notes 73-75 and accompanying text. Higher asset prices may also reinforce lending when some borrowers can only repay some types of loans – most recently subprime borrowers and adjustable-rate-mortgages (“ARMs”) – by refinancing, which, in turn, can only occur if asset prices appreciate. Stephen G. Ryan, *Accounting in and for the Subprime Crisis*, 83 ACCOUNTING REV. 1605, 1615 (2008)(analyzing the “binary” nature of ARMs as only functioning when housing prices rise).

34. However, when asset prices drop, the value of collateral also drops and leveraged firms can be required by their creditors either to post more collateral or to reduce their leveraged positions. Firms must sell assets to meet margin calls, which causes asset prices to plummet further. This creates a vicious deleveraging feedback loop. See e.g., Ana Fostel & John Geanakoplos, *Leverage Cycles and the Anxious Economy*, 98 AM. ECON. REV. 1211 (2008); John Geanakoplos, *The Leverage Cycle*, COWLES FOUND. DISCUSSION PAPER No. 1715 (July 31, 2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1441943.

III. Deregulation in Sweden in the 1980s

The preceding model provides a good template for understanding the deregulation of financial institutions in Sweden in the 1980s that led to the severe 1990 real estate crisis in that country.³⁵ The Swedish real estate bubble was exacerbated by interaction of two regulatory classes of financial institutions: banks and finance companies. The regulatory differences between these two types of institutions created feedback loops between the financial and political marketplaces as deregulation, riskier lending practices, and booming asset prices reinforced one another.

1. *Two Categories of Financial Institutions:* In the 1970s, Sweden had a highly regulated banking sector that was subject to a series of legal restrictions designed to maintain stable and low interest rates and to direct credit toward favored economic sectors such as housing

and public finance.³⁶ These regulations included various measures that restricted the volume of a bank's lending, including high reserve requirements, placement requirements, and liquidity ratios.³⁷ Together, placement requirements and liquidity ratios required that a certain percentage of bank's lending portfolio include government and housing bonds.³⁸ The Swedish central bank also controlled the volume of bank credit by using regulation, moral suasion, and access to central bank loans to impose quantitative restrictions on lending by each bank.³⁹ Swedish banks were also subject to ceilings on the average interest rates they charge on their loans.⁴⁰ Although Sweden removed legal caps on the interest rates that banks could offer depositors in the 1970s, a few large banks continued to dominate the industry, and the absence of competition⁴¹ kept deposit rates low.⁴² Together, Swedish bank regulations ensured that Swedish banks en-

35. The Norwegian and Finnish banking sectors experienced similar deregulation in the 1980s and a crisis at roughly the same time as Sweden. For economic literature comparing deregulation in Sweden with that of other Scandinavian countries in the same period, see Lars Jonung, *Lessons from Financial Liberalisation in Scandinavia*, 50 COMP. ECON. STUD. 564 (2008); Burkhard Drees & Ceyla Pazarbasioglu, *The Nordic Banking Crises: Pitfalls in Financial Liberalization*, INTERNATIONAL MONETARY FUND OCCASIONAL PAPER No. 161 (Apr. 1998); Peter Englund & Vesa Vihriälä, *Financial Crises in Developed Economies: the Cases of Sweden and Finland* (Pellervo Econ. Res. Inst. Working Paper No. 63, Mar. 2003), available at http://www.ptt.fi/dokumentit/tp63_1809080802.pdf (last visited Sept. 10, 2009).

36. Drees & Pazarbasioglu, *supra* note 35, at 3. See also Bengt Larsson, *Neo-liberalism and Polycontextuality: Banking Crisis and Re-regulation in Sweden*, 32 ECON. & SOC'Y 428 (2003).

37. Drees & Pazarbasioglu, *supra* note 35, at 4.

38. *Id.* at 5; Peter Englund, *The Swedish Banking Crisis: Roots and Consequences*, 15 OXFORD REV. ECON. POL'Y 80, 83 (1999).

39. Drees & Pazarbasioglu, *supra* note 35, at 5. Englund, *supra* note 38, at 83. The Swedish Central Bank applied moral suasion through weekly meetings among the head of that institution and senior executives of private sector banks. *Id.*

40. Drees & Pazarbasioglu, *supra* note 35, at 3.

41. This absence of competition resulted from legal prohibitions on entry. From 1945 to 1983, Sweden granted no new banking licenses. E. PHILLIP DAVIS, DEBT FINANCIAL FRAGILITY AND SYSTEMIC RISK 256 (1995).

42. Drees & Pazarbasioglu, *supra* note 35, at 3.

joyed steady, but low profits⁴³ and minimal risk.⁴⁴ Although Sweden had no explicit deposit insurance scheme before or immediately after deregulation, scholars posit that there was public perception of implicit deposit insurance – *i.e.*, that the government would not allow banks to fail in a financial crisis.⁴⁵

Finance companies did not face these same restrictions and thus were able to gain a competitive advantage over banks.⁴⁶ Finance companies were founded decades earlier in Sweden.⁴⁷ These lenders started in lending to consumer and small business loans,⁴⁸ but by the 1980s had moved into numerous other lending markets, including factoring and leasing.⁴⁹ At the same time, finance companies faced limitations on funding sources not applicable to banks. In the late 1980s, Swedish regulations prohibited finance companies from ac-

cepting deposits from the public or issuing certificates of deposit or bonds.⁵⁰ Finance companies relied heavily either on short-maturity loans from banks and other lenders or on issuing investment certificates, also with short maturities.⁵¹ Banks thus provided a significant source of financing for finance companies, which increased bank exposure when finance companies later faltered in Sweden's financial crisis.⁵²

These less regulated finance companies began to gain market share over banks in loans to both businesses and households.⁵³ Some scholars attribute this to ballooning public sector debt. They argue that as public debt increased, the requirements that banks hold government bonds in their portfolio required them to compensate by curbing loans to the private sector.⁵⁴ The number of finance companies expanded from 67 in

43. *Id.* at 7.

44. Jonung, *supra* note 35, at 567 (“Banking was rendered an almost risk-free enterprise in this system”). Sweden also restricted access by foreign banks to the Swedish market. See Drees & Pazarbasioglu, *supra* note 35, at 6.

45. Drees & Pazarbasioglu, *supra* note 35, at 15.

46. L. Peter Jennergren, *The Swedish Finance Company Crisis – Could It Have Been Anticipated?*, 50 SCANDINAVIAN ECON. HIST. REV. 7 (2002); see also Davis, *supra* note 41, at 256; Dwight M. Jaffee, *The Swedish Real Estate Crisis* 82 (Oct. 1994)(unpublished manuscript), available at <http://faculty.haas.berkeley.edu/jaffee/Papers/Sweden.pdf>. (last visited Sept. 10, 2009).

