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PRIVATE AND PUBLIC ORDERING IN SAFE ASSET MARKETS

*Anna Gelpern** and *Erik F. Gerding***

INTRODUCTION

At the center of global financial markets lies a myth: investors, financial intermediaries, and governments treat trillions of dollars of debt contracts as risk free.¹ Indeed, participants in financial markets have seemingly bought into a collective assumption that a subset of debt contracts—which has included at various times sovereign bonds, bank debt, investment-grade bonds, asset-backed securities, repurchase agreements (repos), and money market mutual funds—would always be paid in full and on time.² This collective assumption, in turn, has several remarkable consequences. It enables the debt contracts to trade at par, endows the markets for them with liquidity, and allows them to be used as basic building blocks in financial engineering. Financial intermediaries use forms of debt assumed to be risk free as critical ingredients in complex financial transactions, including the alchemical creation of other forms of “safe” debt.³

The collective assumption that any debt is risk free can prove disastrously wrong. In the global financial crisis, risk rematerialized in a succession of apparently safe asset markets. Investors in asset-backed securities, bank debt, money market mutual funds, repos, and even some sovereign debt triggered runs, fire sales, and market freezes. Safety had evaporated suddenly and cataclysmically.

An influential and growing literature has explored this phenomenon of “safe assets”—when participants across financial markets act “as if” certain debt is risk free—and its role in the global financial crisis, as well as its implications for post-crisis reform.⁴ This literature breaks into two broad strands. One strand focuses on the macroeconomic sources and consequences

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1. Anna Gelpern & Erik F. Gerding, *Inside Safe Assets*, YALE J. ON REG. (forthcoming 2016) [hereinafter Gelpern & Gerding, *Inside Safe Assets*].

2. Anna Gelpern & Erik F. Gerding, *Rethinking the Law in ‘Safe Assets’*, in RECONCEPTUALISING GLOBAL FINANCE AND ITS REGULATION (Ross P. Buckley et al. eds., forthcoming 2015) [hereinafter Gelpern & Gerding, *Rethinking the Law*].

3. Gelpern & Gerding, *Inside Safe Assets*, *supra* note 1.

4. See IMF, *Global Financial Stability Report: The Quest for Lasting Stability* 81 (2012) [hereinafter IMF GFSR].

of global demand for safe assets.⁵ The second emphasizes safe assets as a necessary ingredient in financial market transactions.⁶ Both strands view safe asset production as a function of economic and financial market forces. Both relegate law and regulation to the margins of the safe assets story.

We have argued to the contrary: that laws and regulations play central roles in constructing safe asset markets.⁷ We have traced how regulation helps create the demand and supply for sovereign debt, bank debt, repos, and asset-backed securities.⁸ We have also examined the implications for financial reform of this central role of law and regulation in safe asset markets.⁹

In this Article, we highlight the role of private ordering in constructing safe assets. Private ordering—including a battery of contractual devices and transaction structures—contributes to the creation of these debt contracts, to their collective treatment in financial markets as low risk investments, and to the making of deep and liquid markets in them. These contracts and transaction structures, in turn, provide a template for understanding the role of government regulation in constructing safe asset markets. Using this template, we explore both private and public ordering in safe asset markets. We reiterate our view that safe asset supply and demand does not occur organically, in a vacuum, or in a state of nature. Rather, whether through private or public ordering, three types of legal tools operate to construct safe assets:

1. *Making Assets Safe*: one set of tools regulates the production of safe assets by regulating the cash flows into and out of an issuer of safe assets to increase the likelihood of full and prompt payment to investors. These “making” tools might take the form of:

- ¶ engineering the asset side of an issuer’s balance sheet to reduce the risk of inputs in safe assets;
- ¶ engineering the liability side of an issuer’s balance sheet to give holders of safe assets priority over other claimants on the issuer; or

5. See, e.g., Ben S. Bernanke et al., *International Capital Flows and the Returns to Safe Assets in the United States, 2003–2007* (Bd. of Governors of the Fed. Reserve Sys., Int’l Fin. Discussion Paper No. 1014, 2011), <http://www.federalreserve.gov/pubs/ifdp/2011/1014/ifdp1014.pdf>; Ricardo J. Caballero, *The “Other” Imbalance and the Financial Crisis* (Nat’l Bureau of Econ. Research, Working Paper No. 15636, 2010), <http://www.nber.org/papers/w15636>; Ricardo J. Caballero et al., *An Equilibrium Model of “Global Imbalances” and Low Interest Rates*, 98 AM. ECON. REV. 358 (2008); Ricardo J. Caballero & Arvind Krishnamurthy, *Global Imbalances and Fiscal Fragility* (Nat’l Bureau of Econ. Research, Working Paper No. 14688, 2009), <http://www.nber.org/papers/w14688>; Pierre-Olivier Gourinchas & Olivier Jeanne, *Global Safe Assets* 53 (Bank for Int’l Settlements, Working Paper No. 399, 2012), <http://www.bis.org/publ/work399.pdf>.

6. See, e.g., Gary Gorton et al., *The Safe-Asset Share*, 102 AM. ECON. REV. 101 (2012); Tri Vi Dang et al., *Ignorance, Debt and Financial Crises* (Mar. 11, 2013) (unpublished manuscript), http://www.columbia.edu/~td2332/Paper_Ignorance.pdf.

7. Gelpern & Gerding, *Inside Safe Assets*, *supra* note 1.

8. Gelpern & Gerding, *Rethinking the Law*, *supra* note 2.

9. Gelpern & Gerding, *Inside Safe Assets*, *supra* note 1.

¶ creating and regulating the secondary market for safe assets.

2. *Labeling Assets Safe*: another set of legal tools focuses on the demand for safe assets by granting special status to these contracts when held on the books of investors. These tools create liquid markets for certain assets by either:

¶ signaling the low risk of default by issuers of those assets; or

¶ coordinating the collective treatment of those assets as having low risk and high liquidity.

3. *Guaranteeing Asset Safety*: financial intermediaries and governments can also guarantee the performance of safe assets, putting their own credit on the line. Guarantees may be *ex ante* or *ex post*, explicit or implicit.

A comparison of private and public ordering in safe asset markets reveals how difficult it is to separate the two. Indeed, much of private ordering relies on statute and regulation. It assumes and operates against a backdrop of government intervention. Public ordering succeeds at creating safe assets when it enables private ordering and herding by investors into safe asset markets. Understanding this complex interplay between public and private tools becomes vital for understanding how safe asset markets operate, how they fail, and how they must be reformed.

This Article proceeds as follows: Part II examines how private ordering—contractual devices and transaction structures—fosters safe asset markets using the three-tool template just described. It uses securitization as an example for understanding private ordering in other safe asset markets. Part III outlines public ordering in safe asset markets. The Article concludes with two lessons. First, it deconstructs the notion that there is purely private or public ordering in safe asset markets. Second, it underscores a kind of first law of thermodynamics for safe assets: neither private nor public ordering can banish risk altogether from safe asset markets or financial markets in general. They merely move risk around or, worse, obscure risk until it rematerializes.

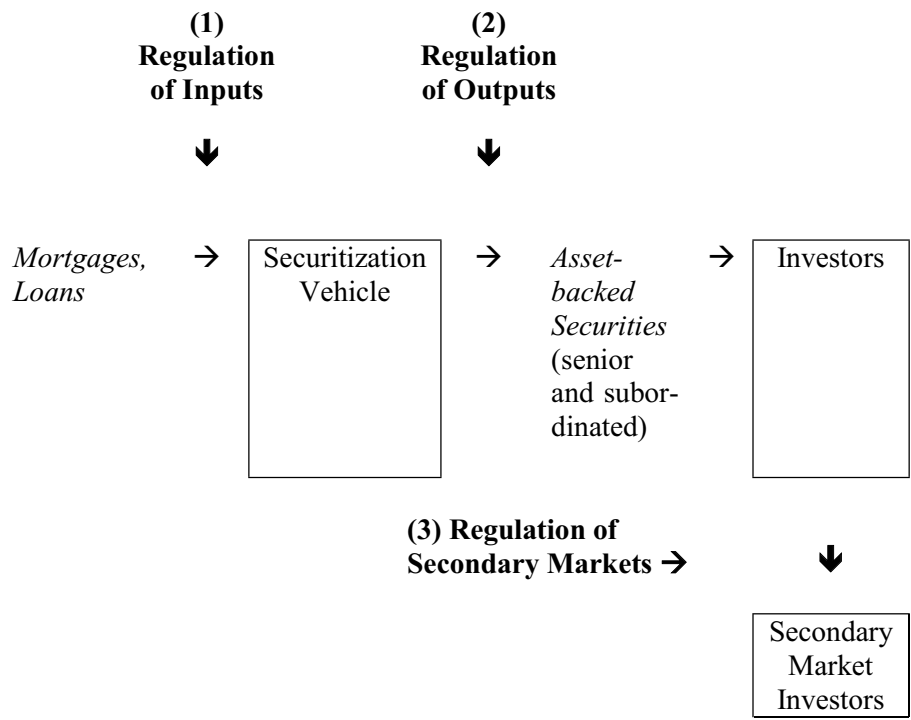
II. PRIVATE ORDERING

Making, labeling, and guarantees are familiar tools in private ordering. Asset securitization provides an example of how those who structure securitizations deploy all three tools to create investment-grade asset-backed securities. This Part provides a very rough sketch of these tools at work in securitization, which serves as a template for understanding how the tools work in constructing other safe assets. After Parts II.A, B, and C map making, labeling, and guarantees in securitization, Part II.D telescopes outward to draw the analogy between private ordering in asset-backed securities and private ordering in safe asset markets in general.

A. MAKING SAFER SECURITIES

Market participants can use contracts and transaction structures to make certain debt contracts retain their value and liquidity under different circumstances—even in the face of economic shocks. This private ordering works on three different levels. First, contracts and transaction structures regulate the inputs in securitization vehicles. Second, contracts and structures regulate the outputs (asset-backed securities) to give those securities higher priority claims on the issuer’s cash flows than the issuer’s other debts. Third, market participants can create institutions (including trading and clearing companies) and impose trading rules to create deeper and more liquid secondary markets in asset-backed securities. We examine each of these three categories of private ordering tools in turn. Figure 1 below provides a schematic of where each of these types of private ordering tools operates in the assembly line for manufacturing asset-backed securities.

