

Inside Safe Assets

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Abstract

Multi-trillion dollar global markets operate on the assumption that entire categories of financial contracts are risk-free. “Safe assets” is a catch-all term to describe such contracts, which may include government debt, bank deposits, AAA-rated corporate debt and asset-backed securities, among others. The International Monetary Fund estimated potential safe assets at more than \$114 trillion worldwide in 2011, more than seven times the U.S. economic output that year.

Treating any financial contract as if it were risk-free seems delusional and dangerous after recent financial crises, when super-safe public and private debt markets collapsed overnight. Nonetheless, the idea of safe assets has gained ground among practitioners and academics; since 2008, it has been invoked to explain shadow banking, financial crises, and prolonged economic stagnation. The economic literature speaks of safe assets in terms of poorly understood natural forces and technologies to be discovered, like the Higgs boson particle in a super-collider. Law is virtually absent in this account.

Our Article makes four contributions. First, we describe the legal architecture of safe assets, filling an institutional gap in the economic literature. Second, we offer a unified analytical frame linking the safe asset debate with post-crisis critiques of banking and money claims, asset-backed securities, repos, and money market funds in law scholarship. Third, we highlight sources of instability and distortion in the legal architecture, and the political commitments embedded in it. Fourth, we offer prescriptions to correct some of these failings.

Precisely because there are no risk-free contracts, state intervention supplies the essential infrastructure to let people act as if some contracts were risk-free. The law constructs and maintains safe asset fictions, and places them at the foundation of institutions and markets. This project is unavoidably distributive, political, and fraught with distortions.

¹ Faculty at Georgetown and Colorado law schools, respectively. We are grateful to Nicholas Brock, Esther Cho, Katherine Incantalupo, Marilyn Raisch, Emily Shroder, and Longhao Wang for invaluable research assistance, to the organizers and participants in the conference “Reconceptualizing Global Finance and its Regulation” at the University of Hong Kong for comments that launched this project, and to Michael Barr, Donald Bernstein, Christine Desan, Morris Goldstein, Mitu Gulati, Ted Janger, Donald Langevoort, Adam Levitin, Saule Omarova, Avinash Persaud, Amiyatosh Purnanandam, Mark Roe, Brad Setser, Michele Shannon, Robert Thompson, Edwin M. Truman, and [...] as well as participants in workshops and conferences at [...] Brooklyn, Cornell, Georgetown, Harvard, Michigan, and UCLA law schools, the Federal Reserve Bank of Chicago, and the American Society for International Economic Law Interest Group Biennial Research Conference, for helpful conversations and comments on the manuscript. Portions of this Article are adapted from a forthcoming chapter in the University of Hong Kong conference volume.

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Introduction

Multi-trillion dollar global markets operate on the assumption that entire categories of financial contracts are risk-free. “Safe assets” is a catch-all term that has come to describe such contracts, which might include government debt, bank deposits, AAA-rated corporate debt and asset-backed securities, commercial paper (short-term tradable debt), and overnight repurchase agreements (“repos”), among others. The International Monetary Fund (IMF) estimated potential safe assets at more than \$114 trillion worldwide in 2011; by comparison, the total U.S. economic output for 2011 was \$15.5 trillion.²

Treating any financial contract as if it were risk-free seems delusional and dangerous in light of recent experience. Top-rated commercial paper issued by U.S. firms stood at \$1.97 trillion in early 2007. It was a staple investment for money market mutual funds and other super-conservative savers. By October 2008, this market had shrunk by more than a quarter; many borrowers could not refinance maturing debt.³ Euro-area government debt also traded as if default were inconceivable in April 2010. By the time Greece restructured its debt in February 2012, less than one-third of this \$10 trillion market still traded that way.⁴ Panic selling, firm failures, and public rescues accompanied both episodes. The Federal Reserve became the largest holder of U.S.

² See INT’L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT: THE QUEST FOR LASTING STABILITY 18 (2012) [hereinafter IMF GFSR], at 89. The \$114 trillion estimate is the sum of \$74.4 trillion in potential safe assets held by wholesale investors in June 2011, *id.* at 89 fig.3.4, and \$40 trillion in customer bank deposits at the end of 2010, *id.* at 89 n.16. IMF staff analysis excludes deposits because they reflect primarily household and nonfinancial firm holdings, and present distinct financial stability concerns. *Id.* We add back deposits because claims on banks figure prominently in the other leading treatments of safe assets. See, e.g., Gary Gorton et al., *The Safe-Asset Share*, 102 AM. ECON. REV. 101 (2012); Int’l Monetary Fund, *Rethinking Macro Policy III: Session 6: International Monetary and Financial System*, IMF (Apr. 16, 2015), <http://www.imf.org/external/mmedia/view.aspx?vid=4179179480001>. For U.S. economic output, see *GDP (Current US\$)*, WORLD BANK, <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD> (last visited Mar. 12, 2015).

³ See Marcin Kacperczyk & Philipp Schnabl, *When Safe Proved Risky: Commercial Paper During the Financial Crisis of 2007–2009*, 24 J. ECON. PERSPECTIVES 29 (2010) at 29-30 (reporting a drop in outstanding volume from more than \$1.97 trillion at the start of 2007 to \$1.43 trillion in October 2008); 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 (2010), available at <http://www.palgrave-journals.com/imfer/journal/v58/n1/pdf/imfer20104a.pdf> (documenting borrowers’ inability to roll over maturing debts, and a sharp spike in borrowing costs).

⁴ IMF GFSR *supra* note 2 (citing average sovereign Credit Default Swap (CDS) spreads under 150 basis points for 91% of selected Euro area government debt as of April 2010 and for only 29% of the same set as of November 2011 and February 2012; also citing average CDS spreads over 400 basis points for 42% of the same set of countries as of November 2011). The countries included in the set are Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, and Spain; they represent the vast bulk of the Euro area sovereign debt market (€6.2 trillion or over \$8 trillion in the first quarter of 2010 and €6.9 trillion or over \$9 trillion in the second quarter of 2011). See also *id.* at 90 fig.3.6 (citing Euro area gross unconsolidated government debt at \$10.5 trillion in June 2011); UBS Center, *Jean-Claude Trichet: “There Is No More Risk-Free Asset,”* YouTube (Dec. 18, 2012), https://www.youtube.com/watch?v=CS9EvBZ_UOc.

commercial paper;⁵ the European Central Bank stepped in to buy government bonds.⁶ Nonetheless, the idea of safe assets has continued to gain ground among practitioners and academics; since 2008, it has been invoked to explain shadow banking, financial crises, and prolonged economic stagnation.⁷

The economic literature on safe assets has focused on imbalances in safe asset supply and demand, and their implications for financial stability and growth.⁸ It speaks of safe assets in terms of poorly understood natural forces and technologies to be discovered, like the Higgs boson particle in a super-collider.⁹ Law is mostly absent in this account, except as an occasional source of distortion.¹⁰

We accept the descriptive premise in the economic literature that market participants persistently assume away risk in certain contracts. We depart from the literature to focus on the legal and institutional factors that might shape such assumptions. Precisely because there are no risk-free contracts, state intervention allows people to act *as if* some contracts were risk-free. The law constructs and maintains safe asset fictions, and places them at the foundation of institutions and markets.¹¹ It supplies the vital infrastructure that makes safe assets possible. This project is unavoidably distributive, political, and fraught with distortions.