47. There is some disagreement over when finance companies first began. Compare Davis, *supra* note 41, at 256 (asserting finance companies were an innovation of the 1920s and 1930s) with Jennergren, *supra* note 46, at [4] (“Finance companies started in the 1960s.”).

48. Davis, *supra* note 41, at 256.

49. *Id.*; Englund, *supra* note 38, at 85; see generally Jennergren, *supra* note 46 (describing forms of credit provided by finance companies).

50. Jennergren, *supra* note 46.

51. *Id.*; Englund, *supra* note 38, at 85.

52. Englund, *supra* note 38, at 85.

53. Jennergren, *supra* note 46; Drees & Pazarbasioglu, *supra* note 35, at 9. See also Englund, *supra* note 38, at 85.

54. Drees & Pazarbasioglu, *supra* note 35, at 9.

1970 to 292 in 1988.⁵⁵ Scholars have categorized the rise of finance companies in Sweden as part of the growth of a “grey credit market.”⁵⁶ Swedish banks responded to competition from the grey market by establishing their own finance company subsidiaries.⁵⁷

2. *Push for Deregulation:* The Swedish government grew concerned that its bank regulatory regime was increasingly being circumvented by the growth of finance companies and other sources of credit.⁵⁸ Scholars have also cited a desire to increase bank profits as a goal of regulators in deregulation.⁵⁹ Other scholars have characterized deregulation of the financial sector as part of a larger “neoliberal” political movement that aimed to shrink the public sector and welfare state.⁶⁰

3. *Deregulation:* Regardless of the reason, from 1983 to 1985, among other liberalization reforms, Sweden repealed liquidity ratios, removed ceilings on bank loan rates, lifted volume restrictions on loans, and abolished placement ratios.⁶¹

4. *Deregulation Enables Increased Lending:* In the wake of deregulation, pent up consumer and business demand for credit exploded.⁶² Deregulated banks dramatically expanded lending in part to meet surging demand and recapture market share in an increasingly competitive market.⁶³ Competitive pressures and the pursuit of increased profits drove dramatically increased bank lending, particularly to the real estate sector, but also to other riskier and more cyclical economic sectors.⁶⁴ One scholar argues that deregulation resulted in a shift in bank portfolios that dramatically increased bank exposures to credit risk.⁶⁵

It appears that deregulation of banks did result in displacement by pushing finance companies to riskier market segments. For example, the ensuing competition in real estate loans pushed finance companies to enter more marginal lending markets and take on higher credit risk.⁶⁶ Finance companies began extending loans to applicants previously rejected by banks, extending real estate loans with only junior security interests,

55. Davis, *supra* note 41, at 256. In 1988, finance companies collectively held assets of 171 billion Swedish kroner. *Id.*

56. Drees & Pazarbasioglu, *supra* note 35, at 9.

57. Drees & Pazarbasioglu, *supra* note 35, at 9-10.

58. *Id.*; Englund, *supra* note 38, at 84.

59. Jaffee, *supra* note 46, at 89-90.

60. See Timothy A. Canova, *The Swedish Model Betrayed*, 37 CHALLENGE 36 (May-June 1994) (describing politics of deregulation); Brian Burkitt & Phil Whyman, *The Origins of the Recent Swedish Crisis: a Lesson for the European Left*, 93:4 EUR. BUS. REV. 33 (1993); Larsson, *supra* note 36.

61. Drees & Pazarbasioglu, *supra* note 35, at 10; Davis, *supra* note 41, at 256; Peter Englund, *Financial Deregulation in Sweden*, 34 EUR. ECON. REV. 385, 385-86 (1990); Englund, *supra* note 38, at 83.

62. Drees & Pazarbasioglu, *supra* note 35, at 12-14.

63. *Id.* at 15; Jaffee, *supra* note 46, at 84. See also Englund, *supra* note 38, at 84.

64. Drees & Pazarbasioglu, *supra* note 35, at 15; Jaffee, *supra* note 46, at 86-89 (noting, however, that Swedish bank statistics do not track real estate loans as a separate category).

65. Jaffee, *supra* note 46, at 84-87.

66. Jennergren, *supra* note 46; Englund, *supra* note 38, at 85.

investing in highly leveraged commercial real estate projects, and financing investments in equity securities.⁶⁷ Analyzing whether subsidy leakage occurred is more complex. The government guarantee of bank obligations was at best implicit.⁶⁸ Nevertheless, banks continued to enjoy lower funding costs via regulatory restrictions on the funding sources of finance companies.⁶⁹ (This regulatory advantage of banks may also have played a role in the displacement of finance companies.)⁷⁰ Moreover, scholars have noted that banks provided significant levels of credit to finance companies.⁷¹

5. *Asset market boom*: Increased lending and lower underwriting standards fueled a dramatic lending boom; the ratio of bank loans to total GDP

skyrocketed just as financial sector deregulation ended in 1986.⁷² One scholar argues that increases in bank real estate lending resulted in a feedback loop, as increased lending stimulated further increases in real estate prices and demand for real estate.⁷³ This boom reinforced risky loan underwriting practices.⁷⁴ Lenders dramatically increased their loan-to-value ratios for mortgages for owner-occupied residences.⁷⁵ The boom also lowered the guard of regulators; scholars have faulted Swedish bank regulators for failing to strengthen and adapt prudential safety-and-soundness bank regulation to a more competitive, deregulated lending environment.⁷⁶

Some economists contend that bank deregulation precipitated the boom in

67. Jennergren, *supra* note 46; Davis, *supra* note 41, at 256.

68. See *supra* note 45, and accompanying text.

69. See *supra* notes 50-51, and accompanying text.

70. See Jennergren, *supra* note 46; Englund, *supra* note 38, at 89-90.

71. See *supra* note 52, and accompanying text.

72. Drees & Pazarbasioglu, *supra* note 35, at 13. For other data on the extent of the lending boom, see Englund, *supra* note 38, at 84-86.

73. Jaffee, *supra* note 46, at 88.

74. Drees & Pazarbasioglu, *supra* note 35, at 15. In terms of lowered loan underwriting standards, the following account of Drees and Pazarbasioglu has eerie parallels to accounts of the U.S. subprime crisis: The shift to more price competition weakened traditionally close banking relationships and impaired banks' ability to assess credit risks and monitor borrowers. *Id.*

75. Englund, *supra* note 38, at 85.

76. Drees & Pazarbasioglu, *supra* note 35, at 21; Jonung, *supra* note 35, at 581-82, 587-88; Bäckström, *supra* note 16, at 138; Martin Andersson & Staffan Viotti, *Managing and Preventing Financial Crises – Lessons from the Swedish Experience*, 1 SVERIGES RIKSBANK Q. REV. 71, 77 (1999).