Figure 1



1. Inputs: Fortifying Issuers

Contractual devices and transaction structures regulate the inputs into a securitization vehicle to ensure that senior asset-backed securities retain their value under different conditions. In essence, these devices and structures

engineer the asset side of the securitization vehicle's balance sheet. They include the following:

Activity Restrictions. Securitization vehicles are special purpose entities (SPEs) that are contractually restricted from engaging in all but a limited range of activities.¹⁰

Regulating the Riskiness of Purchased Assets. The foundational contracts that govern a securitization transaction, including Pooling and Servicing Agreements and Indentures, regulate the types of risky assets that securitization vehicles may buy and hold. Some of these restrictions are designed to ensure a minimum creditworthiness of the borrowers under the mortgages or other loans being fed into the securitization. This reduces the credit risk that the SPE takes on.¹¹ Other restrictions dictate the terms of purchased loans and may work to limit interest rate risk on asset-backed securities that the SPE issues.¹² Originators often make representations and warranties that assets sold into a securitization meet certain defined criteria and agree to repurchase assets that are later revealed to violate these standards.¹³ Some specialized variations of securitization, such as asset-backed commercial paper (ABCP), may also have contractual requirements that the SPE purchase only highly liquid assets to mitigate the risks associated with an asset-liability mismatch.¹⁴

Pooling. Some of the most important mechanisms for regulating the asset side of the SPE balance sheet are contractual requirements that the SPE hold a diversified pool of loans.¹⁵ For example, in mortgage securitization, the SPE is typically required by contract to buy mortgage loans from a range of geographic regions.¹⁶ Diversification protects the vehicle and its investors

10. See William W. Bratton & Adam J. Levitin, *A Transactional Genealogy of Scandal: From Michael Milken to Enron to Goldman Sachs*, 86 S. CAL. L. REV. 783, 836 (2013).

11. ADAM B. ASHCRAFT & TIL SCHUERMANN, FED. RESERVE BANK N.Y., STAFF REP. NO. 318, UNDERSTANDING THE SECURITIZATION OF SUBPRIME MORTGAGE CREDIT (2008) (discussing underwriting standards in mortgage-backed securities).

12. See Alan C. Hess & Clifford W. Smith, Jr., *Elements of Mortgage Securitization*, 1 J. REAL EST. FIN. & ECON. 331 (1988) (describing interest rate risk in mortgage securitization); Dwight M. Jaffee, *The Interest Rate Risk of Fannie Mae and Freddie Mac*, 24 J. FIN. SERVS. RES. 5 (2008). Cf. KATHLEEN C. ENGEL & PATRICIA A. MCCOY, THE SUBPRIME VIRUS: RECKLESS CREDIT, REGULATORY FAILURE, AND NEXT STEPS (2011) (describing how the failure of securitization to exclude mortgages that subjected borrowers to interest rate resets and payment shocks led to losses on mortgage-backed securities).

13. See STEVEN L. SCHWARCZ, BRUCE A. MARKELL & LISSA L. BROOME, SECURITIZATION, STRUCTURED FINANCE AND CAPITAL MARKETS (2004).

14. See SWASI BATE, STEPHANY BUSHWELLER & EVERETT RUTAN, MOODY'S INVESTORS SERVICE, SPECIAL REPORT, THE FUNDAMENTALS OF ASSET-BACKED COMMERCIAL PAPER 6-7 (2003), <https://www.imf.org/external/np/seminars/eng/2010/mcm/pdf/Rutan1.pdf>.

15. BOND MKT. ASS'N ET AL., SPECIAL PURPOSE ENTITIES (SPEs) AND THE SECURITIZATION MARKETS 2-3 (2002), <http://www.isda.org/speeches/pdf/SPV-Discussion-Piece-Final-Feb01.pdf>.

16. See John Cotter et al., *Can Housing Risk Be Diversified? A Cautionary Tale from the Housing Boom and Bust*, 28 REV. FIN. STUDS. 913 (2015).

from concentration risk (e.g., the risk that a regional downturn might cause borrowers in a particular region to default en masse).¹⁷

Protection from Bankruptcy (Assets). Securitization vehicles are designed to be “bankruptcy remote.” This means, among other things, that the loans owned by the SPE must be insulated from the risk of repossession that might ordinarily follow from the bankruptcy of the original lender. To shield SPE assets, securitization contracts are written to ensure that the asset transfer from the original lender to the securitization vehicle is a “true sale,” so that the original lender has no part of the risk or reward associated with the original loans.¹⁸

Agency Cost Protections. Many parties act on behalf of securitization vehicles, which themselves can do nothing but buy, sell, and hold assets. These agents include servicers, who collect principal and interest on underlying assets and enforce a vehicle’s rights on those assets, and collateral managers, who manage the assets in a securitization vehicle’s portfolio. The use of these agents brings agency costs, which the securitization vehicle manages through covenants and compensation structures to align the interests of agents with SPE investors.

The foregoing sampling of tools illustrates how private ordering—contract and transactional techniques—can help manage the assets of a securitization vehicle to ensure full and timely payments on its asset-backed securities, so that investors can treat these securities as “safe.”

2. Outputs: Reordering Liabilities

Private ordering also works on the liability side of the securitization vehicle’s balance sheet to grant certain asset-backed securities—the safe assets—priority to the cash flows coming into the issuer. A number of devices create and preserve these priorities including:

Capital Structure: Tranching, and Payment Waterfalls. Securitization vehicles often issue multiple classes (tranches) of securities. The indenture that governs the terms of asset-backed securities typically includes “waterfall” provisions that specify that senior securities receive interest and principal payments before more junior securities receive anything.¹⁹ These are often reinforced by dedicated reserve accounts for senior asset-backed securities. Payments on underlying assets go first to holders of senior asset-backed securities and then to a reserve account, which must maintain a certain balance before payments are made on junior securities.²⁰

17. *See id.*

18. Anna Gelpern & Adam J. Levitin, *Rewriting Frankenstein Contracts: The Workout Prohibition in Residential Mortgage-Backed Securities*, 82 S. CAL. L. REV. 1075, 1094 (2009).

19. BANK FOR INT’L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, REPORT ON SPECIAL PURPOSE ENTITIES 49 (2009), <http://www.bis.org/publ/joint23.pdf>.

20. *Id.* at 90–91.

Payments on senior asset-backed securities are also protected by excess interest spread and overcollateralization structures. Excess spread means that interest rates on the underlying collateral exceed the interest rates on the securities.²¹ Overcollateralization means that the face amount of collateral exceeds the principal amount of the senior securities it backs.²²

Tranching, waterfalls, reserve accounts, excess spread, and overcollateralization individually and collectively function like a capital cushion that protects the most senior asset-backed securities issued by the SPE. Losses on underlying assets affect subordinated tranches first. Theoretically, only extreme losses should impact the repayment of principal and interest on the senior securities—would-be safe assets—at the top of the capital structure.

Protection from Bankruptcy (Liabilities). While “true sale” contract techniques shield SPE assets from the effects of an original lender’s bankruptcy, corporate organization techniques shield the debts of the SPE (asset-backed securities) from being rewritten or discharged should the SPE become insolvent.²³ To prevent ex post contract modification, SPEs are typically established as trusts, which, under the Bankruptcy Code, cannot file for bankruptcy.²⁴

Other structural features reduce the risk of default on certain kinds of asset-backed securities. For example, ABCP has short maturities, which give it effective priority over longer-term debt. Such structural subordination of other debt allows investors in ABCP to protect themselves against risk by giving them the option to get paid as soon as they feel insecure, or to roll over their exposure.

3. Secondary Market Liquidity

Securitization sponsors also use private ordering to create a secondary trading market for senior asset-backed securities. Techniques include having the securities trade in book entry form, making clearing and settlement services available for trades, and even listing the securities on specialized exchanges.²⁵ Clearing companies, in turn, impose various rules, such as

21. *Id.* at 72.

22. *Id.* at 50.

23. *Id.*

24. Gelpert & Levitin, *supra* note 18, at 1094 n.72 (citing 11 U.S.C. § 109(a) (2012), which enumerates entities eligible to file for bankruptcy; business trusts are not among the eligible entities).

25. Pre-crisis, Luxembourg or Dublin listings were popular for certain kinds of asset-backed securities. See John M. Brown, *The Irish Stock Exchange’s Special Role*, FIN. TIMES (Nov. 8, 2004, 2:00 AM), <http://www.ft.com/cms/s/1/f4b307a4-312c-11d9-a595-00000e2511c8.html#axzz3n9prYrFV>.

margin requirements and position limits, to mitigate their counterparty exposure to traders.²⁶

Investment banks might also conduct market making and market stabilization activities for the asset-backed securities issuances they underwrite.²⁷ These activities provide additional market liquidity, which can be a critical attribute for safe assets. Some investment banks may take the extra step of buying asset-backed securities for use as collateral in resecuritizations, such as collateralized debt obligations (CDOs) and re-securitizations (CDO Squareds).

B. LABELING CLAIMS AS SAFE

Credit rating agencies rate claims on SPEs, reflecting the likelihood of full and timely payoff.²⁸ For other safe assets, credit ratings might assess the creditworthiness of an issuer (such as a sovereign or a bank) or the repayment risk of a particular issuance of debt.²⁹ Investors may look to ratings of safe assets in both primary and secondary markets.

An extensive legal literature examines how rating agencies function (or fail to function effectively) as gatekeepers. This literature defines the gatekeeping function in at least two different ways. One definition sees rating agencies and other gatekeepers as reputational intermediaries who certify the accuracy of an issuer's information.³⁰ A second definition focuses on gatekeeper's ability to restrict issuer access to capital markets.³¹

These two definitions correspond to two different but related functions that ratings perform for safe asset markets. First, investors may look to ratings for information on the riskiness of a debt instrument. Ratings thus help investors conserve on the search costs of finding and evaluating information on investment risk. However, even if investors do not care about the information provided by ratings, these devices may serve a second function:

26. See JON GREGORY, CENTRAL COUNTERPARTIES: MANDATORY CENTRAL CLEARING AND INITIAL MARGIN REQUIREMENTS FOR OTC DERIVATIVES 22 (2014).

27. See Reena Aggrwal, *Stabilization Activities by Underwriters After Initial Public Offerings*, 55 J. FIN. 1075 (2000) (on post-underwriting stabilization).

28. See, e.g., Frank Partnoy, *The Paradox of Credit Ratings*, in RATINGS, RATING AGENCIES AND THE GLOBAL FINANCIAL SYSTEM 65 (Richard M. Levich et al. eds., 2002); Stephen Choi, *Market Lessons for Gatekeepers*, 92 NW. U. L. REV. 916 (1998); Ben S. Bernanke et al., *supra* note 5.

29. See generally TOMASZ R. BIELECKI & MAREK RUTKOWSKI, CREDIT RISK: MODELING, VALUATION AND HEDGING (2004).

30. This securities literature seeks to explain the role of intermediaries, such as accounting firms, rating agencies, investment banks, law firms, and others. One group of scholars defined the role of gatekeepers in terms of information certification. See, e.g., John C. Coffee, Jr., *Understanding Enron: "It's About the Gatekeepers, Stupid"*, 57 BUS. LAW. 1403, 1405 (2002) ("reputational intermediaries . . . provide verification and certification services to investors"); Choi, *supra* note 28, at 918.