⁵ Kacperczyk & Schnabl, *supra* note 3, at 2 (reporting that the U.S. Federal Reserve was the largest buyer of commercial paper in late 2008 and held over 20% of all outstanding commercial paper in January 2009).

⁶ IMF GFSR, *supra* note 2, at 18–19.

⁷ Int'l Monetary Fund, *Rethinking Macro Policy III*, *supra* note 2.

⁸ *See infra* Part I.

⁹ *See, e.g.*, Gorton et al., *supra* note 2 (“Given the rapid amount of change within the economy over the past sixty years, the relatively constant demand for safe debt suggests an underlying transactions technology that is not well understood.”); Ricardo J. Caballero, *The “Other” Imbalance and the Financial Crisis* (Nat'l Bureau of Econ. Research, Working Paper No. 15636, 2010), available at <http://www.nber.org/papers/w15636> (“[T]he surge of safe assets demand is a key factor behind the rise in leverage and macroeconomic risk concentration in financial institutions in the U.S. (as well as the U.K., Germany, and a few other developed economies), as these institutions sought the profits generated from bridging the gap between this rise in demand and the expansion of its natural supply.”).

¹⁰ For example, stricter regulation requires banks and clearing houses to hold more traditional safe assets, such as government debt. Some writers predict that this would lead other market participants to buy riskier assets, use them as if they were safe, and seed the next crisis. *See* BANK FOR INT'L SETTLEMENTS, 82ND ANNUAL REPORT (2012), IMF GFSR, *supra* note 2; Gorton et al., *supra* note 2; Ralph Atkins, *Crunch Feared if Collateral Rules Enforced*, FIN. TIMES (Feb. 5, 2013, 2:45 PM), <http://www.ft.com/intl/cms/s/0/e7737740-6f85-11e2-b906-00144feab49a.html>.

¹¹ In this sense, safe assets are similar to legal fictions. *See e.g.*, LON L. FULLER, LEGAL FICTIONS (1967): “A fiction is either (1) a statement propounded with a complete or partial consciousness of its falsity, or (2) a false statement recognized as having utility.” Safe assets can work as conventional legal fictions, for example, when it comes to the legislative, regulatory, or judicial designation of certain financial contracts as risk-free. *See infra*, Part II.B. We hesitate to sweep the entire safe asset phenomenon under the heading of *legal* fictions because the role of market practice in

If safe assets are fictional constructs, it makes no sense to ask whether mortgage-backed securities, bank deposits or Italian government debt are in fact “entirely risk-free.”¹² We ask instead how public ordering makes it possible for market participants to act as if these and other contracts were risk-free, and what public and private purposes might be served by acting this way.¹³

This Article makes four contributions. First, we describe the legal architecture of safe assets, introducing the subject to legal scholarship and filling an institutional gap in the economic literature. Second, we offer a unified analytical frame linking the safe asset debate with post-crisis critiques of banking and money claims, asset-backed securities, repos, and money market funds in law scholarship.¹⁴ Third, we highlight sources of instability and distortion in the legal architecture,

the life of safe assets goes beyond the familiar realm of legal fictions, and requires further elaboration beyond the scope of this Article. Nonetheless, Fuller’s definition is useful shorthand for now, not only because it is the most thoroughly specified and influential in the law literature, but also because his analytical framework partly derives from and is directly related to general concepts of fiction in math, science, philosophy, economics and other fields.

As fictions, safe assets combine known falsehood and practical utility. Like the more familiar fictions of corporate personality or tax residence, they meet functional needs. On corporate personality, *see e.g.*, Sanford A. Schane, *The Corporation Is a Person: The Language of a Legal Fiction*, 61 Tul. L. Rev. 563 (1987). On tax residence, *see e.g.*, Vincent Boland, *Dublin Ditches Double Irish to Save Low Tax Regime*, Fin. Times (Oct. 14, 2014, 3:16 PM), <http://www.ft.com/intl/cms/s/2/1f740b46-539b-11e4-929b-00144feab7de.html> (describing tax planning structures that made the same company resident in Bermuda under Irish law, and in Ireland under U.S. law). *Cf.* Danièle Nouy, *Is Sovereign Risk Properly Addressed by Financial Regulation?*, 16 Banque de France Fin. Stability Rev., 95, 96 (2012) (“From a prudential perspective, sovereign domestic local currency debt is ... viewed as risk-free...”).

¹² EUROPEAN SYSTEMIC RISK BD., REPORT ON THE REGULATORY TREATMENT OF SOVEREIGN EXPOSURES 151 (2015), *available at* <http://www.esrb.europa.eu/pub/pdf/other/esrbreportregulatorytreatmentsovereignexposures032015.en.pdf> [hereinafter ESRB, SOVEREIGN REPORT] (“In principle, sovereign debt is not entirely risk-free.”). Italian debt might be treated as if it were risk free for bank regulatory purposes in the same way as Twitter might be treated as an Irish company for tax purposes. Robert W. Wood, *Ireland Corks Double Irish Tax Deal, Closing Time for Apple, Google, Twitter, Facebook*, FORBES (Oct. 14, 2014, 2:37 AM), <http://www.forbes.com/sites/robertwood/2014/10/14/ireland-corks-double-irish-tax-deal-closing-time-for-apple-google-twitter-facebook>. Asking whether Italian government debt is really risk-free is akin to asking whether Twitter is really Irish. Both questions are beside the point.

¹³ Our view of safe assets is close to what Brunnermeier and Haddad have described in a recent presentation as the “Safe Asset Tautology” view, in which “an asset is safe as long as it is perceived to be safe.” Markus Brunnermeier & Valentin Haddad, *Safe Assets* (Presentation at the Federal Reserve Bank of New York, Oct. 17, 2014) *available at* http://www.newyorkfed.org/aboutthefed/pdf/FAR_Oct2014.pdf (contrasting the “Safe Asset Tautology” with the “Good Friend Analogy,” in which safe assets are “safe across any horizon,” including in crisis). In our view, while some assets might pay off in full in more states of the world, all require a leap of faith to be used as if they were risk-free. While we concur with the authors’ assessment of bubble and bust risks inherent in the safe asset tautology, we are hard-pressed to find safe assets outside the tautology.