Some commentators fault regulators for failing to recognize the dangers of high concentrations of real estate loans and the foreign exchange risk created by a large number of loans being denominated in foreign currencies but in which the assets were denominated in the local currency. See Stefan Ingves & Goran Lind, *Stockholm Solutions*, INT'L MONETARY FUND FINANCE & DEVELOPMENT, Dec. 2008, at 21, 22, available at <https://www.imf.org/external/Pubs/FT/fandd/2008/12/pdf/ingves.pdf> (last visited Jan. 5, 2010).

Another scholar questions whether real estate lending was directly regulated at all and faults bankers and supervisors for failing to consider excessive concentrations of loans in specific sectors, the need for conservative initial underwriting in new loan markets, and the importance of careful valuations of the collateral and cash flows available to service each loan. Jaffee, *supra* note 46, at 90.

For a devastating critique of the lack of understanding of regulators of the need to adjust prudential regulation in a deregulated financial sectors, see Director Stefan Ingves, Monetary and Exchange Affairs Department, Banking, Insurance and Securities Commission of Norway, *The Nordic Banking Crisis from an In-*

lending and asset prices.⁷⁷ Others find that, although this deregulation was not the catalyst for the initial lending boom and economic expansion, it did magnify those trends.⁷⁸ Deregulation stimulated a competition among financial institutions, in which lenders focused on expansion rather than prudent lending practices.⁷⁹

6. *Crisis*: The lending boom and rise in asset prices ended in dramatic fashion in 1989, as depreciation of the Swedish currency triggered massive defaults on the growing number of domestic loans denominated in foreign currencies.⁸⁰ A rise in nonperforming loans and declining col-

lateral values triggered a banking crisis, with finance companies facing financial difficulties first.⁸¹ Some scholars claim that financial losses first spilled over to banks via their investments in finance companies.⁸² In the early stages of the Swedish financial crisis, losses on real estate loans dominated, but losses eventually spread to other loans.⁸³ Losses in real estate loans were mirrored by steep declines in real estate prices, which in turn paralleled declines in bank share prices.⁸⁴ The worsening crisis led to the Swedish government taking extraordinary measures to guarantee bank loans

ternational Perspective, Remarks at the International Monetary Fund (Sept. 11, 2002), available at <http://www.imf.org/external/np/speeches/2002/091102.htm> (last visited Jan. 20, 2010).

Mr. Ingves said: "Another contributing cause to banking crisis is premature financial liberalization, together with inadequate preparation among bankers and supervisors. The former may not have the needed skills to manage and price risk, and the latter may not be given adequate resources and competencies to monitor the more complex new risks. This can easily create a situation with pure ignorance about the risks involved among relevant parties. Not having a clue about what is going on is sometimes a much more important cause of serious difficulties than the in academia so often discussed moral hazard." *Id.*

77. See Davis, *supra* note 41, at 256. See Jonung et al., *supra* note 35, at 49, 54. Cf. Bäckström, *supra* note 16, at 130 ("Credit market deregulation in 1985 . . . meant that monetary conditions became more expansionary.")

78. Englund, *supra* note 38, at 88-89, 95-96. Cf. Jonung, *supra* note 35, at 577 (describing general trend of financial deregulation in Scandinavian countries triggering asset price booms). Other economists have found no causal link between Swedish deregulation of financial institutions and a more general boom in consumption. Jonas Agell & Lennart Berg, *Does Financial Deregulation Cause a Consumption Boom?*, 98 SCAND. J. ECON. 579 (1996). Agell and Berg do note that their study does not consider whether deregulation might have affected "investment patterns, asset choice and borrowing for commercial purposes." *Id.* at 597. For one dissenting view of the contribution of financial liberalization to the Swedish crisis see Massimiliano Rimarchi, *Financial Liberalization, Credit Boom and Recession: a Business Cycle Accounting Perspective for Sweden* (Dec. 8, 2008) (unpublished manuscript, paper for Univ. of Cambridge Fac. of Econ. Conf. on "Macroeconomic and Financial Linkages: Theory and Practice"), available at <http://www.econ.cam.ac.uk/events/mafc/Rimarchi.pdf> (last visited Sept. 10, 2009). Rimarchi concludes that bank deregulation did not loosen bank credit, did not spur growth in asset markets, and did not contribute to the vulnerability of the Swedish economy to financial crisis. *Id.* at 23.

79. Englund, *supra* note 38, at 95-96; Andersson & Viotti, *supra* note 76, at 72.

80. Drees & Pazarbasioglu, *supra* note 35, at 22-23. See generally Englund, *supra* note 38, at 89-92.

81. Drees & Pazarbasioglu, *supra* note 35, at 23; Englund, *supra* note 38, at 89-90.

82. Drees & Pazarbasioglu, *supra* note 35, at 23; Englund, *supra* note 38, at 90.

83. Drees & Pazarbasioglu, *supra* note 35, at 23.

84. See *id.*, at 23.

and bail out financial institutions, including nationalizing two large banks.⁸⁵

IV. Deregulation in the United States and the Current Crisis

Sweden's experience with financial institution deregulation fits the *pas de deux* model fairly well. This fit leads to the question of whether the same model may explain the contribution of various episodes of deregulation to the current U.S. financial crisis. This Part IV sketches out how the model might fit the interactions, respectively, of: (a) government sponsored entities and sponsors of "private label" securitizations; (b) commercial banks and investment banks with respect to the repeal of the Glass-Steagall division between those two categories of financial institutions; and (c) banks and hedge funds and OTC derivatives. This sketch is meant to provide a framework for further econometric analysis of the extent to which displacement or subsidy leakage occurred after these three episodes of deregulation and the extent to which displacement or subsidy leakage contributed to the boom in the housing and asset-backed securities mar-

kets and the vulnerability of financial institutions to a crash in those markets.

A number of economists have argued that political capture and regulatory capture contributed to the deregulation of the U.S. financial institutions in the last several decades. According to these accounts, consolidation of the financial services sector led to concentrations of political power that were able to push deregulation through Congress and federal bureaucracy.⁸⁶ This account of deregulation compliments the *pas de deux* model of deregulation.

a. Government Sponsored Entities and Private Label Securitizations.