31. See Reinier H. Kraakman, *Gatekeepers: The Anatomy of a Third-Party Enforcement Strategy*, 2 J.L. ECON. & ORG. 53, 53 (1986) (defining gatekeepers as "private parties who are able to disrupt misconduct by withholding their cooperation from wrongdoers").

they provide a mechanism for investors to coordinate their investments. For example, certain regulated firms may not invest in assets rated below investment-grade, or must put aside extra capital for holding below-investment-grade assets. A rating change that pushes an asset to one or the other side of a regulatory or contractual threshold might lead large groups of investors to rush in or out of the asset. Ratings thus serve as a focal point for investor herding, which can generate the liquidity that is all-important for many safe assets.

Ratings have played a distinct role in asset-backed securities. SPEs are designed to achieve a particular mix of ratings for the securities they issue, so as to enable their sponsors to target investors in particular market segments. The most senior claims are designed to function as safe assets and appeal to the most risk-averse or regulatorily-constrained buyers.

C. GUARANTEEING PAYMENT

Investors in securitization often require third-party credit enhancement, such as bond insurance or credit derivatives. Guarantees of senior asset-backed securities may take the form of bond insurance policies, often packaged together with the securities upon their issuance, or credit derivatives contracts, which might be purchased in connection with secondary market transactions.³² In other safe asset markets, credit enhancement takes the form of guarantees from affiliates of the issuer.³³

Guarantees may be implicit and ex post and not just explicit and issued ex ante. For example, when ABCP markets froze in the 2007–2008 global financial crisis, many sponsors of ABCP vehicles paid up to avoid investor losses, despite having no legal obligation to do so.³⁴ This illustrates moral or implicit recourse at work. In addition to such implicit “moral support,” ABCP investors also enjoyed third-party liquidity guarantees, whereby financial institutions would agree to provide short-term loans to an ABCP investment vehicle to cover cash shortfalls that might occur because of the asset-liability mismatch inherent in ABCP.³⁵ Finally, the contractual obligations of originators to buy back securitized mortgages or other loans that do not

32. See René M. Schultz, *Credit Default Swaps and the Credit Crisis* (Nat'l Bureau of Econ. Research, Working Paper No. 15384, 2009), <http://www.nber.org/papers/w15384.pdf>. See also Adam J. Levitin, *The Tenuous Case for Derivatives Clearinghouses*, 101 GEO. L.J. 445 (2013).

33. See, e.g., Markus K. Brunnermeier et al., *European Safe Bonds* 19 (Sept. 30, 2011) (unpublished manuscript), <http://www.columbia.edu/~rr2572/papers/11-ESBies.pdf>.

34. Viral V. Acharya & Nada Mora, *Are Banks Passive Liquidity Backstops? Deposit Rates and Flows during the 2007-2009 Crisis* 12 (Fed. Reserve Bank of Kansas City Econ. Research Dep't, Working Paper No. 11-06, 2011), <https://www.kansascityfed.org/~media/files/publicat/reswkpap/pdf/rwp11-06.pdf>.

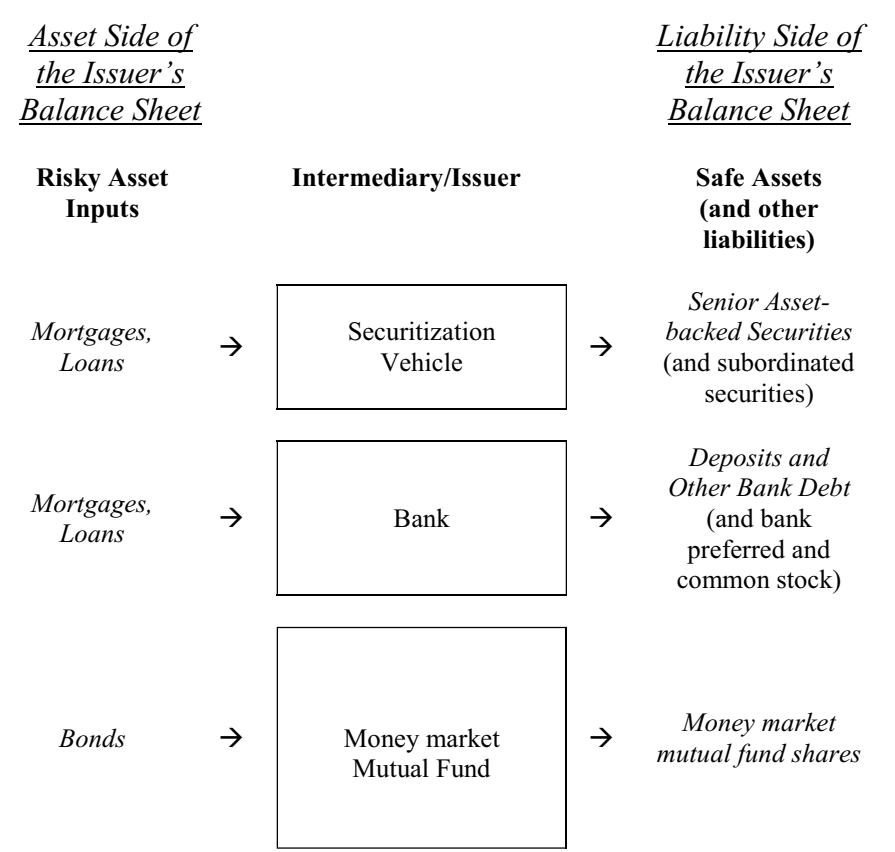
35. Viral V. Acharya & Philipp Schnabl, *Do Global Banks Spread Global Imbalances? Asset-Backed Commercial Paper During the Financial Crisis of 2007-09*, 58 IMF ECON. REV. 37, 68 (2010).

comport with the originators’ representations and warranties function as yet another kind of guarantee.

D. PRIVATE ORDERING IN SAFE ASSETS, SUMMARIZED

Securitization serves as a model for understanding how making, labeling, and guarantees operate in the private ordering of safe asset markets. As with securitization vehicles, other safe asset issuers function as intermediaries that convert riskier, less liquid assets into low-risk, liquid securities. Investors then treat the most senior of these securities as virtually risk-free. Figure 2 below provides a roadmap for how private and public ordering in securitization mirrors safe asset construction in other markets.

Figure 2



In these safe asset markets, contractual devices and transaction structures similar to those used in securitization help make, label, and guarantee the safety of safe assets. Figure 3 abstracts and illustrates this private safety toolkit.

| Figure 3: Private Ordering and the Safety Toolkit | | | |
|---|--|---|---|
| | Made Safe | Labeled Safe | Guaranteed Safe |
| Inputs (Issuer’s Assets) | <ul style="list-style-type: none">• Contractual activity restrictions (including negative covenants)• Contractual restrictions on riskiness of assets issuer may purchase• Contractual restrictions on liquidity of assets being purchased• Pooling• Bankruptcy remote from originators• Contractual re-strictions on issuer’s agents | <ul style="list-style-type: none">• Credit rating (of the issuer) | <ul style="list-style-type: none">• Affiliate guarantees (ex ante and ex post)<ul style="list-style-type: none">◦ Liquidity support• Credit enhancement• Credit derivatives that pay out in the event of issuer in-solvency |
| Outputs (Issuer’s Liabili- ties, or Safe As- sets) | <ul style="list-style-type: none">• Senior/subordinated liabilities (capital structure, excess spread)• Collateral backs safe assets (including overcollateralization)• Short maturities• Restrictions on issuer declaring bankruptcy | <ul style="list-style-type: none">• Credit rating (of the safe asset) | <ul style="list-style-type: none">• Bond insurance for safe assets• Credit derivatives that pay out in the event of safe asset default |
| Secondary Markets | <ul style="list-style-type: none">• Trading and clearing platforms• Platform rules to limit counterparty risk (margin, position limits)• Underwriter market-making activities | <ul style="list-style-type: none">• Credit ratings in secondary markets | <ul style="list-style-type: none">• Credit derivatives markets (dealers) |

Figure 3 does not try to describe the universe of private risk management tools. Nor does it imply that the categories above are always discrete. Many contractual devices, such as the repo obligations of loan originators, might fall within more than one category. We also do not want to suggest that public ordering is irrelevant to the tools above. In fact, to foreshadow one of our conclusions, many private ordering tools, such as bankruptcy remoteness, exist only because of important public ordering in the background (here, bankruptcy legislation). The importance of other ostensibly private ordering devices, such as credit rating agencies, is largely a function of regulatory licenses that those devices enjoy. Nevertheless, the categories of private ordering sketched above help recast familiar transactional concepts in safe asset terms, and set the stage for our discussion of public ordering.

III. PUBLIC ORDERING

The state can produce its own safe assets or make safe assets out of private contracts. The public toolkit includes all the techniques available to private actors, as well as the state's power to regulate, tax, and print money. Nonetheless, the basic three-part structure of intervention is the same. The state makes, labels, and guarantees the safety of financial contracts, prompting market participants to treat them as if they were risk free.

A. MAKING

The state can engineer safe assets in three ways. First, it can use statutes and regulations to make the issuers of safe assets "safe and sound"—that is, solvent, liquid, and otherwise less risky. Some of this state intervention affects the asset side of issuer balance sheets and allows the senior liabilities of those institutions to become safe assets. Second, other legal rules prescribe the liability side of the balance sheets: they create senior cash flows, which allow investors to treat their claims on the issuer as safe assets. A third set of rules governs the markets for safe assets, including the terms of the contracts used by investors to buy and sell safe assets, such as margin regulations. All of these rules promote full and timely repayment, stable prices, and trading at par in multiple circumstances.

1. Inputs: Fortifying Institutions

Governments and private actors use similar tools to reduce the risk to safe asset issuers, including regulations with close parallels to the private contracts that:

- ¶ restrict the inputs/assets issuers may purchase to low risk investments;
- ¶ restrict issuers to liquid investments;
- ¶ limit the activities in which issuers may engage; and

¶ govern the behavior of parties that sell assets to the issuer, as well as the behavior of the issuer's agents.

Regulating Inputs/Investments: The best-known example of legal rules that make institutions safe is bank balance sheet regulation. Bank assets and liabilities are substantially prescribed by law to protect demand deposits.³⁶ A similar approach is used for other financial intermediaries, such as money market mutual funds. On the asset side, regulation promotes some investments and restricts others, in each case in order to make all of the firm's liabilities safer. For example, money market mutual funds in the United States must maintain the market value of their assets within a very narrow range.³⁷ By statute and regulation, deposit-issuing banks may hold only enumerated categories of assets consistent with the "business of banking," as set out in statutes and interpreted by the regulators.³⁸ Within this set, regulation encourages banks to hold some assets over others.³⁹ At the limit, scholars have argued that banks should hold cash reserves equal to their deposit liabilities.⁴⁰ Other rules require that a specified portion of a regulated issuer's assets be highly liquid.⁴¹

Activity/Affiliation Restrictions: Structural measures can be used in addition to, or in lieu of, balance sheet regulation, to help insulate firms that

36. See, e.g., Robert C. Clark, *The Soundness of Financial Intermediaries*, 86 YALE L.J. 1, 55 (1976); HOWELL E. JACKSON & EDWARD L. SYMONS, REGULATION OF FINANCIAL INSTITUTIONS (1999); KENNETH SPONG, BANKING REGULATION ITS PURPOSES, IMPLEMENTATION AND EFFECTS 6 *et seq.* (5th ed. 2000).