¹⁴ On asset-backed securities, *see e.g.*, Jonathan C. Lipson, *Re: Defining Securitization*, 85 S. CAL. L. REV. 1229 (2012); Kenneth Ayotte & Stav Gaon, *Asset-Backed Securities: Costs and Benefits of “Bankruptcy Remoteness”*, 24 REV. FIN. STUD. 1299 (2011). On repos, *see e.g.*, Edward R. Morrison et al., *Rolling Back the Repo Safe Harbors*, 69 BUS. LAW 1015 (2014) (arguing for removal of exemption for repos from standard bankruptcy rules); David A. Skeel & Thomas H. Jackson, *Transaction Consistency and the New Finance in Bankruptcy*, 112 COLUM. L. REV. 152 (2012)

and the political commitments embedded in it. Fourth, we offer prescriptions to correct some of these failings.

Our analysis fits in the realm of macroprudential policy, an approach to regulation that focuses on the stability of financial systems ahead of the solvency of individual firms.¹⁵ This approach has gained currency since the turn of the twenty-first century, but has only started to receive attention from law scholars. Its toolkit remains inchoate, especially when it comes to regulating asset markets.¹⁶ Our study of safe assets shows how familiar legal and regulatory tools have been used to macroprudential effect, and how they might be used better to advance macroprudential policy objectives.

We proceed as follows. In Part I, we review the definitions of safe assets, examine the advantages and disadvantages of safe assets as a conceptual framework, and discuss the relationship between safe assets and money. In Part II, we turn to legal architecture. We ask how the state fosters the production of safe assets, defines and polices the safety frontier, nurtures the markets in safe assets, and promotes their safety under different conditions. We propose a three-part framework to analyze the legal and institutional aspects of state intervention:

First, the state *makes* assets safe. Statutes, regulations and administrative agency practices promote full and timely repayment of certain financial contracts. Solvency and liquidity regulations construct institutions capable of issuing safe debt.

(analyzing same sets of exemptions for repos and derivatives). On money-market mutual funds, *see e.g.*, William A. Birdthistle, *Breaking Bucks in Money Market Funds*, 2010 WIS. L. REV. 1155; Jeffrey N. Gordon & Christopher M. Gandia, *Money Market Funds Run Risk: Will Floating Net Asset Value Fix the Problem?*, 2014 COLUM. BUS. L. REV. 313; Jill E. Fisch, *The Broken Buck Stops Here: Embracing Sponsor Support in Money Market Fund Reform*, 93 N.C. L. REV. 935 (2015).

¹⁵ *See e.g.*, Piet Clement, *The Term “Macroprudential”: Origins and Evolution*, BIS Q. REV. 59 (Mar. 2010) available at http://www.bis.org/publ/qtrpdf/r_qt1003h.pdf; Robert Hockett, *The Macroprudential Turn: From Institutional Safety and Soundness to Systematic Financial Stability in Financial Supervision*, 9 VA. L. & BUS. REV. 201 (2015); Robert B. Thompson, *Financial Regulation’s Architecture within International Economic Law*, 17 J. INT’L ECON. L. 807 (2014); Kristin N. Johnson, *Macroprudential Regulation: A Sustainable Approach to Regulating Financial Markets*, 2013 U. ILL. L. REV. 881; ERIK F. GERDING, LAW, BUBBLES, AND FINANCIAL REGULATION 312-3 (2014).

¹⁶ The focus of macroprudential regulation has been on banks and bank-like financial firms, as in the identification and oversight of Systemically Important Financial Institutions (SIFIs). *See e.g.*, Viral V. Acharya & T. Sabri Öncü, *A Proposal for the Resolution of Systemically Important Assets and Liabilities: The Case of the Repo Market* 9 INT’L J. OF CENTRAL BANKING 291 (Jan. 2013); *see also* Paul Tucker, Deputy Governor for Financial Stability at the Bank of England, Speech at the International Council of Securities Associations (May 23, 2011), available at <http://www.bis.org/review/r110525a.pdf> (“In a debate often dominated by concerns about banks, the vital importance of resilient and effective capital markets is easily neglected.”). Governor Daniel K. Tarullo, Advancing Macroprudential Policy Objectives, Remarks at the Office of Financial Research and Financial Stability Oversight Council’s 4th Annual Conference on Evaluating Macroprudential Tools: Complementarities and Conflicts (Jan. 30, 2015) available at <http://www.federalreserve.gov/newsevents/speech/tarullo20150130a.htm>; Buttonwood, *What’s Wrong with Finance*, ECONOMIST, May 1, 2015.

Second, the state *labels* assets as safe, encouraging market participants to buy them. Regulation marks entire categories of assets as permitted or off-limits, and affixes regulatory price tags to the assets and liabilities of regulated firms.

Third, the state *guarantees* the performance of safe assets in all states of the world. Some guarantees, such as bank deposit insurance, are expressly authorized *ex ante* by statute. Most are extended *ex post*, in crisis, and often rest on creative interpretations of legal authority.

Making, labeling, and guarantees are analytical categories that help clarify the object and manner of state intervention, and identify tradeoffs embedded in each tool. The categories are not watertight. In practice, different kinds of intervention overlap, frustrate, and generate feedback for one another. Drawing analytical distinctions highlights how interaction among the tools creates potential for abuse and leads to financial instability.

We expand on vulnerabilities in the legal architecture in Part III. Our primary focus is on misalignment among the three categories of tools. If an asset is labeled safe, but not made safe enough for its uses, it can lose value abruptly and set off damaging chain reactions. In crisis, the state comes under pressure to guarantee the difference between “made” and “labeled,” and absorbs the spillover costs. Governments and market participants can exploit misalignment. Governments use labels to direct financing for their policy priorities, hoping that they would not have to pay out on the implicit guarantees. Market participants take on excess risk when they issue or buy assets labeled but not made safe, counting on the state to absorb excess cost.

Misalignment is cyclical. It is easy to hide when credit is abundant, and many assets are used interchangeably as if they were risk-free. Risk-free labels look like self-evident descriptions; making contracts safe for bad times seems unnecessary.¹⁷ A credit crunch makes risk apparent, and forces realignment. Labels either fail, or are validated with government guarantees. Meanwhile, games of chicken between market participants and the state over guarantees can aggravate damage to the financial system and the economy.

We end Part III with observations on the politics of safe assets. Safe asset policies distribute resources on a vast scale, and nurture powerful constituencies for risk-free treatment. Labels and technical jargon obscure the vested interests and normative choices behind distribution.¹⁸ The resulting failure of accountability is a problem distinct from bubbles, busts, and distortions.

¹⁷ ERIK F. GERDING, LAW, BUBBLES, AND FINANCIAL REGULATION 383-4, 479 (2013).