1. *Two Categories of Financial Institutions*: Congress chartered Freddie Mac and Fannie Mae as privately owned companies to create a liquid national market for residential mortgages to promote increased homeownership.⁸⁷ Before the financial crisis, scholars debated whether or not these two GSEs enjoyed an implicit guarantee from the federal government of their obligations in the event of their insolvency.⁸⁸ The financial crisis culminat-

85. *Id.*, at 29-30.

86. See generally SIMON JOHNSON & JAMES KWAK, 13 BANKERS: THE WALL STREET TAKEOVER AND THE NEXT FINANCIAL MELTDOWN 88-119 (2010). Cf. *The Future of Financial Services Regulation: Hearing Before the H. Fin. Serv. Comm.* 109th Cong. __ (2008) (statement of Joseph E. Stiglitz). Professor Stiglitz argues that "capture" needs to be broadly conceived: "Regulatory capture is not just a matter of 'buying' regulators, or even of 'revolving doors,' but also of the capture of ideas and mindsets. If those who are supposed to regulate the financial markets approach the problem from financial markets' perspectives, they will not provide an adequate check and balance. But much of the inadequacy of current regulations and regulatory structures is the result of financial markets' political influence, in many countries through campaign contributions." *Id.*

87. David Reiss, *The Federal Government's Implied Guarantee of Fannie Mae and Freddie Mac's Obligations: Uncle Sam Will Pick Up the Tab*, 42 GA. L. REV. 1019, 1028 (2008).

88. Compare Reiss, *supra* note 87 (arguing an implicit guarantee existed) with Richard Scott Carnell, *Handling the Failure of a Government-Sponsored Enterprise*, 80 WASH. L. REV. 565 (2005). Professor Carnell

ing with the government taking over the GSEs in conservatorship settled the argument; the guarantee is no longer implicit.⁸⁹ Beyond an implicit guarantee, Freddie and Fannie enjoyed a raft of other regulatory subsidies, including tax exemptions, exemptions from various securities laws, and laws granting special status to GSE securities making them equivalent to government securities (enabling federal agencies, fiduciaries, and federally regulated lenders to invest in GSE securities).⁹⁰ Moreover, Freddie and Fannie were subject to weaker capital requirements than other federally regulated financial institutions, which enabled them to take on more leverage and hence more risk.⁹¹

To fulfill their missions, Freddie and Fannie engaged in two lines of business. First, they (together with the Government National Mortgage Association) pioneered the creation of mortgage-backed securities. The two GSEs would purchase pools of residential mortgages of certain loan sizes that met certain credit standards and other criteria (“conforming mortgages”). The future cash streams from these mortgages would be used to issue securities to investors that Freddie and Fannie would guarantee.

Second, the GSEs purchased for their own investment portfolios mortgages and mortgaged-backed securities issued by others.⁹²

The success of the GSEs in the first line of business spawned copycats, as other financial institutions entered the mortgage-backed securities market in several waves from the 1970s to the early 2000s. These financial institutions sponsored new issuances of residential mortgage-backed securities – in what are called “private label” securitizations. Freddie and Fannie retained a dominant position in “conforming mortgages,” while the private label securitizations focused on segments of the mortgage market foreclosed to Freddie and Fannie by regulation, including “jumbo” mortgages (mortgages above a certain dollar threshold) and riskier “subprime” mortgages (mortgages to less creditworthy borrowers). The sponsors of those private label issuances did not benefit from the implicit guarantee and other regulatory subsidies enjoyed by Freddie and Fannie.⁹³

2. & 3. *Push for Deregulation & Deregulation*: In the case of Freddie and Fannie, deregulation took the form of government pressure for the two compa-

documented government disavowals of a guarantee and argued that the guarantee was more a matter of investor perception. *Id.* at 584.

89. For an analysis of the regulatory privileges enjoyed by the GSEs after Freddie and Fannie were placed into conservatorship and taken over by the Federal government, see David J. Reiss, *Fannie Mae and Freddie Mac and the Future of Federal Housing Finance Policy: A Study of Regulatory Privilege*, 61 ALA. L. REV. __ (forthcoming 2009).

90. Reiss, *supra* note 87, at 1055-65.

91. *Id.* at 1065.

92. *Id.* at 1027-1033.

93. *Id.* at 1030-33 (describing private label securitizations), 1052-68 (describing unique regulatory privileges enjoyed by GSEs).

nies to loosen their standards for their respective retained investment portfolios to allow them to purchase higher risk “subprime” mortgages in which low-income individuals were the borrowers.⁹⁴ Freddie and Fannie purchased these riskier mortgages in response to profits enjoyed by Wall Street banks that were using similar mortgages to back private label securitizations. Although Freddie and Fannie retained dominance in the conforming mortgage market, regulations had prevented them from participating in the surging profits of the subprime mortgage market.⁹⁵ Press accounts describe the pressure that the chief executive of Fannie Mae was under in 2004 to allow his company to purchase riskier mortgages from mortgage lenders:

“. . . [H]is company was under siege. Competitors were snatching away lucrative

parts of its business. Congress was demanding that Mr. Mudd help steer more loans to low-income borrowers. Lenders were threatening to sell directly to Wall Street unless Fannie bought a bigger chunk of their riskiest loans.”⁹⁶

One scholar dates the decision of the GSEs to lower their purchasing standards to the 1990s, and attributes the decision to political pressure from Congress, the Executive Branch, and the U.S. Department of Housing and Urban Development.⁹⁷ Other accounts fault the George W. Bush Administration; animated by a belief in free markets and the importance of encouraging home ownership, that Administration pursued a broad set of regulatory initiatives to stimulate mortgage lending.⁹⁸ These policies included the President pushing Freddie Mac and Fannie Mae to increase support of lending to low-income borrowers.⁹⁹ On the same

94. Binyamin Appelbaum, *How Washington Failed to Rein in Fannie, Freddie*, WASH. POST, Sept. 14, 2008, at A1.

95. See *id.* See *supra* note 93 and accompanying text. Christopher L. Peterson, *Fannie Mae, Freddie Mac, and the Home Mortgage Foreclosure Crisis*, 10 LOYOLA J. PUB. INTEREST L. 149, 161-65 (2009). Professor Chris Peterson describes the competition from private label securitizations giving rise to abusive mortgage lending practices:

By the 1990s, the private label securitization market specializing in subprime mortgages, jumbo mortgages, and an expanding array of alternative mortgage products with non-amortizing features were rapidly capturing market share from more traditional GSEs. With the new access to large pools of capital, unscrupulous and thinly capitalized mortgage brokers and lenders began to aggressively market a new crop of questionable subprime and manufactured home mortgage loans. Legal aid attorneys, consumer advocates, and the press began to see an increase in the volume of what America would come to call predatory mortgages.