37. Rule 2a-7 of the Investment Company Act of 1940 allows some money market mutual funds to report their daily net asset value, that is, the total value of their securities holdings divided by the number of shares outstanding, at a fixed price, so long as the market value of these securities does not deviate from the reported amount by more than a small amount. See 17 C.F.R. § 270.2a-7 (2015). This is a condition of issuing shares valued at par and redeemable on demand, a defining feature of money market mutual funds. See Jill Fisch & Eric D. Roiter, *A Floating NAV for Money Market Funds: Fix or Fantasy?*, 2012 U. ILL. L. REV. 1003 (2012); see also *infra* Part III.B.3.

38. For example, banks' scope to invest in equities and real estate is very specifically prescribed. See *Decisions on Bank Applications, Investments & Activities*, FED. DEPOSIT INS. CORP., <https://www.fdic.gov/regulations/laws/bankdecisions/InvestActivity/> (last updated July 25, 2012); OFFICE OF THE COMPTROLLER OF CURRENCY, ACTIVITIES PERMISSIBLE FOR A NATIONAL BANK, CUMULATIVE (2011), <http://www.occ.gov/publications/publications-by-type/other-publications-reports/bankact.pdf>. The Volcker Rule is a recent example of constraints on banking holding company investments in hedge funds. See Scott Patterson & Ryan Tracy, *Fed Gives Banks More Time to Sell Private-Equity, Hedge-Fund Stakes*, WALL ST. J. (Dec. 18, 2014, 9:45 PM), <http://www.wsj.com/articles/fed-gives-banks-more-time-to-sell-private-equity-hedge-fund-stakes-1418933398>.

39. See, e.g., National Bank Act, 12 U.S.C. § 24 (Seventh) (2012) (limiting the activities of U.S. banks); Valentine V. Craig, *Merchant Banking: Past and Present*, FDIC BANKING REV., Fall 2001, at 29, <https://www.fdic.gov/bank/analytical/banking/2001sep/br2001v14n1.pdf> (explaining the historical development of restrictions on commercial banks' merchant banking activities). See also *infra* Part III.B.2.

40. See, e.g., Adam J. Levitin, *Safe Banking*, 83 U. CHI. L. REV. (forthcoming 2016), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2532703.

41. See BANK FOR INT'L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, BASEL III: THE LIQUIDITY COVERAGE RATIO AND LIQUIDITY RISK MONITORING TOOLS (2013), <http://www.bis.org/publ/bcbs238.pdf>.

issue safe assets from risks elsewhere in the financial system. Closely related to investment restrictions, laws, regulations, and supervisory actions bar such firms from engaging in certain activities, such as trading securities, dealing in derivatives, or investing in hedge funds. They also proscribe or constrain affiliations and limit transactions with certain counterparties out of concern that risk-taking by affiliates and counterparties might infect protected firms.⁴²

2. Outputs: Reordering Liabilities

As with private ordering, other safety and soundness rules operate on the liability side of an issuer's balance sheet. These regulations parallel private ordering by mandating a capital structure for issuers to protect their senior-most debts—the safe assets. However, public ordering can hardwire this senior-subordinated hierarchy to an extent that private contracting cannot. Legislation secures the privileged status of bank deposits (depositor preference) in a growing number of countries.⁴³ When a bank fails, depositors

42. These can either “ring-fence” traditional banking activities within a financial conglomerate (the prevailing approach in the United Kingdom and continental Europe) or separate the banking group from other parts of the financial system (as in the United States). *See, e.g.*, Joint Press Release, Bd. of Governors of the Fed. Reserve Sys. et al., Agencies Issue Final Rules Implementing the Volcker Rule (Dec. 10, 2013), <http://www.federalreserve.gov/newsevents/press/bcreg/20131210a.htm> (stating that the final Volcker rule “impose[s] limits on banking entities’ investments in, and other relationships with, hedge funds or private equity funds”); U.K. INDEP. COMM’N ON BANKING, FINAL REPORT RECOMMENDATIONS 35–75 (2011), <http://webarchive.nationalarchives.gov.uk/20131003105424/https://hmtsanctions.s3.amazonaws.com/ICB%20final%20report/ICB%2520Final%2520Report%5B1%5D.pdf>; ERKKI LIIKANEN ET AL., HIGH-LEVEL EXPERT GROUP ON REFORMING THE STRUCTURE OF THE EU BANKING SECTOR, at i (2012), http://ec.europa.eu/internal_market/bank/docs/high-level_expert_group/report_en.pdf (“The Group’s conclusion is that it is necessary to require legal separation of certain particularly risky financial activities from deposit-taking banks within a banking group.”); Loi 2013-672 du 26 juillet 2013 de séparation et de régulation des activités bancaires [Law 2013-672 of July 26, 2013 on the Separation and Regulation of Banking Activities], JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], July 27, 2013; Trennbankengesetz [German Bank Separation Law], included in Article 2 of the Gesetz zur Abschirmung von Risiken und zur Planung der Sanierung und Abwicklung von Kreditinstituten und Finanzgruppen [Law concerning Separation of Risks and Restructuring and Winding-Up of Credit Institutions and Financial Groups], July 2013, BGBl. I Nr. 47, 3090; José Viñals et al., *Creating a Safer Financial System: Will the Volcker, Vickers, and Liikanen Structural Measures Help?* (IMF, Staff Discussion Note No. 13/4, 2013), <http://www.imf.org/external/pubs/ft/sdn/2013/sdn1304.pdf>; Leonardo Gambacorta & Adrian van Rixtel, *Structural Bank Regulation Initiatives: Approaches and Implications* 22 (Bank of Int’l Settlements, Working Papers No. 412, 2013), <http://www.bis.org/publ/work412.pdf>. Structural reform as a regulatory technique is not new; it was used to insulate deposit-taking banks since the nineteenth-century, and most prominently to separate commercial banking from other financial activities in the Banking Act of 1933 (or the Glass-Steagall Act) in the United States. *See* Banking Act of 1933, Pub. L. No. 73-66, 48 Stat. 162 (1933). Structural separation is also used to protect claims by contract and regulation outside banking, among other areas, in asset securitization. *See* Gelpert and Levitin, *supra* note 18; John Morley, *The Separation of Funds and Managers: A Theory of Investment Fund Structure and Regulation*, 123 YALE L.J. 1228 (2014) (discussing investment fund regulation).

43. *See, e.g.*, Financial Services (Banking Reform) Act, 2013, c. 33, § 13 (UK) (introducing and enacting legislation on depositor preference in U.K.); Press Release, Council of the European

are first in line to be paid. Capital adequacy regulations mandate a minimum cushion of residual equity and near-equity (capital) to absorb losses, so that deposits are repaid in full even when an issuer is in distress.⁴⁴

Statutes and regulations prescribe the terms of debt contracts, contracting procedures, and repayment priorities and shield some claims from restructuring in bankruptcy. They work alongside private law techniques to reduce risk in contracts that serve as safe assets.⁴⁵

Statutory priorities support payoff even when the issuer is insolvent, by putting some claims ahead of others in the distribution line. When a debtor is liquidated, claims with absolute priority are paid in full before those behind them get anything.⁴⁶ Priority claims may be specified in statutes, as in the example of bank deposits cited earlier. Alternatively, bankruptcy laws may honor contractual commitments to pay some claims before others.⁴⁷ Priorities minimize credit, but not liquidity risk, since senior claims can be tied up in bankruptcy or resolution proceedings for a long time.⁴⁸

Union, Council Agrees Position on Bank Resolution (June 27, 2013), http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/137627.pdf (stating that “[u]nder the Council’s general approach agreed today, eligible deposits from natural persons and micro, small and medium-sized enterprises, as well as liabilities to the European Investment Bank, would have preference over the claims of ordinary unsecured, non-preferred creditors and depositors from large corporations”).

44. See, e.g., 12 C.F.R. §§ 3, 5, 6, 208, 217, 225 (2015) (U.S. capital adequacy regulations and Basel III implementation); BANK FOR INT’L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, BASEL III: A GLOBAL REGULATORY FRAMEWORK FOR MORE RESILIENT BANKS AND BANKING SYSTEMS (2011), <http://www.bis.org/publ/bcbs189.pdf>; BANK FOR INT’L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, BASEL III: A GLOBAL REGULATORY FRAMEWORK FOR MORE RESILIENT BANKS AND BANKING SYSTEMS (2014), <http://www.bis.org/publ/bcbs270.pdf>. Liability tiering need not accompany asset-side regulation. For example, money market mutual fund assets are specifically prescribed by law and regulation, while their liabilities are almost entirely equity. See Fisch & Roiter, *supra* note 37 at 1014–17.

45. Statutory and regulatory criteria for debtors’ ability to repay, loan-to-value or debt-to-income ratios, due diligence standards, and (less commonly) constraints on the financial terms of the loans aim to reduce the risk of default on consumer loans. In doing so, they also support the performance of securitization contracts that repackage these loans. Contract and transactional techniques discussed in Part II *supra* combine with consumer protection and balance sheet regulation to protect payoff in securitization. For a discussion of consumer protection regulation reinforcing prudential regulations, see Erik F. Gerding, *The Subprime Crisis and the Link between Consumer Financial Protection and Systemic Risk*, 5 FLA. INT’L U. L. REV. 93 (2009).

46. See also 11 U.S.C. § 1129(b) (2012) (providing that, in general, if a class of unsecured creditors rejects a debtor’s reorganization plan and is not paid in full, junior creditors and equity interest holders may not receive or retain any property under the plan).

47. For example, subordination agreements are enforceable in bankruptcy the same way as they would be in nonbankruptcy contexts. See 11 U.S.C. § 510.

48. See, e.g., *id.* § 507 (listing claims in order of priority); *id.* § 364 (providing that a party who provides post-petition financing to a debtor may negotiate a “superpriority”). See also *Dewsnup v. Timm*, 502 U.S. 410 (1992) (involving a prolonged adversary proceeding to determine validity and extent of note and trust deed held on debtors’ real property); Edward R. Morrison et al., *Rolling Back the Repo Safe Harbors*, 69 BUS. LAW. 1015 (2014); Dang et al., *supra* note 6. The example of depositor preference illustrates how repayment priority fits in the range of interventions to make assets safe. In the first instance, balance sheet regulation is supposed to prevent default. Central banks backstop balance sheet regulation with liquidity support—deposit insurance pays out when

Aptly named bankruptcy “safe harbors” offer even stronger protections for eligible contracts. Unlike priorities, safe harbors address both credit and liquidity risks. In the United States, safe harbored contracts, such as repos and derivatives, escape the automatic stay on creditor enforcement, rules against setoff, and rules against preferential transfers to creditors.⁴⁹ They are “effectively exempt from bankruptcy.”⁵⁰ For example, while other secured creditors must petition the court to access their collateral, repo lenders can sell it immediately;⁵¹ they can also accelerate and terminate their contracts and set off the value of their claims on the bankruptcy estate against their obligations to it.⁵² This special treatment encourages more capital to flow into repo markets, which enhances their liquidity.