¹⁸ Cf. Peter J. Smith, *New Legal Fictions*, 95 GEO. L.J. 1435, 1473 (2007) (noting that use of legal fictions can conceal normative choices made in fashioning legal rules).

Part IV contains preliminary policy prescriptions. We argue that legal intervention should promote dynamic alignment among risk attributes, safety labels, and the public safety net throughout the credit cycle. Risk-free labels should be discouraged: more than any other tool, they promote misalignment and mask distribution. As a first step, we argue for presumptively treating labels as express guarantees by the labeling government.

We conclude with directions for further research. Economists have described safe assets as the cornerstone of the global financial system,¹⁹ the essential ingredient of finance in danger of getting “squelched” by overzealous regulation²⁰—and at the opposite extreme, as a dangerous falsehood, a mutant meme whose replication must be stopped.²¹ Legal fictions have elicited similar rhetoric for centuries: Jeremy Bentham memorably described them as “a syphilis,” a lie that makes the law rot from within.²² Courts, legislatures, and administrators today show no sign of abandoning fictions.²³ So, too, with safe assets. In a world where no contract is risk-free, they meet multiple functional needs to act “as if.” The law plays a critical role in constructing safe assets; it can help guard against their misuse and its catastrophic consequences.

I. What Are Safe Assets, What Do They Do, and Why Do They Matter?

At the highest level of generality, a safe asset is a financial contract used as if it were risk-free for one or more purposes. The phrase “safe asset” has appeared sporadically in economic research, policy papers, and law review articles for back decades.²⁴ Until very recently, the phrase

¹⁹ See IMF GFSR, *supra* note 2.

²⁰ See Gorton et al., *supra* note 2.

²¹ See Richard Portes, *The Safe Asset Meme*, FED. RES. BANK DALLAS, <http://www.dallasfed.org/assets/documents/institute/events/2013/526Portesslides.pdf>.

²² JEREMY BENTHAM, *THE ELEMENTS OF THE ART OF PACKING, AS APPLIED TO SPECIAL JURIES, PARTICULARLY IN CASES OF LIBEL LAW* 62 (1821).

²³ For a sampling of contemporary scholarship, see, e.g., Schane, *supra* note 11; John A. Miller, *Liars Should Have Good Memories: Legal Fictions and the Tax Code*, 64 U. COLO. L. REV. 1 (1993); Seema K. Shah & Franklin G. Miller, *Can We Handle the Truth? Legal Fictions in the Determination of Death*, 36 AM. J.L. & MED. 540 (2010). For administrative and legislative uses of legal fictions, see e.g., Social Sec. Admin., *Social Security Handbook*, SSA, http://www.ssa.gov/OP_Home%2Fhandbook/handbook.17/handbook-1721.html (last visited May 5, 2015) (noting that SSA presumes a person is dead if he or she has been missing from home and has not been heard from for seven years or more); Life at Conception Act, H.R. 1091, 113th Cong. (2013) (“The terms ‘human person’ and ‘human being’ include each and every member of the species homo sapiens at all stages of life, including the moment of fertilization, cloning, or other moment at which an individual member of the human species comes into being.”).

²⁴ A search of IMF, NBER, and Westlaw databases located hundreds of mentions between 1980 and 2007. A search for the phrase “safe asset” in IMF eLibrary, which contains the IMF’s periodicals, books, working papers and studies, and data and statistical tools, see IMF ELIBRARY, <http://www.elibrary.imf.org>, resulted in 49 returns between 1980

did not denote a general phenomenon, but rather described low-risk investments, or served as shorthand for modeling assumptions.²⁵ The words “safe,” “riskless” or “risk-free” were enclosed in quotation marks or preceded by “relatively.” Financial crises in the United States and Europe transformed safe assets into a term of art and a subject of heated debates in elite academic and policy circles.

A. Uses and Attributes: An Overview

The IMF’s 2012 Global Financial Stability Report (GFSR)²⁶ was a milestone in safe assets’ rise to prominence. In a chapter entitled “Safe Assets: Financial System Cornerstone?” the report described a set of financial contracts that performed critical functions and were sometimes used interchangeably across financial markets. Their combined volume exceeded annual global economic output.²⁷

IMF researchers identified five principal uses of safe assets:

- (i) as a store of value and portfolio capital cushion;
- (ii) as collateral in repo and derivatives markets;

and 2007 and 36 returns between 2008 and 2014; a search for the phrase “safe asset” or “safe assets” on National Bureau of Economic Research (NBER) Working Papers, a database segment consisting of papers and articles published in journals, *see* NAT’L BUREAU ECON. RES., <http://www.nber.org>, resulted in 8 articles and papers between 1980 and 2007 and 18 articles and papers between 2008 and 2014; and search for the phrase “safe asset” on WestLaw’s Law Reviews & Journals database resulted in 49 articles between 1980 and 2007 and 60 articles between 2008 and 2014.

²⁵ The following examples are typical. In economics: JOHN LIPSKY ET AL., INTERNATIONAL CAPITAL MARKETS: DEVELOPMENTS AND PROSPECTS 34 (1983) (describing “institutional investors seeking relatively safe assets”); Morris Goldstein & Geoffrey Woglom, *Market-Based Fiscal Discipline in Monetary Unions: Evidence From the U.S. Municipal Bond Market* (IMF Working Paper No. 91/89, 1991) (referring to safe assets as a baseline for bond interest rates); Garry J. Schinasi, Steven Riess Weisbrod & Monica Hargraves, *Asset Price Inflation in the 1980’s: A Flow of Funds Perspective* 21 (IMF Working Paper No. 93/77, 1993) (describing U.S. depository institutions taking on risk by “selling safe assets and retaining the relatively risky ones such as commercial mortgages”); Peter Diamond & John Geanakoplos, *Social Security Investment in Equities I: Linear Case* (Nat’l Bureau of Econ. Res., Working Paper No. 7103, 1999) (“We assume that the returns to the real assets are such that both risky and safe assets are held in equilibrium when the safe asset exists.”). In law: Joseph Bankman & Thomas Griffith, *Is the Debate between an Income Tax and a Consumption Tax a Debate About Risk? Does it Matter?*, 47 TAX L. REV. 377, 459 (1992) (considering the effects of taxation on investment choices, as when “the combination of taxable gains and nonrefundable losses will reduce the expected return of risky assets below the return of safe assets, causing all investors to purchase riskless assets”); Jonathan R. Macey & Elizabeth H. Garrett, *Market Discipline by Depositors: A Summary of the Theoretical and Empirical Arguments*, 5 YALE J. REG. 215, 239 (1988) (arguing that deposit insurance distorts bank managers’ incentives because “a managerial decision to shift the bank’s loan portfolio from a set of relatively safe assets to a set of highly risky assets will not affect in any way the interest the bank must pay to attract deposits”).