Id. at 160.

96. Charles Duhigg, *Pressured to Take More Risk, Fannie Reached a Tipping Point*, N.Y. TIMES, Oct. 5, 2008 at A1.

97. Richard E. Mendales, *The Fall and Rise of Fannie and Freddie: Securitization After the Meltdown*, 42 U.C.C. L.J. 33, __ (forthcoming 2009) citing Carol D. Leonnig, *How HUD Mortgage Policy Fed the Crisis*, WASH. POST, June 10, 2008, at A1; Steven A. Holmes, *Fannie Mae Eases Credit to Aid Mortgage Lending*, N.Y. TIMES, Sept. 30, 1999 at C2; Stephen Labaton, *New Agency Proposed to Oversee Freddie Mac and Fannie Mae*, N.Y. TIMES, Sept. 11, 2003 at C1; Charles W. Calomiris & Peter J. Wallison, *Blame Fannie Mae and Congress for the Credit Mess*, WALL ST. J., Sept. 23, 2008 at A29.

98. Jo Becker et al., *White House Philosophy Stoked Mortgage Bonfire*, N.Y. TIMES, Dec. 21, 2008 at A1.

99. *Id.*

day that the head of the federal agency that regulated Freddie and Fannie issued a report outlining the risk that those firms could default on their obligations and spark a market crisis, the White House attempted to fire him.¹⁰⁰ Only later did the Administration join with certain members of Congress in a failed legislative attempt to impose stricter regulations on Freddie and Fannie.¹⁰¹

At the same time that Congress and the White House were pressuring Freddie and Fannie, those firms were also using extensive lobbying efforts to thwart attempts to regulate them.¹⁰² This tangled web of political lobbying by the GSEs and pressure from the Executive and Legislative Branches makes it difficult to determine the extent to which decisions to lower GSE investment standards to participate in the subprime mortgage market were pushed by Freddie and Fannie or, alternatively, were pushed on these firms by their overseers.¹⁰³

4. & 5. *Deregulation Enables Increased Lending & Asset Market Boom:* Whether because of competitive or political pressure, Freddie and Fannie dramati-

cally increased their direct purchases of riskier “subprime” and “alt-A” mortgages. They also increased their investments in private label asset-backed securities, including securities backed by those same two riskier mortgage classes.¹⁰⁴ These twin moves open up the possibility that the deregulation of Freddie and Fannie described above resulted in both displacement and subsidy leakage. Displacement would occur if GSEs, competing to purchase risky mortgages, pushed private label securitizations into purchasing even riskier mortgages. Subsidy leakage would occur as GSE purchases of private label asset-backed securities fueled further growth of private label securitizations. A very cursory examination of data on both subprime mortgages and assets does reveal a marked increase in the number of subprime mortgages being underwritten by mortgage lenders in 2004. The following chart¹⁰⁵ reveals a 2004 spike in both the volume of subprime mortgages and their percentage share of all mortgage originations in the United States.

100. *Id.*

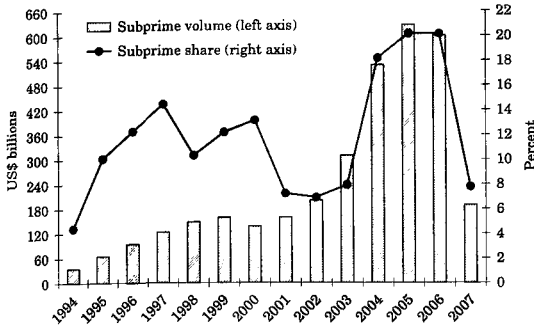
101. *Id.*

102. Duhigg, *supra* note 96, at A1; Appelbaum, *supra* note 94, at A1.

103. Some accounts of the decision at Fannie to expand purchases of subprime mortgages focus on management making the decision because of competitive pressures rather than responding to political pressure. *E.g.*, Damon Silvers & Heather Slavkin, *The Legacy of Deregulation and the Financial Crisis: Linkages between Deregulation in Labor Markets, Housing Finance Markets, and the Broader Financial Markets*, 4 J. Bus. & TECH. L. 301, 326-27 (2009).

104. Peterson, *supra* note 95, at 163.

105. George Selgin, *Guilty as Charged*, THE INDEPENDENT INSTITUTE (Nov. 7, 2008), available at <http://www.independent.org/publications/article.asp?id=2368> (last visited Feb. 1, 2010).



Assuming the supply of subprime mortgages was elastic, the new purchases of these mortgages by Freddie and Fannie would be expected to dramatically increase the number of these mortgages. However, detailed econometric studies are needed to determine a more precise causal link between new GSE purchases of subprime mortgages and private label mortgage-backed-securities starting in 2004 and this surge in subprime originations.

6. *Crisis*: Freddie and Fannie’s investments in subprime mortgages and asset-backed securities based on those mortgages proved catastrophic. When the subprime crisis accelerated, defaults on subprime mortgages and resultant losses on private label asset-backed securities increased and damaged the financial health of the GSEs. Freddie and Fannie’s thin capitalization meant losses on their retained portfolios were devastating.¹⁰⁶

b. Commercial and Investment Banks and the Glass-Steagall Repeal.

1. *Two Categories of Financial Institutions*: The pas de deux model can also be applied to analyze the contribution of the repeal of the Glass-Steagall Act to the severity of the current crisis. The Glass-Steagall Act was a Depression-era federal law that circumscribed the permissible business and investment activities of commercial banks. Glass-Steagall has been broadly characterized as creating a wall between commercial banks and investments banks.¹⁰⁷ After this division, many commercial banks could receive government deposit insurance, the ability to borrow funds through the Federal Reserve’s discount window, access to the Federal Reserve’s clearing services, and other regulatory privileges that could theoretically grant banks a subsidy.¹⁰⁸ In turn, banks faced numerous restrictions on their investment activities designed to curtail their risk taking and the moral hazard that accompanied government insurance. Investment banks, by contrast, could not obtain deposit insurance, but could engage in lucrative activities including making equity investments and engaging in proprietary trading.

2. & 3. *Push for Deregulation & Derogulation*: By the 1980s, many banks became attracted to the profits that investment banks earned through these

106. See Peterson, *supra* note 95, at 164-67.

107. For a concise, incisive account of the history and rationale of the Glass-Steagall Act, see Joseph Jude Norton, *Up Against “The Wall”: Glass-Steagall and the Dilemma of a Deregulated (“Reregulated”) Banking Environment*, 42 BUS. LAW 327 (1987).