3. Investor Contracts and Secondary Markets

A third set of regulatory tools safeguards safe asset markets by regulating the contracts investors use to buy safe assets from the issuer in primary markets and from one another in secondary trading. By governing the leverage of investors and their potential default, these rules enhance the liquidity of safe asset markets, a crucial feature of “safety.” As we discussed

the bank must be closed. Depositor preference comes into play if deposit insurance is not enough. See Daniel C. Hardy, *Bank Resolution Costs, Depositor Preference and Asset Encumbrance*, 22 J. FIN. REG. & COMPLIANCE 96 (2014).

49. See Morrison et al., *supra* note 48.

50. Arguments for and against safe harbors for various financial contracts are reviewed in Stephen J. Lubben, *Transaction Simplicity*, 112 COLUM. L. REV. SIDEBAR 194 (2012); DAVID SKEEL, *THE NEW FINANCIAL DEAL: UNDERSTANDING THE DODD-FRANK ACT AND ITS (UNINTENDED) CONSEQUENCES* 135 (2011); Chrystin Ondersma, *Shadow Banking and Financial Distress*, 2013 COLUM. BUS. L. REV. 79 (2013). For a discussion of repos, see Morrison et al., *supra* note 48, at 7. In a more passive way, the law can support repayment by leaving space for “bankruptcy-remote” securitization trusts, formed to shield trust assets from restructuring in bankruptcy. See 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 (2009). Although bankruptcy remoteness may improve the prospects of repayment for securitization claims when the underlying assets are performing in line with expectations, it acts as a structural impediment to mortgage modification and can amplify distress in bad states of the world. See Gelpern & Levitin, *supra* note 18, at 1077.

51. In a repo transaction, one party sells a security to another and agrees to buy it back for a higher price at a future date. This is functionally equivalent to a loan by the buyer to the seller in the amount of the sale price, with the security acting as collateral. The difference between the sale and repurchase prices reflects implicit interest on the loan. The sale price is typically less than the market price of the security; as a result, the loan is effectively over-collateralized at the outset. The amount of over-collateralization, or the difference between the sale price and the market price of the security, is referred to as a “haircut.” It is akin to debtor equity in the transaction. Buyers (lenders) demand a larger haircut (more collateral) when they worry about the risk of repayment or a decline in collateral value.

52. In bilateral repos, sellers (borrowers) and buyers (lenders) deal with each other directly. In tri-party repos, agents intermediate between them, stand ready to substitute collateral, and, in some cases, provide intraday financing. As of January 2014, the U.S. repo market stood at just over \$3 trillion, with tri-party and bilateral repos each representing approximately \$1.4 trillion. In the U.S. market, most bilateral repos use U.S. Treasury debt as collateral and most tri-party repos use other assets. See Morrison et al., *supra* note 48, at 1023.

briefly in Part II.D, private intermediaries can set up exchanges and clearing companies to create more liquid markets. Those private institutions are heavily regulated by the state. In some cases, statutes and regulations push assets to be traded and cleared using these regulated platforms.⁵³ Exchanges and clearing companies (i.e., regulated institutions that mutualize counterparty risk), as we explain below, function less like private markets and more like regulated utilities.⁵⁴

These regulations stem from the perceived benefits of exchange trading and clearing for safe assets and other financial instruments.⁵⁵ For example, central clearing requirements try to mitigate counterparty risk in financial contracts. A clearing company, acting as a central counterparty, stands between two sides in a financial contract, reducing the risk that one of them might fail without performing its side of the bargain.⁵⁶ In 2008, traders in derivatives markets, among others, feared that their contract counterparties might fail. As a result, their individual efforts to manage the risk by demanding more collateral led to panic sales and more failures.⁵⁷ In response, world leaders agreed in 2009 to require previously unregulated derivatives contracts to be centrally cleared.⁵⁸ The United States and other jurisdictions have since legislated and regulated to implement these reforms.⁵⁹

Margin and collateral requirements are analogous to minimum capital standards in balance sheet regulation, except that they apply to contracts rather than institutions. Brokers, exchanges, and regulators have long required margins when buying a security with borrowed funds.⁶⁰ Similarly,

53. The Dodd-Frank Act creates mechanisms to regulate certain exchanges and clearing companies as financial market utilities. See Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), Pub. L. No. 111-203, §§ 805–807, 124 Stat. 1376, 1809–1815 (2010) (codified, respectively, at 12 U.S.C. §§ 5464–5466 (2012)); see also *Dodd-Frank Act*, U.S. COMMODITY AND FUTURES TRADING COMM’N, <http://www.cftc.gov/LawRegulation/DoddFrankAct/index.htm> (last visited Jan. 13, 2016).

54. Dodd-Frank Act, §§ 805–807, 12 U.S.C. §§ 5464–5466.

55. *Id.*

56. A common objection to this requirement is that it replaces the risk of bilateral counterparty failure with the risk of clearing companies’ failure. The rich debate over the merits of central clearing is beyond the scope of this Article; we simply identify clearing requirements as an example of state intervention to ensure payoff for particular contracts. See Adam J. Levitin, *The Tenuous Case for Derivatives Clearinghouses*, 101 GEO. L.J. 445 (2013); Adam J. Levitin, *Prioritization and Mutualization: Clearinghouses and the Redundancy of the Bankruptcy Safe Harbors*, 10 BROOK. J. CORP. FIN. & COM. L. 129 (2015); Yesha Yadav, *The Problematic Case of Clearinghouses in Complex Markets*, 101 GEO. L.J. 387 (2013). While clearing companies are an old device, regulations mandating that traders use them are new.

57. See, e.g., Gary B. Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo* (Nat’l Bureau of Econ. Research, Working Paper No. 15223, 2009).

58. G20, LEADERS’ STATEMENT: THE PITTSBURGH SUMMIT SEPTEMBER 24 – 25 2009, at 9 (2009), https://g20.org/wp-content/uploads/2014/12/Pittsburgh_Declaration_0.pdf.

59. Dodd-Frank Act, §§ 761–774 (2010); FIN. STABILITY BD., OTC DERIVATIVES MARKET REFORMS: EIGHTH PROGRESS REPORT ON IMPLEMENTATION (2014), http://www.financialstabilityboard.org/wp-content/uploads/r_141107.pdf?page_moved=1.

60. ERIK F. GERDING, LAW, BUBBLES, AND FINANCIAL REGULATION 379 (2014).

the practice of over-collateralization (haircuts) is prevalent in securities-based lending markets, such as repos. Post-2008 regulatory reform proposals advocate minimum haircut levels for contracts that do not clear through clearing companies.⁶¹ In this way, collateral requirements serve both as a standalone tool to mitigate risk, and as an incentive to move contracts to central clearing.⁶²

This third type of regulation shades into the next set of regulatory tools, namely “labels” that create incentives for investors to purchase safe assets and send signals that these debt contracts may be treated as low risk.

B. LABELING

In Part II.B, we describe private ordering that labels assets as safe. Credit rating agencies provide information to investors on the riskiness of issuers and safe assets. They also provide a coordination device for investors to herd into the same markets and generate liquidity. Rating agencies may once have been more purely market-based institutions. However, since the 1970s, policymakers have woven rating agency ratings into a vast array of prudential banking, insurance, and other financial regulations.⁶³ Many regulated financial institutions can only purchase “investment-grade” debt instruments, that is, the debt must have one of the highest ratings issued by a credit rating agency.⁶⁴ Moreover, regulations specify that only certain rating agencies can provide this certification, those that are registered with the Securities and Exchange Commission.⁶⁵ Ratings have thus morphed from a tool of private ordering into one thoroughly embedded within, and promoted by, regulation. Indeed, scholars such as Frank Partnoy have argued that such public intervention endows rating agencies with “regulatory licenses.”⁶⁶ Even if regulated institutional investors care little about the information content of the ratings they give, rating agencies serve as the gate that restricts their access or directs them to certain investment markets.

61. FIN. STABILITY BD., STRENGTHENING OVERSIGHT AND REGULATION OF SHADOW BANKING: REGULATORY FRAMEWORK FOR HAIRCUTS ON NON-CENTRALLY CLEARED SECURITIES FIN. TRANSACTIONS, at *i* (2014), http://www.financialstabilityboard.org/wp-content/uploads/r_141013a.pdf. Contracts secured by government debt would be exempt. See also Gorton & Metrick, *supra* note 57.

62. See Erik F. Gerding, *Credit Derivatives, Leverage, and Financial Regulation's Missing Macroeconomic Dimension*, 8 BERKELEY BUS. L.J. 29 (2011) (outlining multiple roles of margin requirements for derivatives).

63. See, e.g., Frank Partnoy, *How and Why Credit Agencies are Not Like Other Gatekeepers*, in FINANCIAL GATEKEEPERS: CAN THEY PROTECT INVESTORS (Yasuyuki Fuchita & Robert E. Litan, eds. 2006); Frank Partnoy, *The Siskel and Ebert of Financial Markets: Two Thumbs Down for the Credit Rating Agencies*, 77 WASH. U. L.Q. 619, 692–93 (1999) [hereinafter Partnoy, *Credit Rating Agencies*].

64. See Partnoy, *Credit Rating Agencies*, *supra* note 63.

65. *Id.* at 691–92.

66. *Id.* at 698.

Regulatory labels can take other more complex forms beyond ratings. As we discuss below, a variety of laws and regulations make authoritative public statements about the government's perception of the riskiness of particular investments. These regulations can also push and pull investors into certain investments and generate demand for safe assets. These rules may obviate some or all of market-based price discovery; in this way, labels promote information insensitivity. We describe three distinct kinds of labels: investor licenses (or permissions); regulatory tax breaks for certain investment classes; and regulatory prices. We trace how these various labels operate in a highly discontinuous fashion. If regulations that "make" assets safer typically work as incremental dials, labels function as switches. In other words, assets either qualify for a label or they do not, and they can earn and lose their labels abruptly.