²⁶ IMF GFSR, *supra* note 2; *see also* Portes, *supra* note 21.

²⁷ *See*, GDP (Current US\$), THE WORLD BANK, <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD>.

- (iii) as a pricing benchmark for riskier assets;
- (iv) as a tool in monetary policy operations; and
- (v) as part of compliance with solvency and liquidity regulations.²⁸

Each use demands slightly different safety attributes. At a minimum, a safe asset must deliver full repayment on time (this helps explain why debt and debt-like contracts dominate the category),²⁹ but that is not all. For example, an asset is a good store of value if it has minimal credit, inflation, and exchange rate risk. A deep market and a relatively stable price prove important for assets used as collateral, so lenders can instantly turn them into cash. Stable price is also important in benchmarks that are used to value other assets. Assets used by central banks in monetary policy operations must be good at conveying policy signals. The attributes that matter for compliance purposes are hardest to generalize: each regulator might define a different set in light of its particular policy objectives; however, governments also coordinate among themselves.³⁰

The term “safe assets” thus describes a fluid, dynamic set. Assets can gain and lose safety attributes, often abruptly. Assets with multiple safety attributes may have multiple uses in different markets. Government debt is a particularly versatile safe asset since it often combines low credit risk and a deep and liquid market. On the other hand, some uses can be accommodated with more than one safe asset. Both highly rated corporate debt and government debt have served as benchmarks.³¹ Examples in the next section feature government debt and securitization claims used interchangeably to meet regulatory and trading requirements.³²

²⁸ IMF GFSR, *supra* note 2, at 88-90; Fisher identifies seven uses of “risk-free” assets. See Peter R. Fisher, *Reflections on the Meaning of “Risk-Free,”* in BANK FOR INT’L SETTLEMENTS, SOVEREIGN RISK: A WORLD WITHOUT RISK-FREE ASSETS? 65 (2013), available at <http://www.bis.org/publ/bppdf/bispap72.pdf> [hereinafter, Fisher, *Reflections*].

²⁹ Gorton & Pennacchi, *infra* note 37.

³⁰ IMF GFSR, *supra* note 2, at 84, 95-101; Pierre-Olivier Gourinchas & Olivier Jeanne, *Global Safe Assets* 53 (Bank for Int’l Settlements, Working Paper No. 399, 2012), available at <http://www.bis.org/publ/work399.pdf>; Fisher, *Reflections*, *supra* note 28, at 68. On regulatory coordination, see See, e.g., CHRIS BRUMMER, SOFT LAW AND THE GLOBAL FIN. SYSTEM (2011); Chris Brummer, *Why Soft Law Dominates International Finance - And Not Trade*, 13 J. INT’L ECON. L. 623 (2010); Pierre-Hugues Verdier, *The Political Economy of International Financial Regulation*, 88 IND. L.J. 1405 (2013).

³¹ Fisher points out that highly rated corporate debt, not government debt, was used as a safe asset for many purposes as recently as the 1970s. The fact that the interest rate on risk-free debt is generally above zero illustrates a tension at the heart of the concept. Fisher, *Reflections*, *supra* note 28.

³² See 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 Finance Discussion Papers No. 1014, 2011), available at <http://www.federalreserve.gov/pubs/ifdp/2011/1014/ifdp1014.pdf>

Governments and private firms produce safe assets. Both can engage in financial engineering and contract design to ensure payoff, using features such as tiered cash flows, short maturity, and collateral.³³ Only governments can collect taxes, print money, and regulate the economy. These powers support the safety of public debt in different states of the world. Governments can also extend them selectively to support private contracts.

Researchers have linked financial crises to rapid growth in private safe assets.³⁴ In favorable credit conditions, private market participants can quickly produce large volumes of bespoke debt contracts to minimize particular risks. Simple safe assets, such as top-rated government or corporate bonds, become inputs in more complex structures piggybacking on their safety.³⁵ More assets look safe “in general,” and come to substitute for one another. The result is rapid growth in debt on ever-thinning foundations of safety. Safe assets knit together disparate parts of the financial system through widespread use, structuring, and substitution. In crisis, these connections become pathways for contagion.

Private safe assets tend to lose their safety together.³⁶ Governments can replace private safe assets whose safety is in doubt with money and public debt, which remain safe in a private safe asset crisis.³⁷ However, few governments have unlimited capacity to print money and issue debt in a downturn. As crises deepen and spread, even public safe assets can start to look risky.³⁸

³³ Cf. Markus K. Brunermeier et al., *European Safe Bonds (ESBies)* (Sept. 3, 2011) (unpublished manuscript), available at <http://www.columbia.edu/~rr2572/papers/11-ESBies.pdf>; ANNELISE RILES, COLLATERAL KNOWLEDGE: LEGAL REASONING IN THE GLOBAL FINANCIAL MARKETS (2011). See also Gary Gorton & George Pennacchi, *Financial Intermediaries and Liquidity Creation*, 45 J. FIN. 49 (1990)

³⁴ See, e.g., Gourinchas & Jeanne, *supra* note 30.

³⁵ Viral V. Acharya et al., *Manufacturing Tail Risk: A Perspective on the Financial Crisis of 2007–2009*, 4 FOUND. & TRENDS IN FIN. 247 (2010) (examining growth and drivers of securitization and re-securitization).

Some economists make a distinction in the safe asset literature between “inside” liquidity – that is assets that represent claims on financial firms and are traded within the financial sector – and “outside” liquidity – assets that represent claims on governments, non-financial businesses, or households. See, e.g., Bengt Holmström & Jean Tirole, *Private and Public Supply of Liquidity*, 106 J. POL. ECON. 1 (1998), adapted to account for private safe assets in Gourinchas & Jeanne, *supra* note 30, at 9–10. See also Ben S. Bernanke et al., *supra* note 32.

³⁶ See Gourinchas & Jeanne, *supra* note 30.

³⁷ See, e.g., Robin M. Greenwood et al., *A Comparative-Advantage Approach to Government Debt Maturity* (Harv. Bus. Sch. Fin., Working Paper No. 1680604, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1680604; Gary Gorton & George Pennacchi, *Financial Intermediaries and Liquidity Creation*, 45 J. FIN. 49 (1990); Ricardo J. Caballero & Emmanuel Farhi, *The Safety Trap* (Nat’l Bureau of Econ. Research, Working Paper No. 19927, 2014), available at <http://www.nber.org/papers/w19927>; Gary B. Gorton & Guillermo Ordoñez, *The Supply and Demand for Safe Assets* (Nat’l Bureau of Econ. Research, Working Paper No. 18732, 2013), available at <http://www.nber.org/papers/w18732>.