108. Walter, *supra* note 4, at 2-7.

investment businesses. These profits (and the prospects of creating financial conglomerates that could offer retail and business customers an array of financial products through “one-stop shopping”) led banks and other financial institutions to call for dismantling the Glass-Steagall divide.¹⁰⁹ The entire story of the repeal of Glass-Steagall by the Gramm Leach Bliley Act is beyond the scope of this article. However, as repeal was being debated, economists did consider the dangers of repealing Glass-Steagall leading to displacement or subsidy leakage (even if those terms were not used). A series of studies conducted while the repeal was being debated analyzed whether depository banks would gain an unfair advantage when competing with other

financial institutions by virtue of a subsidy implicit in bank deposit insurance and banks’ unique access to the Federal Reserve’s discount window and clearing services. This unfair advantage arguably might lower a bank’s cost of funds below market value. Reassured by a federal safety net, a bank’s debt holders might permit the bank to operate with lower capital and take on more risk.¹¹⁰

Several studies concluded that this risk was remote; these studies estimated that the subsidy of deposit insurance was negligible or even negative due to offsetting costs of banking regulations, including deposit insurance premiums and capital and reserve requirements.¹¹¹ Other scholars concluded that, even if banks did enjoy a net subsidy, banking

109. Jonathan Macey argued that the principal rationale for the Gramm Leach Bliley Act was that technological developments had made commercial banking obsolete and that commercial banks should be thus allowed to enter more profitable investment banking businesses. Jonathan R. Macey, *The Business of Banking: Before and After Gramm-Leach Bliley*, 25 J. CORP. L. 691, 691-93 (2000). Professor Macey went on to dispute this rationale, arguing that banks could remain profitable and that the repeal of Glass-Steagall was nevertheless justified on other grounds. He argued that combining commercial and investment banking operations would allow financial institutions to realize synergies and achieve diversification. *Id.* at 693-94.

For an account of the debate over the repeal of Glass-Steagall, see Wilmarth, *supra* note 16, at 972-75. Professor Wilmarth explains how in the years preceding the repeal of Glass-Steagall, bank regulators had increasingly “opened loopholes in the Glass-Steagall wall in response to competitive pressures in the financial marketplace.” *Id.* at 972. Ultimately, the Federal Reserve Board allowed Citicorp, a large bank holding company, to merge with Travelers, a financial conglomerate that included insurance and securities subsidiaries in violation of the express prohibitions of the Act. *Id.* at 972-73. This threw down the gauntlet to Congress to either repeal Glass-Steagall or force the breakup of this megamerger of financial institutions. *Id.*

110. Frederick Furlong, *Federal Subsidies in Banking: the Link to Financial Modernization*, 97 FED. RES. BANK S.F. ECON. LETTER 1 (1997).

111. Kenneth Jones & Barry Kolatch, *The Federal Safety Net, Banking Subsidies, and Implications for Financial Modernization*, 12 F.D.I.C. BANKING REV. 1, 15 (1999) (“most evidence suggests that the net marginal subsidy received by these banks is insignificant or even negative.”); Gary Whalen, *Bank Organizational Form and the Risks of Expanded Activities*, Office of the Comptroller of the Currency Econ. Working Paper 97-1 (Jan. 1997), available at <http://www.comptrollerofthecurrency.gov/ftp/workpaper/97-1.pdf> (last visited Jan. 5, 2010); Gary Whalen, *The Competitive Implications of Safety Net-Related Subsidies*, Office of the Comptroller of the Currency Econ. Working Paper 97-9 (1997) available at <http://www.occ.treas.gov/wp97-9.htm> (last visited Jan. 5, 2010).

For a survey of studies from 1984 to 1993 that found banks enjoyed no subsidy or a small subsidy, see Walter, *supra* note 4, at 3-5. One study showed that risky banks did enjoy a subsidy after the FDIC began charging variable risk-adjusted premia for deposit insurance in 1993. *Id.* citing T.W. Epps et al., *Assessing the FDIC’s Premium and Examination Policies Using Soviet Put Options*, 20 J. BANKING FIN. 699 (1996).

regulations under Gramm Leach Bliley Act would prevent banks from passing the subsidy to other affiliates.¹¹² Among other things, the Act allowed banks to be part of financial holding companies, which could engage in wide range of non-banking businesses including insurance, securities underwriting, and investment banking, but still prohibited the bank subsidiaries of the holding companies from engaging in many of these activities that were prohibited by Glass-Steagall.¹¹³ In addition, the Gramm-Leach-Bliley prohibited the FDIC from providing assistance (or bailing out) to a bank's non-banking affiliates and subsidiaries (but this raises the question of whether bailing out a bank would still indirectly benefit its affiliates).¹¹⁴

Other banking scholars expressed reservations with these conclusions that banks do not enjoy a net subsidy and cautioned that deregulation must be carefully conducted to mitigate the risk of subsidies existing.¹¹⁵ At least one study found that banks did enjoy a subsidy and bank holding companies organized their

operations to take advantage of cheaper costs of funding inside their bank subsidiaries.¹¹⁶

This scholarly debate reveals that whether banks enjoy a subsidy depends, in part, on whether bank regulations are strict enough to counter any moral hazard associated with a government guarantee. For example, appropriately calibrated deposit insurance premiums and vigilant regulatory policing of bank risk-taking would negate a subsidy. Since deposit insurance premiums, other bank regulations, and the level of regulatory enforcement can all change over time (or can fail to adjust to changes in bank risk-taking), the question of whether banks enjoy a subsidy is a dynamic one. For example, one of the ways in which regulators counteract the moral hazard associated with deposit insurance is by charging banks a premium for this insurance.¹¹⁷ Ideally, the amount of the premium should vary according to the risk of a bank's operations. But, if premiums do not appropriately adjust for risk, then moral hazard is not completely off-

112. James R. Barth et al., *Policy Watch: The Repeal of Glass-Steagall and the Advent of Broad Banking*, 14 J. ECON. PERSP. 191, 199-200 (2000).

113. *Id.*; Professor Wilmarth expressed skepticism as to whether these firewalls established by Gramm-Leach-Bliley would prevent banks from cross-subsidizing non-bank affiliates. Wilmarth, *supra* note 28, at 446-49.

114. Barth et al., *supra* note 112, at 199 n. 5. Arthur Wilmarth argued that, despite the express provisions of Gramm-Leach Bliley, regulators could not credibly restrict the federal safety net to banks because large financial conglomerates enjoyed "too-big-too-fail" status. See Wilmarth, *supra* note 28, at 446-449.