1. Label as Investor License

When a regulated firm may hold only a limited menu of assets, the inclusion of a particular asset in the menu works as a safety label and a license to invest (safe for banks). Some regulations specify permitted investments by name, as, for example, in the "legal lists" of bank investments published by state regulators in the United States.⁶⁷ Others describe asset attributes. For instance, some state laws limit banks, municipalities, and insurance firms to investments with stable net asset values (NAV).⁶⁸ Exemptions operate as a version of licensing: U.S. government debt is exempt from prohibitions on affiliate transactions and proprietary trading under U.S. banking law;⁶⁹ European government debt is exempt from concentration limits under European Union bank regulations.⁷⁰

67. See, e.g., COMM'R OF BANKS, LIST OF LEGAL INVESTMENTS, COMMONWEALTH OF MASS. (2015), <http://www.mass.gov/ocabr/banking-and-finance/laws-and-regulations/list-of-legal-investments.html> (listing investment deemed "legal" under MASS. GEN. LAWS ch. 167, § 15A (2015)); see also W. BRADDOCK HICKMAN, CORPORATE BOND QUALITY AND INVESTOR EXPERIENCE 211–78 (1957) (on the performance of bonds on "Legal Lists").

68. INV. CO. INST., REPORT OF THE MONEY MARKET WORKING GROUP 27–28, app. D at 133–39 (2009) [hereinafter ICI], https://www.ici.org/pdf/ppr_09_mmwg.pdf ("Many state laws and regulations also authorize municipalities, insurance companies, and other state regulated entities to invest in stable NAV funds, sometimes explicitly including funds operating in compliance with Rule 2a-7. Thus, under a floating NAV, most state and local governments would no longer be able to use money market funds to help manage their cash."). See also *Perspectives on Money Market Mutual Fund Reforms: Hearing Before S. Comm. on Banking, Housing, and Urban Affairs*, 112th Cong. 29–30 (2012) (testimony of Paul Schott Stevens, President and CEO, Investment Company Institute), https://www.ici.org/govaffairs/fin_srv/mmf/12_senate_pss_mmf_oral.

69. The proprietary trading exemption also applies to some non-U.S. government debt under a limited set of circumstances. See Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5,536 (Jan. 31, 2014) (codified at 12 C.F.R. pt. 44 (OCC); 12 C.F.R. pt. 248 (Fed. Reserve); 12 C.F.R. pt. 351 (FDIC); 17 C.F.R. pt. 255 (SEC)).

70. Capital Requirements Regulation 575/2013, arts. 400(2)(g)–(h), 2013 O.J. (L176) (EU); PRUDENTIAL REGULATION AUTHORITY, BANK OF ENGLAND, SUPERVISORY STATEMENT 16/13, LARGE EXPOSURES (2013).

Label-as-investor-license does not call an asset risk free—only safe enough to buy.⁷¹ By extension, label-as-investor-license does not dispense with the need for regulated firms to research the risk attributes of an asset; it just gets them over a regulatory threshold. As we note in Part II.B, ratings might help investors conserve information gathering costs. This assumes that investors look to labels for their information content, rather than as permits to allow them to invest in what they otherwise would not. For governments, labels can help coordinate regulated firms to invest in a limited set of known assets and reduce monitoring costs in balance sheet regulation. Licensing works as an on-off switch, potentially creating a market for an asset where there was none. Other forms of labeling do similar work in a subtler way.

2. Label as Regulatory Tax Break for Investors

Risk weights in capital adequacy regulation operate to impose different effective regulatory tax rates on different classes of assets. We described regulatory capital earlier as a mandatory cushion of residual liabilities, first in line to absorb losses when assets fail to pay as expected. To determine the minimum level of capital required, the assets of a regulated firm are “weighted,” or adjusted for risk. If a corporate loan is weighted at 100% and a residential mortgage loan in the same amount is weighted at 50%, the first loan takes twice as much minimum capital as the second. Zero-risk assets have no minimum capital requirements.⁷² To the extent a firm pays more to issue capital compared to other liabilities,⁷³ it pays more for assets with higher risk weights. The firm is discouraged, but not barred, from buying such assets. Where capital requirements operate as regulatory taxes, the lower capital requirements for safe asset classes operate as tax breaks. Lower regulatory taxes encourage investors to herd into lower risk weight markets.⁷⁴ Risk weights, like licenses, also convey information about government assessments of risk. Regardless of whether they work through changing the cost of investments or signaling a permanently low risk, regulatory labels can

71. For example, if the institutional regulation regime insists that only “risk-free” investments are permitted, then putting an asset on the permitted list would be tantamount to labeling it risk free. Consider a narrow banking regime, where banks that issue deposit claims are only allowed to invest in cash and in the debt of their chartering governments. Expanding the list of permitted investments to housing agencies or foreign government debt, or shares in investment funds that hold a mix of government debt and other low-risk investments, can operate as labeling all these contracts as safe, on par with cash and government debt.

72. See RICHARD S. CARNELL ET AL., *THE LAW OF BANKING AND FINANCIAL INSTITUTIONS* (4th ed. 2008).

73. The magnitude of the effect and explanations for it are subject to debate. Compare ANAT ADMATI & MARTIN HELLWIG, *THE BANKERS’ NEW CLOTHES: WHAT’S WRONG WITH BANKING AND WHAT TO DO ABOUT IT* (2013), with INST. OF INT’L FIN., *RISK SENSITIVITY: THE IMPORTANT ROLE OF INTERNAL MODELS* (2014), <https://www.iif.com/publication/regulatory-report/risk-sensitivity-important-role-internal-models>.

74. Cf. David Jones, *Emerging Problems with the Basel Capital Accord: Regulatory Capital Arbitrage and Related Issues*, 24 J. BANKING & FIN. 35 (2000).

enhance the liquidity of an asset by reassuring potential buyers that it will have a market among regulated firms.

Like all labels, risk weights purport to recognize but not alter the attributes of an asset. However, this is not strictly accurate. Risk weights can be sharply discontinuous and static in a way that risk is not. The “bucket” approach of the first-generation Basel accords divided bank assets into five credit risk categories, or buckets, corresponding to zero, 10%, 20%, 50% and 100% risk weights depending on the nature of the issuer and the contract.⁷⁵ In this early regime, national regulators did not attempt to gauge the riskiness of particular government, bank, consumer, or corporate debt contracts, but agreed to make their banks set aside the same minimum capital cushion for all contracts within a specified category—no capital for the debt of European governments, 20% for the debts of banks regulated by such governments, 50% for certain residential mortgage loans, and 100% for most corporate debt.⁷⁶ Unless regulators chose to demand above-minimum capital, the “capital tax” on a loan to Coca-Cola under the bucket approach might be the same as that on a loan to a start-up in the neighbor’s garage, and would remain the same as a start-up turned into Apple or Google. Such risk weighting does not, and cannot, reflect particular asset risk; it can, however, create incentives for banks to lend to the riskiest borrowers within a bucket, which would pay higher interest rates.

3. Label as Regulatory Price

Regulatory accounting rules apply to safe asset issuers, but communicate to safe asset buyers. For example, as already noted, U.S. securities regulations have long permitted money market mutual funds to quote their shares at a stable NAV, typically \$1 per share, provided the market value of their assets (shadow NAV) stayed close to the quoted value.⁷⁷ Stable NAV effectively tells buyers of money market fund shares to treat them as if they are guaranteed repayment at par; it makes them more “money-like.”⁷⁸ Some sophisticated institutional investors derive additional regulatory and accounting benefits from holding fund shares with stable accounting value: banks and other institutions whose investment options are limited by law are specifically permitted to hold shares of money market funds and treat them

75. BANK FOR INT’L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS 8 (1988), <http://www.bis.org/publ/bcbs04a.pdf>.

76. *Id.* at 21–22.

77. The use of stable NAV was limited, but not eliminated, in post-crisis regulatory reform. *See* 17 C.F.R. § 270.2a-7 (2014); Market Fund Reform, Amendments to Form PF, 79 Fed. Reg. 47,736 (Aug. 14, 2014) (amending 17 C.F.R. 230, 239, 270, 274, 279).

78. *See, e.g.,* Arvind Krishnamurthy & Annette Vissing-Jorgensen, *The Aggregate Demand for Treasury Debt*, 120 J. POL. ECON. 233 (2012); Robin M. Greenwood et al., *A Comparative-Advantage Approach to Government Debt Maturity* 4–5 (Harv. Bus. Sch., Working Paper No. 1680604, 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1680604.

as if they were cash, so long as the accounting value of the fund shares remains fixed.⁷⁹

A fixed regulatory value, such as \$1 per share for money market mutual funds, comes closest to declaring an asset to be safe. The \$1 label tells investors that there would be no deviation in payoff and instructs investors to act accordingly. In contrast, while zero-risk weighting in capital adequacy regulations might imply total safety, its stated function is to tell regulated investors that they need not hold regulatory capital against the asset.

4. Labeled Safe: Conclusions

Labeling in all its forms can improve the liquidity of an asset, but it does not make the issuer more creditworthy or payoff more certain. Labels can serve as coordinating devices, herding investors into a limited range of assets. As such, labels tend to be discontinuous. “Zero-risk” and “\$1 per share” are extreme examples that illustrate a broader point: a few stark labels convey clear messages. Such labels are, however, simpler to administer and make better focal points for coordination than labels reflecting fine risk gradations.⁸⁰ Related, labels can authoritatively deem an asset to be absolutely safe, not just a bit safer.

Additionally, regulatory labels can save investors the costs of independent risk assessment, provided regulators have access to better information about the asset in question, or can do a better job evaluating it. These qualifiers are significant: public authorities are unlikely to have superior information about financial assets in general, apart from their own debt and claims issued by the firms they regulate. Thus, information advantage cannot fully explain why market participants would embrace public labels.

C. GUARANTEES

On the other hand, governments do have superior tools to ensure the safety of any given asset. Public backing for safe assets can take the form of credit and liquidity guarantees. It may be explicit or implicit, direct or indirect, ex ante or ex post. The law sets the terms of the explicit guarantees and creates the space for the implicit ones. This public tool also has a private analogue in the third party guarantees and other credit enhancement described in Part II.C. However, government guarantees are more powerful than private ones by virtue of the sovereign’s unique fiscal, monetary, and police powers. We describe several key permutations of government guarantees below.

79. See ICI, *supra* note 68.

80. See generally Robert Ahdieh, *Imperfect Alternatives: Networks, Salience, and Institutional Design in Financial Crisis*, 79 U. CIN. L. REV. 527 (2011); THOMAS C. SCHELLING, *THE STRATEGY OF CONFLICT* 57–58 (1960).

1. Credit Guarantees

Credit guarantees commit fiscal resources to the safety of private contracts. A full and unconditional credit guarantee effectively turns a private contract into government debt. Conversely, partial and conditional guarantees may involve substantial uncertainty about coverage, and do little to boost asset safety. Public rescues that are not specified and priced in advance as guarantees can fuel excess risk-taking because of the expectation of future bailouts. On the other hand, guarantee terms spelled out ahead of time may not stick in a financial crisis.