³⁸ See Jay C. Shambaugh, *The Euro’s Three Crises*, BROOKINGS PAPERS ON ECON. ACTIVITY, Brookings (Spring 2012), 1, 191 available at

We have described safe assets so far as a family of contracts that solve specific market or policy problems. They can be engineered to minimize particular risks and adapted to multiple uses. We now turn to the leading theories of safe asset supply and demand.

B. Theories of Safe Assets

1. *Safe Assets as a Global Store of Value*

An early and influential strand of safe asset scholarship in the mid-2000s sought to explain capital flows from countries with high foreign currency savings and unmet development needs. Instead of investing at home, governments in these countries bought U.S. Treasury and housing finance agency (Agency) securities.³⁹ Some economists attributed this preference to the combination of governments' extreme risk-aversion, desire to self-insure against crisis, and inability to produce domestic stores of value; others blamed exchange rate management.⁴⁰

http://www.brookings.edu/~media/Projects/BPEA/Spring%202012/2012a_Shambaugh.pdf (describing the progression from banking to government debt crisis in Ireland, and the associated feedback loops); David Gardner, Tony Barber & Peter Spiegel, *Ireland: A punt too far*, FIN. TIMES (Nov. 19, 2010, 9:20 AM), <http://www.ft.com/intl/cms/s/0/c1236fbc-f41e-11df-886b-00144feab49a.html>; see also Markus K. Brunnermeier et al., *European Safe Bonds (ESBies)* 2-3 (Sept. 30, 2011) (unpublished manuscript), available at <http://www.columbia.edu/~rr2572/papers/11-ESBies.pdf> (describing a structured regional debt instrument).

³⁹ 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), available at <http://www.nber.org/papers/w14688>. "Agency debt" refers to securities issued or backed by Fannie Mae, Freddie Mac or Ginnie Mae. Fannie Mae (the Federal National Mortgage Association or FNMA) and Freddie Mac (the Federal Home Loan Mortgage Corporation or FHLMC) are government-sponsored enterprises (GSEs), which were taken over by the U.S. government in 2008. Even before the takeover, they were widely perceived as fully backed by the U.S. Government. [See *infra* note 52 – U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-782, FANNIE MAE AND FREDDIE MAC: ANALYSIS OF OPTIONS FOR REVISING THE HOUSING ENTERPRISES' LONG-TERM STRUCTURES 3 (2009). Ginnie Mae (the Government National Mortgage Association or GNMA) has been wholly owned by the U.S. government since its establishment in 1968. See *Ginnie Mae & the GSEs*, GINNIE MAE, http://www.ginniemae.gov/consumer_education/Pages/ginnie_mae_and_the_gses.aspx (last updated Feb. 25, 2013).

⁴⁰ We stay out of the vigorous debate between those who explain such demand as a function of exchange rate manipulation by China and other exporters, and those who argue that they are motivated by emerging market governments' desire to save and the scarcity of investment vehicles available to them. It affects our argument on the margins; we return to it briefly in the conclusion. See, e.g., C. FRED BERGSTEN & JOSEPH E. GAGNON, PETERSON INST. FOR INT'L ECON., CURRENCY MANIPULATION, THE US ECONOMY, AND THE GLOBAL ECONOMIC ORDER (2012); Nouriel Roubini & Brad Setser, *The US as a Net Debtor: The Sustainability of the US External Imbalances* (Nov. 2004) (unpublished manuscript), available at <http://pages.stern.nyu.edu/~nrubini/papers/Roubini-Setser-US-External-Imbalances.pdf>; BRAD W. SETSER, COUNCIL ON FOREIGN RELATIONS, SOVEREIGN WEALTH AND SOVEREIGN POWER (2008); MARC LABONTE & JARED C. NAGEL, CONG. RESEARCH SERV., RS22331, FOREIGN HOLDINGS OF FEDERAL DEBT 5 (2014) ("Foreign official holdings are motivated primarily by a desire for a liquid and stable store of value for foreign reserves; relatively few assets besides U.S. Treasury securities fill this role well. Depending on the country, foreign reserves may be accumulated as a result of a country's exchange rate policy . . .").

A later study by Ben Bernanke and co-authors at the U.S. Federal Reserve pointed to the role of regulatory arbitrage in safe asset demand.⁴¹ Unlike surplus country governments, banks in Europe and elsewhere did not have excess savings, nor were they infinitely risk-averse. They bought complex securitized debt with borrowed money. The authors suggested that banks took advantage of capital adequacy regulations to invest in “private label” mortgage-backed securities (MBS), engineered to minimize credit risk, instead of U.S. Treasury and Agency debt.⁴² Banks earned a higher return, but did not have to put aside capital to reflect the higher risk.⁴³ The private safe assets unraveled together in 2008.

The link between government savings and financial crisis in the second story rests on banks’ ability to substitute MBS for U.S. Treasuries in good times, and to treat both as if they were risk-free.⁴⁴ In crisis, substitution runs in reverse: the state must produce safe assets to make up for the shortage of private ones.⁴⁵ Such cyclical versatility emerges as an important shared attribute of safe assets.

2. *Safe Assets as “Transactions Technology”*

Post-crisis risk-aversion and tighter regulation in mature markets motivate a different strand of safe asset theories. Gary Gorton and co-authors have described safe assets as an essential ingredient in financial risk-taking, a poorly-understood “transactions technology.”⁴⁶ Economists who write in this vein study safe assets as collateral in trading, not as a long-term store of value.

⁴¹ Bernanke et al., *supra* note 32; 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. REVIEW 37 (2010), available at <http://www.palgrave-journals.com/imfer/journal/v58/n1/pdf/imfer20104a.pdf>.

⁴² Ricardo J. Caballero, *The “Other” Imbalance and the Financial Crisis* (Nat’l Bureau of Econ. Research, Working Paper No. 15636, 2010), available at <http://www.nber.org/papers/w15636>. Private-label securities were not backed by Agency guarantees, were not subject to Agency underwriting standards, and were not seen as having the implicit backing of the U.S. government.

⁴³ See Bernanke et al., *supra* note 32. Bernanke and co-authors also fault loose underwriting standards in the United States for allowing the system to manufacture large volumes of risky debt that could be used as if it were safe.

⁴⁴ See Arvind Krishnamurthy & Annette Vissing-Jorgensen, *The Aggregate Demand for Treasury Debt*, 120 J. POL. ECON. 233 (2012); Gourinchas & Jeanne, *supra* note 30; Caballero & Farhi, *supra* note 37, for a discussion of substitutability in safe assets. Surplus country governments and banks had subtly different objectives. While both might have sought U.S. dollar investments with minimal credit risk, the banks optimized risk and return while engaging in regulatory arbitrage. See, e.g., Victor Fleischer, *Regulatory Arbitrage*, 89 TEX. L. REV. 227 (2011).