115. Furlong, *supra* note 110; Bernard Shull & Lawrence J. White, Of Firewalls and Subsidiaries: the Right Stuff for Expanded Bank Activities, NYU Center for Law and Business Working Paper #CLB-98-017 12-13 (Feb. 1998), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=164498 (last visited Jan. 5, 2010).

116. Myron L. Kwast & S. Wayne Passmore, *The Subsidy Provided by the Federal Safety Net: Theory and Evidence*, 17 J. FIN. SERV. RES. 125 (2000).

117. McCoy, *supra* note 25, at 428. See also Viral V. Acharya et al., *Systemic Risk and Deposit Insurance Premiums*, FED. RES. BANK N.Y. ECON. POL'Y REV. __ (forthcoming), available at <http://www.nyfedeconomists.org/research/epr/forthcoming/0908acha.pdf> (last visited Feb. 2, 2010).

set¹¹⁸ and subsidy leakage or displacement can occur. As one illustration of how bank subsidies may change over time, one of the co-authors of a 2000 study that concluded bank subsidies under Gramm Leach Bliley were not problematic (if they even existed), co-authored a 2003 study that concluded that subsequent regulatory changes led to banks enjoying increased subsidies.¹¹⁹

4. & 5. *Deregulation Enables Increased Lending &*

Asset Market Boom: The variability of the bank subsidy argues for new studies to determine whether the repeal of Glass-Steagall resulted in either:

displacement of non-bank financial institutions into riskier market segments, or subsidy leakage, by which banks conferred a subsidy onto non-banking subsidiaries and enabled those subsidiaries to take on excessive risk.

It is clear that the repeal of Glass-Steagall was followed by a wave of mergers and acquisitions involving banks and securities firms, which added fuel to an already swelling wave of financial industry consolidation.¹²⁰ Arthur Wilmarth argues that the repeal of Glass-Steagall contributed to the creation of large finan-

cial conglomerates that were responsible for an unsustainable credit boom in the United States in the last two decades.¹²¹ He links the removal of Glass-Steagall barriers to explosive growth in securities underwriting that fueled the stock market boom of the late 1990s.¹²² He writes:

“...the relaxation and removal of Glass-Steagall barriers enabled large commercial banks to become major players in the investment banking business after 1990. Intensifying competition between commercial banks and securities firms stimulated a spectacular growth in the issuance of corporate securities during the late 1990s . . . The onrush of newly-issued securities contributed to a stock market boom from 1994 to 2000, comparable to the great bull market of 1923 to 1929.¹²³ This bull market ultimately crashed at the turn of the century, ‘representing the largest percentage drop in stock values since the stock market’s collapse between 1929 and 1932.’”¹²⁴

Professor Wilmarth similarly faults large financial conglomerates for contributing to the subprime housing boom and subsequent financial crisis through fostering the origination of risky subprime consumer mortgages and other loans, the securitization of those loans (the private label securitizations described above), and the development of OTC derivatives

118. Walter, *supra* note 4, at 2; McCoy, *supra* note 25, at 428-30; Acharya, *supra* note 117.

119. Cf. Barth et al., *supra* note 112, at 199 (“Even if there were net marginal subsidies from the federal safety net that accrued to banks, adequate safeguards appear to exist to inhibit banks from passing them through to other, affiliated subsidiaries. . .”) with Joe Peek & James A. Wilcox, *The Fall and Rise of Banking Safety Net Subsidies*, in *TOO-BIG-TO-FAIL: POLICIES AND PRACTICES* (Benton Gup ed., 2003). The latter study concludes: . . . “safety net subsidies appear now to have risen noticeably since the middle of the 1990s. Conditions and public policies may also be paving the way for banking safety net subsidies to rise further in the first decade of the new millennium.” *Id.* at 30.

120. Wilmarth, *supra* note 16, at 975-77.

121. *Id.* at 1002-1046.

122. *Id.* at 997-98.

123. *Id.*

124. *Id.* at 998.

to further transfer the risk of consumer loans.¹²⁵

6. *Crisis*: Wilmarth then traces how these devices and the financial conglomerates that spawned them became the catalysts for the global financial crisis.¹²⁶ The questions posed by the pas de deux model are whether displacement and subsidy leakage in the wake of the Glass-Steagall repeal contributed to the increased risk taking of these financial institutions. More particularly, did the entry of commercial banks into the investment banking business push investment banks into riskier investments? One pattern to watch for in data is whether investment banks not affiliated with depository banks began making riskier investments than financial holding companies with both investment bank and depository bank affiliates soon after those holding companies formed or after their affiliates entered a market in which investment banks were already operating. A broader question also bears examination: did bank holding companies use any subsidies to bank subsidiaries to fund risk-taking by other subsidiaries notwithstanding the safeguards built into the Gramm Leach Bliley Act?

c. Banks and Hedge Funds and OTC Derivatives.

The pas de deux model might also be used to frame research into a third, subtler area of deregulation involving banks and OTC derivative investments. Professor Saule Omarova has authored a fascinating study of how banks, enticed by the profits of derivatives trading, pursued a deregulatory campaign for over a decade.¹²⁷ This campaign focused on convincing the Office of the Comptroller of the Currency to change gradually its regulatory interpretations of what constitutes the “business of banking” to allow banks to engage in derivatives trades.¹²⁸ The application of the pas de deux model is somewhat rougher here. The dual classes of financial institutions would consist of: ¶ banks on the one hand, which enjoy deposit protection and other regulatory subsidies,¹²⁹ but were previously constrained in derivatives trading by federal law that defined the “business of banking”¹³⁰ (banks remain subject to other regulatory burdens such as capital requirements, but deregulation has also dialed down these regulatory burdens);¹³¹ and ¶ other financial institutions, on the other hand, that were not so restricted

125. *Id.* at 1015-1046.

126. *Id.*, at 1043-46.

127. Saule T. Omarova, *The Quiet Metamorphosis: How Derivatives Changed the “Business of Banking,”* 63 *MIAMI L. REV.* 1041 (forthcoming 2009).

128. *Id.*

129. Wilmarth, *supra* note 28, at 335-337 (arguing that banks enjoy regulatory subsidies when they engage in OTC derivative dealing, including “federal safety net protections” and enhanced reputation and credibility).