Bank deposit insurance is one example of public backing for a category of safe assets (consumer deposits). It attaches to certain contracts (deposits), but also helps support the issuing institution by discouraging creditors from running. Government guarantees of full repayment render deposits “default-free” in the eyes of the public.⁸¹ The state may finance the guarantee directly, or make it available as a contingent backstop, when some combination of bank equity, junior debt, affiliate contributions, and industry financing fall short.⁸² From a depositor’s perspective, the precise mix of funding for guarantees is unimportant so long as they are paid in full, incur no extra cost, the state bears the residual risk, and the payout process is unaffected. For the owners and other creditors of the bank, the terms of government participation are all-important; entire regulatory regimes can be justified as deposit insurance conditions.⁸³

Deposit guarantees are usually specified up front in statutes and regulations.⁸⁴ This commitment to pay no more and no less than the specified guaranteed amount may fail in two situations. First, where deposit insurance is partial and the crisis is systemic, many governments have extended coverage ex post to more claims and claimants. Both the United Kingdom and the United States did so out of concern for system-wide spillovers in

81. See SPONG, *supra* note 36, at 23. However, if payout is not immediate, the deposits become illiquid. A combination of these factors made depositors at Northern Rock Bank in the United Kingdom lose confidence in the safety of their deposits in September 2007. See TREASURY COMMITTEE, *THE RUN ON THE ROCK*, REPORT, 2007–2008, HC 5 (UK).

82. See, e.g., Jianping Zhou et al., *From Bail-out to Bail-in: Mandatory Debt Restructuring of Systemic Financial Institutions* (IMF, Staff Discussion Note 12/03, 2012), <https://www.imf.org/external/pubs/ft/sdn/2012/sdn1203.pdf>; see also Federal Deposit Insurance Corporation, Request for Comment, Resolution of Systemically Important Financial Institutions: The Single Point of Entry Strategy, 78 Fed. Reg. 243 (Dec. 18, 2013).

83. See Federal Deposit Insurance Act of 1950, Pub. L. No. 81-797, 64 Stat. 873 (1950) (codified as amended at 12 U.S.C. §§ 1811–1835a (2012)).

84. See, e.g., Asli Demirgüç-Kunt & Edward J. Kane, *Deposit Insurance Around the Globe: Where Does It Work?*, J. ECON. PERSP., Spring 2002, at 175; Asli Demirgüç-Kunt, Baybars Karacaovali & Luc Laeven, *Deposit Insurance Around the World: A Comprehensive Database* (World Bank, Working Paper No. 3628, 2005); FIN. STABILITY BD., THEMATIC REVIEW ON DEPOSIT INSURANCE SYSTEMS (2012), http://www.financialstabilityboard.org/publications/r_120208.pdf.

2007 and 2008, respectively.⁸⁵ At the other extreme, a government may lack the resources or the political capacity to honor the original guarantee, and may curtail coverage or choose among the claimants in crisis. When Iceland's underfunded deposit insurance scheme ran out of money in the crisis of 2008, it paid its residents ahead of United Kingdom and Dutch depositors in Icelandic banks; Iceland's decision was upheld by the European Free Trade Area court.⁸⁶

The ubiquitous pejorative "bailouts" refers to government payments on implicit credit guarantees. National champions, too-big-to-fail financial firms, political subdivisions, and other entities whose failure would be macro-economically or politically intolerable are the usual beneficiaries. Implicit guarantees—not specified in law, regulation, or contract—may be widely expected *ex ante*. This was the case with Fannie Mae and Freddie Mac, the U.S. government-sponsored enterprises (GSEs), which functioned as substitutes for U.S. Treasury bonds for official reserve managers and private investors before they nearly failed in 2008.⁸⁷ Federal backing was made explicit in the summer of 2008.⁸⁸ Investors correctly foresaw that the

85. See, e.g., Jean Eaglesham et al., *UK to Guarantee Northern Rock Deposits*, FIN. TIMES (Sept. 17, 2007, 6:57 PM), <http://www.ft.com/cms/s/2/39199b78-6489-11dc-90ea-0000779fd2ac.html#axzz3CsFh6xOo>. For the terms of U.K. deposit insurance, before the crisis, see *Deposit Limits*, FINANCIAL SERVICES COMPENSATION SCHEME, <http://www.fscs.org.uk/what-we-cover/eligibility-rules/compensation-limits/deposit-limits/> ("For claims against firms declared in default before 1 October 2007, the maximum level of compensation is £31,700 (100% of the first £2,000 and 90% of the next £33,000).") (last visited Nov. 11, 2015). See also *Temporary Liquidity Guarantee Program*, FED. DEPOSIT INS. CORP., <https://www.fdic.gov/regulations/resources/tlgp/> ("On October 14, 2008, as part of a coordinated response by the U.S. government to the disruption in the financial system and the collapse of credit markets, the FDIC implemented the Temporary Liquidity Guarantee Program (TLGP) The TAGP guaranteed in full all domestic noninterest-bearing transaction deposits, low-interest NOW accounts, and Interest on Lawyers Trust Accounts (IOLTAs) held at participating banks and thrifts through December 31, 2009.") (last updated Feb. 27, 2013). See generally Anna Gelpern, *Financial Crisis Containment*, 41 CONN. L. REV. 493 (2009) (describing blanket *ex post* bank guarantees in the United Kingdom and Korea) [hereinafter Gelpern, *Financial Crisis Containment*].

86. See, e.g., Case E-16/11, EFTA Surveillance Authority v. Iceland (European Free Trade Assoc. 2013) (describing how in October 2008, U.K. and Netherlands depositors of Landsbanki, an Iceland bank, lost access to their deposits). A distinct but related example involves the bail-in of uninsured depositors in Cyprus. On the one hand, the exclusion of insured deposits under €100,000 conveyed their still-privileged status; on the other hand, the European Union and IMF refusal to recognize a broader privilege for all deposits was seen as a blow to the safety of uninsured deposits. See Banking Reform Act, 2013, c. 33, §13 (UK); IMF, *Deposit Insurance Technical Note*, Country Report 7 (2013), <http://www.imf.org/external/pubs/ft/scr/2013/cr1366.pdf>; Peter Spiegel, *Cypriot Bank Deposits Tapped as Part of €10bn Eurozone Bailout*, FIN. TIMES (Mar. 16, 2013, 5:30 AM), <http://www.ft.com/intl/cms/s/0/33fb34b4-8df8-11e2-9d6b-00144feabdc0.html> (stating that "a €10bn bailout of Cyprus . . . included convincing Nicosia to seize €5.8bn from Cypriot bank deposits to help pay for the rescue"); Stavros A. Zenios, *Fairness and Reflexivity in the Cyprus Bail-In* (Wharton Fin. Inst. Ctr., Working Paper No. 14-04, 2014), <http://ssrn.com/abstract=2409284> (arguing that the bail-in of depositors in Cyprus banking crisis violated principles of fairness).

87. See, e.g., 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 (2008).

88. See WAYNE M. MORRISON & MARC LABONTE, CONG. RESEARCH SERV. REP. 34314, CHINA'S HOLDINGS OF U.S. SECURITIES: IMPLICATIONS FOR THE U.S. ECONOMY (2013) ("In June

economic and political significance of the housing finance agencies in the U.S. economy would make their failure inconceivable. In other instances, such as repo and asset-backed commercial paper contracts, there were no apparent expectations or clear market consensus on implicit guarantees *ex ante*.⁸⁹

Government interventions in a crisis make the existence of *ex post* guarantee authority apparent to the public. Government rescues may also create expectations of bailouts for the future. While the general public may not have been aware of implicit guarantees before the bailout (even if market participants had expected it all along), they become cognizant of these government guarantees hereafter. Public awareness then potentially leads to political backlash and demands to restrict government power in a future financial crisis.

These examples suggest that laws and regulations specifying and delimiting government credit guarantees are poor predictors of government behavior in crisis. With the partial exception of retail deposit insurance (guarantees that visibly benefit consumers with premium charged to banks), large-scale commitments of fiscal resources have been based on obscure, open-ended, or ad-hoc legal authorities. In light of this record, *ex ante* government disavowals of guarantees are unlikely to persuade buyers of apparently safe assets.

2008, China's holdings of [long-term] U.S. Agency debt constituted 43.7% of its holding of U.S. securities, which were greater than its holdings of [long-term] U.S. Treasury securities (43.3%). However, the bursting of the U.S. housing bubble and the subsequent federal takeover of Freddie Mac and Fannie Mae in 2008 led China to significantly reduce its holdings of U.S. Agency debt, while increasing its holdings of other securities, especially Treasury securities."); N. ERIC WEISS, CONG. RESEARCH SERV. REP. 22916, FANNIE MAE'S AND FREDDIE MAC'S FINANCIAL PROBLEMS: FREQUENTLY ASKED QUESTIONS (2008) ("The GSEs have a special relationship with the federal government—sometimes called an implicit guarantee—that has allowed them to borrow at interest rates only slightly above those paid by the federal government"); N. ERIC WEISS, CONG. RESEARCH SERV. REP. 40800, GSEs AND THE GOVERNMENT'S ROLE IN HOUSING FINANCE: ISSUES FOR THE 113TH CONGRESS (2013) ("In September 2008, the GSEs individually agreed with their regulator, the Federal Housing Finance Agency (FHFA), that unexpected mortgage delinquencies and resulting losses jeopardized their solvency. The GSEs agreed to direct government control, known as conservatorship, which is the equivalent of bankruptcy reorganization for financial companies. As part of the agreement to conservatorship, Treasury agreed to provide financial support to keep the GSEs solvent."). See also 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. 907 (2010).

89. See generally Morrison et al., *supra* note 48. Market expectations with respect to implicit guarantees for systemically important too-big-to-fail firms are the subject of ongoing academic study and public debates. See, e.g., Maureen O'Hara & Wayne Shaw, *Deposit Insurance and Wealth Effects: The Value of Being "Too Big to Fail"*, 45 J. FIN. 1587 (1990) (studying the TBTF premium). See DAVID REISS, CONG. RESEARCH SERV. REP. 42150, SYSTEMICALLY IMPORTANT OR "TOO BIG TO FAIL" FINANCIAL INSTITUTIONS (2014); U.S. GOV'T ACCOUNTABILITY OFF., GAO-14-621, LARGE BANK HOLDING COMPANIES: EXPECTATIONS OF GOVERNMENT SUPPORT (2014); *Special Studies, Too Big To Fail*, FED. RESERVE BANK OF MINNEAPOLIS, https://www.minneapolisfed.org/publications_papers/studies/tbtf/ (last visited Dec. 3, 2015).

2. Liquidity Guarantees

If market participants could replace a contract at face value with central bank money at any time, they would certainly be justified in using that contract as if it were risk free. Central banks have multiple powers to provide that kind of liquidity guarantee. They can buy and sell assets as part of monetary policy operations.⁹⁰ They can also make emergency loans to support solvent financial firms, and increasingly, asset markets. However, central banks are not supposed to extend credit guarantees or allocate resources, which are the province of fiscal authorities. The trouble is that the line between liquidity and credit support is fuzzy.