⁴⁵ See Gorton & Ordoñez, *supra* note 37; Gourinchas & Jeanne, *supra* note 30. See also Simon Wren-Lewis, *Safe Assets and Government Debt*, MainlyMacro (Jan. 16, 2013), available at <http://mainlymacro.blogspot.com/2013/01/safe-assets-and-government-debt.html> (surveying arguments for reliance on public production of safe assets).

⁴⁶ Gorton et al., *supra* note 2; see also, e.g., Gourinchas & Jeanne, *supra* note 30 at 59-60.

They argue that the pool of available collateral shrinks when regulations limit safe asset production or require firms to hold safe assets in buffers against shocks.⁴⁷

Gorton, Stefan Lewellen and Andrew Metrick speculate that a shortage of high-quality collateral would drive traders to use risky collateral as if it were safe.⁴⁸ They find that the ratio of safe assets to total financial assets in the U.S. economy (the “safe asset share”) has stayed between 30 to 35% from 1952 to 2010, while the ratio of financial assets as a share of the U.S. economy more than doubled.⁴⁹ Their study suggests that the safe asset share determines the size of the financial sector, but stops short of making the link to economic growth.⁵⁰ It follows from the findings that a shortage of safe assets would either slow financial sector growth, or, if growth continues despite the shortage, would push the frontier of safety into ever-riskier territory.

Safe assets as transactions technology are binary: safe or not. This quality is captured in the concept of “information-insensitive” debt, which makes for ideal collateral because it trades “no questions asked.”⁵¹ The moment it pays to research the risk attributes of a contract, it no longer qualifies as safe. A related paper co-authored by Gorton highlights the perils of discontinuity: information-insensitive debt is prone to crashes and amplifies shocks to the financial system.⁵²

⁴⁷ See, e.g., Gorton et al., *supra* note 2; Garcia, *supra* note 8; CREDIT SUISSE FIXED INCOME RESEARCH, 2012 GLOBAL OUTLOOK: PIECING TOGETHER OR FALLING TO PIECES 143 (Dec. 1, 2011) available at https://doc.research-and-analytics.csfb.com/docView?language=ENG&format=PDF&source_id=em&document_id=932631241; John Carney, *How the Crash of Safe Assets Fueled the Financial Crisis*, CNBC (Jan. 13, 2014, 12:54PM), <http://www.cnbc.com/id/101327578>.

⁴⁸ Gorton et al., *supra* note 2, at 105 (“Small policy changes ... may well drive activity further into the shadow banking sector. Furthermore, since the demand for safe assets is roughly constant, attempts to squelch the shadow banking sector would simply push the production of safe debt into another, less efficient sector.”).

⁴⁹ Gorton et al., *supra* note 2. The authors calculate the safe asset share based on Federal Reserve Flow of Funds data. They start with total liabilities produced by the government and financial sector. They then make a series of adjustments including removing government liabilities held by other governmental entities, removing certain financial sector liabilities (such as mutual fund shares) on the theory that these are not information insensitive, and assume that 85% of mortgage-backed securities and other asset-backed securities are information insensitive and qualify as safe assets.

⁵⁰ *Id.* The literature distinguishing between “inside” liquidity (claims on financial firms traded within the financial sector) and “outside” liquidity (claims on the real economy—governments, non-financial businesses, or households) is relevant here. See BENGT HOLMSTRÖM & JEAN TIROLE, INSIDE AND OUTSIDE LIQUIDITY 7-9 (2011); see also Gourinchas & Jeanne, *supra* note 30. Findings about the safe asset share do not distinguish between safe assets that contribute to growth in the real economy, and those that merely fuel growth in the financial sector.

⁵¹ Information-insensitive debt is “immune to adverse selection in trading because agents have no desire to acquire private information about the current health of the issuer.” Gorton et al., *supra* note 2; at 101; see also Tri Vi Dang et al., Ignorance, Debt and Financial Crises (Mar. 11, 2013) (unpublished manuscript), available at http://www.columbia.edu/~td2332/Paper_Ignorance.pdf.

For proponents of transaction technology theories, information-insensitive debt is a fact of life and basically a good thing. Securitization and other forms of private safe asset production respond to an organic market need. Limiting regulations “squelch” natural processes, interfere with critical economic functions, and ultimately backfire, increasing risk in the system. For critics, information-insensitive debt is a source of distortion and a way to hide tail risks.⁵³ Our analysis of legal architecture in Part II questions the focus on limiting regulation in the transactions technology story; the thicket of state intervention enabling safe assets leaves little room for organic supply and demand.

C. Safe Assets and Money

The relationship between safe assets and money is not straightforward and requires further clarification for purposes of this Article. Money has been described as “the safe asset par excellence,”⁵⁴ or even as the only safe asset.⁵⁵ In this Article we distinguish fiat money issued by a sovereign central bank and used as legal tender (including cash) from other safe assets.⁵⁶ Central bank money is the simplest and most abstract safe asset: it is safe so long as market participants trust and obey the state.⁵⁷ The safety of all other safe assets—long-term government bonds, bank deposits, repos and asset-backed securities, among others—is measured by their proximity to

⁵² Crashes follow from discontinuity; the tendency to amplify follows from the view of safe assets as the common glue that binds transactions across the financial system. *See*, Dang et al., *supra* note 51.

⁵³ *See e.g.*, Felix Salmon, *Is Informationally-Insensitive Debt a Good Thing?*, REUTERS (Apr. 15, 2011) (criticizing informationally-insensitive debt as a repository of tail risk), <http://blogs.reuters.com/felix-salmon/2011/04/15/is-informationally-insensitive-debt-a-good-thing/>; *see also* Samuel G. Hanson & Adi Sunderam, *Are there too many safe securities? Securitization and the incentives for information production*, 108 J. OF FIN. ECON 565 (2013) (arguing that economizing on knowledge acquisition in bad times produces inefficiencies); *but see* GARY GORTON, *SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007* (2010).

⁵⁴ *See, e.g.*, Gourinchas & Jeanne, *supra* note 30, at 5; PIERPAOLO BENIGNO & SALVATORE NISTICÒ, *SAFE ASSETS, LIQUIDITY AND MONETARY POLICY*, BANCA D’ITALIA 1 (2013), *available at* https://www.bancaditalia.it/pubblicazioni/altri-atti-seminari/2014/20140324_Benigno_paper.pdf (“There are some safe assets, like money, which can be perfect store of value and immediately resaleable . . .”).