130. Omarova, *supra* note 127, at 1055.

131. Erik F. Gerding, *Code, Crash, and Open Source: the Outsourcing of Financial Regulation to Risk Models and the Global Financial Crisis*, 84 *WASH. L. REV.* 127, 155-57 (2009) (describing bank capital requirements and how those requirements were effectively loosened by the Basel II bank accord).

and thus could earn additional profits on derivatives trading.¹³²

Hedge funds represent a clear example of institutions that fit under the second category. These unregulated entities could trade in derivatives without regulatory encumbrance.¹³³ If the *pas de deux* model fits this example of deregulation, it is likely that it resulted in subsidy leakage rather than displacement. This is because freeing banks to engage in derivatives traded created a symbiotic relationship between banks and hedge funds. Banks benefit from having hedge funds as counter parties; lacking regulatory restrictions on risk-taking, hedge funds could take on more risk, particularly by selling credit protection in credit derivatives.¹³⁴ Banks on the other hand enjoy a cheap cost of capital and presented a lower degree of counterparty risk thanks to deposit insurance and government regulation.¹³⁵ Through their global networks of customer relationships, banks were able to connect hedge

funds to other firms seeking to enter into derivative transactions.¹³⁶ (Aside from banking, subsidy leakage may explain how AIG became such an important player in the credit derivative market that ultimately brought that heavily regulated and subsidized insurance company to its knees in the financial crisis.)

Derivatives, particularly credit derivatives, likely played an important role in the boom of the housing and asset-backed securities market. Credit derivatives allowed investors to offload risk from investing in mortgages and asset-backed securities. With this risk spread to other parties, investors could invest additional money in mortgages and asset-backed securities with the proceeds ultimately flowing back as additional credit to mortgage borrowers. Additional credit may fuel housing price increases. This connection among mortgages, mortgage-backed and other asset-backed securities, and credit derivatives has been called the “shadow banking system.”¹³⁷

132. *See id.*, at 133, 161-62 (describing hedge funds as counterparties to OTC derivatives and efforts to regulate those funds).

133. *Id.*

134. *Id.*

135. The potential for a government subsidy of banks is discussed above. *See supra* notes 110-119 and accompanying text. *See also* Wilmarth, *supra* note 28, at 336-37. Professor Wilmarth describes the potential for subsidy leakage in the context of banks and OTC derivatives in the following passage: This presence of a federal “safety net” for top derivatives dealers creates a clear conflict of interest between those dealers and the responsible federal agencies. Derivative dealers have a strong temptation to exploit the federal safety net’s implicit subsidy by engaging in speculative trading, unless regulators can accurately monitor trading activities and impose effective sanctions for excessive risk-taking. *Id.* at 353.

136. *Cf.* Wilmarth *supra* note 28, at 332-37 (describing how banks have assumed position of major global OTC derivative dealers).

137. Tobias Adrian & Hyun Song Shin, *The Shadow Banking System: Implications for Financial Regulation*, N.Y. Fed. Res. Bank Staff Report No. 382 (July 2009); Margaret M. Blair & Erik F. Gerding, *Sometimes Too Great a Notional: Measuring the “Systemic Significance” of OTC Credit Derivatives*, LOMBARD STREET, August 31, 2009, at 10, 10.

V. Conclusion

As noted above empirical research is needed to determine the extent to which displacement and subsidy leakage contributed to the current financial crisis. Findings of either phenomenon would lend support to the still vague Volcker Rule proposed by the Obama Administration, which appears to be intended to limit the ability of banks to use government insured funds to engage in riskier investments.¹³⁸ But the *pas de deux* model also suggests that a prohibition on profitable bank investments – such as the Volcker Rule – would inevitably come under increasing political pressure over time, as banks would lose valuable profit opportunities to less encumbered financial institutions. Banks would then either seek “workarounds” for the Volcker Rule or push for deregulation.

Beyond this immediate policy application, the *pas de deux* model has two more general policy implications. First, the model suggests that policymakers realize the inherent economic and political instability of creating dual classes of financial institutions – one class that is subsidized and regulated and another that is not. Second, the model argues that regulators must take great care when deregulation would allow a subsidized class of financial institution to compete with an unsubsidized class in the same loan and investment markets. Reg-

ulators must neutralize the possibility of subsidy leakage. This may mean convincing the marketplace that the government is no longer providing a guarantee of the deregulated class. But it may be impossible or inadvisable to remove many government guarantees. For example, many economists, including Milton Friedman, believe that government insurance of bank deposits may play a valuable role in staving off bank runs.¹³⁹ If subsidies cannot be removed, regulators must calibrate the use of other banking regulations – deposit insurance premiums, capital requirements, reserve requirements, and inspection and enforcement – to counter the subsidy. Efforts, such as in the Gramm Leach Bliley Act,¹⁴⁰ to cabin the subsidy through divisions between affiliates of financial conglomerates will, however, be under constant pressure; creative lawyering will work to undermine these regulatory efforts. Again, legal separations between classes of financial institutions will be hard to sustain politically in the face of a less regulated class earning consistently higher profits.

Beyond immediate policy debates, this article calls for further historical and empirical research as to whether the model described above can explain other episodes of deregulation and financial crisis. The interaction of banks and “jusen” (a category of home mortgage lending company) during Japan’s real estate bub-

138. *Supra* notes 12-13 and accompanying text.

139. MILTON FRIEDMAN & ANNA SCHWARTZ, A MONETARY HISTORY OF THE UNITED STATES: 1867-1960 441-42 (1963); Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401 (1983).

140. *Supra* notes 113-14 and accompanying text.

ble in the 1980s might prove a useful test for the model.¹⁴¹ Examination of examples of dual classes of financial institutions that operated in similar market spaces but which did not lead to deregulation, an investment boom, or financial crisis would also prove invaluable for testing the model. In fact, counterexamples could yield answers to important questions. For example, under what conditions do dual classes of financial institutions result in deregulation of the more regulated class as opposed to heavier regulation of the less-regulated class? Under what conditions does a regulatory division between dual classes remain stable? For cases in which deregulation of a more regulated class did not lead to a lending boom, why not? Did regulators take action to negate subsidy leakage or

displacement? Further study of the model in this article may thus shed light on larger questions of when legal or regulatory arbitrage is most effective at undermining boundaries between types of financial firms.

More broadly, the *pas de deux* model provides an example of the value of integrating models of economics and political economy. Integrated models can illuminate the various political and economic pressures that change regulation – whether of financial institutions or otherwise – over time. Efforts to design an optimal framework for regulation must contend with a dynamic political, economic, and legal environment that may require constant adaptation by regulators. * * *

141. For an introduction to the *jusen* crisis, see Curtis J. Milhaupt & Geoffrey P. Miller, *Regulatory Failure and the Collapse of Japan's Home Mortgage Lending Industry: a Legal and Economic Analysis*, 22 L. & POL'Y 245 (2000).