Monetary policy does not normally target individual asset prices; however, central banks do buy and sell a limited range of assets to influence aggregate price levels. As a result, making an asset eligible for monetary policy operations can amount to guaranteeing its liquidity. Similarly, legal rules that define acceptable collateral against which central banks will extend emergency loans sends a clear signal of the safety of the assets that qualify and create a deeper, more liquid market for them.⁹¹

In the recent financial crisis, central banks became increasingly creative in using two traditional tools of monetary policy—open market operations and emergency loans. Central banks also became more creative in their interpretations of the legal constraints on their monetary policy and crisis management authority. We consider the adaptation of both tools in turn.

First, in the United States, the Federal Reserve began buying a wider range of assets to effect a monetary policy of quantitative easing. In Europe, the European Central Bank (ECB) bought a wide range of sovereign bonds starting in May of 2010, with the stated goal of facilitating monetary policy transmission. In both the United States and Europe, the line between monetary policy and providing crisis support to failing financial intermediaries or politically important borrowers was blurred.

There is a safe asset angle to the story: central banks found new ways to substitute public safe assets for privately produced ones that had lost their sheen of low risk and liquidity. Indeed, some economists argue that this substitution and the injection of new safe assets into the economy was the crucial piece of crisis intervention.⁹² The implications for the legal construction of safe asset markets are similarly profound. In crises, when the legal creativity of central banks and governments is at its height, and the rules restricting central banks and finance ministries are at their most pliable, the

90. The range of assets used for this purpose has expanded as central banks have resorted to unconventional monetary policies in the face of low growth and zero interest rates.

91. *Collateral*, EUROPEAN CENT. BANK, <https://www.ecb.europa.eu/paym/coll/html/index.en.html> (last visited Jan. 13, 2016); *Collateral Information*, FED. RESERVE DISCOUNT WINDOW, <https://www.frbdiscountwindow.org/en/Pages/Collateral.aspx> (last visited Jan. 13, 2016).

92. See, e.g., Gary B. Gorton & Guillermo Ordonez, *The Supply and Demand of Safe Assets* (Nat'l Bureau of Econ. Research, Working Paper No. 18732, 2013).

state sends two clear signals. First, it stands ready to backstop a wider set of assets, which might have been undefined until now. Second, going forward, a broader range of asset markets might enjoy the safety label emanating from government backing.

The legal creativity of central banks in crisis also extends to their interpretation of restrictions on emergency lending. In the recent financial crisis, the ECB and Federal Reserve interpreted their legal authority to allow for emergency loans to a wider range of entities against a wider range of collateral, including privately produced safe assets, such as asset-backed securities, which had lost their safety. In this case, emergency lending had the effect of replacing distressed debt that could no longer function as a safe asset with new public debt that could still do so. It also signaled future government backing for two different kinds of safe assets: the debt of banks and other financial institutions because of newly opened access to emergency loans, and the newly acceptable collateral that could be pledged for those loans.

Emergency lending took new forms in the financial crisis beyond traditional tools such as the Federal Reserve's Discount Window.⁹³ The Federal Reserve created complex lending facilities⁹⁴ that deployed Federal Reserve resources to support some of the safe asset issuers and markets that had frozen in the crisis, including money market mutual funds, asset-backed securities, and ABCP. Cutting through the byzantine financial engineering of these facilities: a central bank was deploying super safe public assets to support private ones, with clear signals about future government backing and labeling of these markets. Cutting through the creative legal interpretations: a central bank was blurring an already unclear line between liquidity and credit guarantees.

This line between conventional central bank liquidity support and controversial credit guarantees has proven blurry in every financial crisis.⁹⁵ On the other hand, both forms of public backing can be discontinuous, much like labels. The rules that specify the scope of a guarantee can instantly turn contracts into safe assets. The abrupt line between the saved and the damned may be essential to the nature and uses of safe assets. However, history, recent and longstanding, demonstrates how financial crises, market

93. See *Discount Window Lending*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/newsevents/reform_discount_window.htm (last updated Dec. 31, 2015); Donald L. Kohn, Vice Chairman, Fed. Reserve Sys. Bd. of Governors, Remarks at Carlton University: The Federal Reserve's Policy Actions During the Financial Crisis and Lessons for the Future (May 13, 2010), <http://www.federalreserve.gov/newsevents/speech/kohn20100513a.pdf>; *Credit and Liquidity Programs and the Balance Sheet*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm (last updated June 4, 2015).

94. 12 U.S.C. § 343 (2012) (codifying Federal Reserve Act § 13(3)).

95. See generally Gelpert, *Financial Crisis Containment*, *supra* note 85.

expectations, and market gamesmanship can create pressure on policymakers to rewrite or reinterpret where the line must be drawn.

Each crisis, then, risks creating a chasm between winners and losers that can become entrenched over time in expectations about asset safety. Safe assets gather powerful constituents—people and firms with stakes in perpetuating their safe status, which draws investors, feeds market liquidity, and boosts asset prices. Ex post guarantees in crisis are a high-profile reminder that some financial contracts have a special claim on public resources quite apart from the law on the books. Broad public realization of this fact can provoke a backlash, even as it might boost investor interest in the beneficiary asset. Both responses risk producing long-lasting distortions.

CONCLUSION

Parts II and III address a key question left unanswered by the existing safe asset literature: how is it that apparently savvy market participants could possibly treat trillions of dollars in financial contracts as if they were risk-free. In the run up to the financial crisis, law played a crucial role in shaping market expectations that certain assets involved ultra-low risk and enjoyed ultra-high liquidity. Law played this role not only through statutes and regulations, but also through private ordering of contracts and transactions. Figure 4 below places the tools of private and public ordering side by side.

| Figure 4: Private Ordering | | | |
|---|--|---|---|
| | Made Safe | Labeled Safe | Guaranteed Safe |
| Inputs into Issuer | <ul style="list-style-type: none">• Contractual activity restrictions (including negative covenants)• Contractual restrictions on riskiness of assets issuer may purchase;• Contractual restrictions on liquidity of assets being purchased• Pooling• Bankruptcy remote from originators• Contractual restrictions on issuer’s agents | <ul style="list-style-type: none">• Credit rating (on issuer) | <ul style="list-style-type: none">• Affiliate guarantees (ex ante and ex post)<ul style="list-style-type: none">◦ Liquidity support• Credit enhancement• Credit derivatives for issuer insolvency |
| Outputs (terms of safe assets including priority over other claims) | <ul style="list-style-type: none">• Senior / subordinated liabilities (capital structure, excess spread)• Collateral backs safe assets (including overcollateralization)• Short maturities• Restrictions on issuer declaring bankruptcy | <ul style="list-style-type: none">• Credit rating (on safe asset) | <ul style="list-style-type: none">• Bond insurance for safe assets• Credit derivatives for safe asset default |
| Secondary Markets | <ul style="list-style-type: none">• Trading and clearing platforms• Platform rules to limit counterparty risk (margin, position limits)• Underwriter market-making activities | <ul style="list-style-type: none">• Credit ratings in secondary markets | <ul style="list-style-type: none">• Credit derivatives for safe asset default |

Figure 4: Public Ordering

| | Made Safe | Labeled Safe | Guaranteed Safe |
|---|---|--|--|
| Inputs | <ul style="list-style-type: none"> • Regulatory restrictions on issuer investments • Regulatory restriction on agents | <ul style="list-style-type: none"> • Regulatory licenses for credit ratings • Charters and licenses | <ul style="list-style-type: none"> • Issuer eligibility for LOLR loans • Issuer eligibility for extraordinary central bank/government support • Central bank swap lines |
| Outputs (safe assets and other claims) | <ul style="list-style-type: none"> • Capital regulations • Statutory / bankruptcy priorities for safe assets • Bankruptcy exemptions | <ul style="list-style-type: none"> • Regulatory licenses for credit ratings • “Investor Licenses”: <ul style="list-style-type: none"> ◦ Safe assets as permissible investments ◦ Regulatory exemptions for safe asset investments • “Regulatory tax breaks”: capital regulations that give preferences to investments in safe assets. • “Regulatory Price”: Fixed NAV for money-market mutual funds | <ul style="list-style-type: none"> • Deposit insurance • Extraordinary government support for asset markets (Federal Reserve crisis facilities for ABCP, MMMFs) |
| Secondary Markets | <ul style="list-style-type: none"> • Clearing; margin regulations | <ul style="list-style-type: none"> • Credit ratings | <ul style="list-style-type: none"> • Extraordinary government support for asset markets (Federal Reserve crisis facilities for ABCP, MMMFs) |

This list of tools is illustrative, not exhaustive. It is meant to underscore two themes. First, none of these tools are new. Instead, we offer a new framework for categorizing these tools.

Second, the state and the law are thoroughly embedded in safe asset construction. There is no such thing as purely private ordering or purely

public ordering in safe asset markets. Both are intertwined and interdependent. Private ordering occurs against a regulatory backdrop. Bankruptcy remoteness, which is crucial for securitization, occurs only because legislators have written and revised the bankruptcy code to facilitate this status. Much of the demand for securitization comes from regulations that enable and encourage financial institutions to purchase asset-backed securities. A significant portion of the demand for securitization may have come from financial institutions looking to game banking and other prudential regulation. Banks may have used safe assets to engage in sophisticated transactions and financial engineering to avoid capital adequacy and other regulatory requirements.

Private markets for safe assets would not exist in the form and on the scale they do without public ordering. Alternatively, public ordering of safe asset markets also relies on the private. Exemptions, such as bankruptcy safe harbors and regulatory capital dispensations for apparently low-risk debt, all make it possible for private safe assets to emerge in the space configured by public intervention. If public ordering fails to create the space, or if private ordering fails to respond, the universe of possible safe assets shrinks. If an objective is to create more safe assets and deeper and more liquid safe asset markets, governments cannot do it alone, even by creating more sovereign debt. The laws, regulations, and government interventions described in Part III assume that a significant share of the supply and demand for safe assets will come from private actors. Statute, regulation, and contract—the public and private law of safe assets—thus operate symbiotically.

Understanding this interaction and the full spectrum of public and private law that shapes safe asset creation is vital to designing reforms of safe asset markets. We leave policy prescriptions for other articles. However, we underscore a deeper lesson found in both private and public ordering of safe asset markets. Neither private nor public ordering causes risk to disappear for good from safe asset markets or financial markets in general. They merely move it around—at best, distributing it to those who can manage it most effectively, obscuring it until it returns. Safe asset issuers transform risky assets into theoretically safe ones. But, for every safe asset, more are created to absorb the excess risk, which returns in crisis, when traditional risk correlations and risk management techniques fail. Risky and safe assets, public or private, will always coexist; they are two sides of the same coin.