⁵⁵ *See e.g.*, Lorenzo Bini Smaghi, *Remarks at the Conference on the ECB and its OMT Programme: A Financial Market and Financial Stability Perspective on the OMT* 9 (Sept. 2, 2013), *available at* <http://www.lorenzobinismaghi.com/documents/interventi/2013/berlin%20omt%20and%20ecb%20sept%202013.pdf> (“[I]nside money is the only safe asset in a fiat money system.”).

⁵⁶ Cash has no intrinsic value and derives its worth solely from the fact that a government declares it to have value. *See e.g.*, N. GREGORY MANKIW, *PRINCIPLES OF MACROECONOMICS* 326 (6th ed. 2011).

⁵⁷ The constitution of central bank money entails immensely weighty and complex political choices. CHRISTINE DESAN, *MAKING MONEY: COIN, BANK CURRENCY, AND THE COMING OF CAPITALISM* (2014).

central bank money.⁵⁸ The safest of all can turn into central bank money at par on demand. Legal intervention mediates the relationship between central bank money and all other financial contracts.

A strand of law scholarship closely related to our project addresses “money claims,” or short-term stable-value debt used in transactions and vulnerable to panic redemptions (runs).⁵⁹ The focus of this literature is on institutional design to produce optimal quantities of money claims, while minimizing runs. Some scholars in this field reject any conflation of safe assets and money.⁶⁰

For theoretical and policy reasons, we are interested in both money and safe assets, broadly defined. The economic literature we have surveyed in this Part describes a broad range of circumstances where market participants treat more-or-less risky debt contracts across the maturity

⁵⁸ Long-term debt contracts perform can some of the same functions as short-term money-like claims. They store value, serve as benchmarks for pricing other assets, support portfolio construction, satisfy regulatory requirements, and work as building blocks for other long- and short-term debt. For example, an overnight sale and repurchase agreement (repo) of AAA-rated mortgage-backed securities transforms an asset understood to be safe as a store of value into one that is also a medium of exchange. *See*, Morrison et al., *supra* note **Error! Bookmark not defined.**, at 034. (“These [U.S. Treasury repos] are nearly equivalent to cash, are widely traded, and—due to government backing— [are] unlikely to lose their liquidity during crises”). These functions of long-term debt entail assumptions about safety that can fail abruptly, with dramatic spillover effects. Panic sales of long-term debt that is no longer perceived as safe can drive down prices of other assets and cause transaction and firm failures. A government debt crisis might manifest itself a failed attempt to refinance long-term bonds. Currency devaluation can trigger mass insolvency.

⁵⁹ By definition, long-term debt cannot be redeemed for cash on demand; as a result, it lacks the transactional convenience (“moneyness”) and the vulnerability of short-term debt.

On “moneyness,” *see* Greenwood et al., *supra* note 37, at 6. For legal scholarship on short-term private claims that can function like money, *see*, Blair, *infra* note 60 ; Ricks, *infra* note 60; Adam J. Levitin, *Safe Banking* 83 U. CHI. L. REV. (forthcoming 2016), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2532703; Chrystin Ondersma, *Shadow Banking and Financial Distress*, 2013 COLUM. BUS. L. REV. 79 (2013) [hereinafter Ondersma Shadow Banking]; Morrison et al., *supra* note **Error! Bookmark not defined.**

For a canonical account of bank runs, *see*, Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401 (1983); CARNELL ET AL., *THE LAW OF FINANCIAL INSTITUTIONS* (5th ed. 2013) for a textbook account. On runs outside the banking system, *see, e.g.*, Gorton et al., *supra* note 2; Gary B. Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo* (Nat’l Bureau of Econ. Research, Working Paper No. 15223, 2009; Tobias Adrian et al., *Repo and Securities Lending* (Fed. Reserve Bank of N.Y., Staff Report No. 529, 2013), available at http://www.newyorkfed.org/research/staff_reports/sr529.pdf; Ricks *supra* note 60; GFSR: THE QUEST FOR LASTING STABILITY, *supra* note 16 at 97.

⁶⁰ *See* Morgan Ricks, *A Regulatory Design for Monetary Stability*, 65 VAND. L. REV. 1289, 1300 (2012) (defining “money claims” as claims with maturity of under one year, used in transactions and as transactional reserves. This definition builds on traditional views of the money supply. The Federal Reserve’s statistics divide the money supply into M1 and M2. *See* Margaret M. Blair, *Making Money: Leverage and Private Sector Money Creation*, 36 SEATTLE U. L. REV. 417 (2013); *see also* Morgan Ricks, *Reforming the Short-Term Funding Markets* (Harvard John M. Olin Center for Law, Econ., and Bus., Discussion Paper No. 713, 2012); Margaret M. Blair, *Financial Innovation, Leverage, Bubbles, and the Distribution of Income*, 30 REV. BANKING & FIN. L. 225, 229-32 (2010).

spectrum as if they were risk-free. It offers no theoretical explanation of how assumptions about safety might come and go. The economic literature also documents the destructive potential of risk-free treatment but, lacking an institutional diagnosis, it stops short of proposing a framework for institutional response. Our Article begins to fill both gaps, and highlights the political dimension of safe assets in Parts II-IV.⁶¹ Studying central bank money or short-term claims alone would capture only a sliver of our subject.⁶²

D. Loose Ends

Many parts of the economic literature are contested. The term “safe assets” can mean different things to different people; it has drawn criticism for incoherence.⁶³ The explanatory power of safe asset theories as applied to the global financial crisis and its aftermath is also open to debate.⁶⁴ Nonetheless, proponents and skeptics of safe asset theories agree that market participants treat trillions of dollars’ worth of financial assets as if they were risk-free.

Within the literature, there is general agreement that some safe assets—especially those issued by the state—are more versatile and resilient than others. In a credit boom, many public and private contracts look safe, substitute for one another, and serve as inputs in new private safe assets. Market participants then take advantage of small differences in the rates of return on different

⁶¹ Our interest in the distribution politics of safe assets relates closely to a different strand of law scholarship, which explores the political and constitutional dimensions of central bank money. *See, e.g.*, Roy Kreitner, 11 *The Jurisprudence of Global Money* (2010); Christine Desan, *Coin Reconsidered: The Political Alchemy of Commodity Money*, 11 *Theoretical Inquiries in Law* (2010).

⁶² Put in slightly more technical terms, assumptions about safety are present both on the asset side and the liability side of savings intermediation (the process whereby savings deposited with financial institutions such as banks are pooled and invested). Money-like private claims are a particularly fragile subset of liabilities. Ricks has proposed to make them safer by licensing and securing claims on private issuers with claims on the state. The proposal rests on the assumption that the asset side of the money-issuing balance sheet can be made “default-free.” *See* Ricks, *supra* note 60, at 1290). We cannot make the same assumption because it is precisely what we are investigating.

For recent proposals to reduce risks from money-like claims, *see e.g.*, Ricks, *supra* note 60, at 1344; Levitin, *supra* note 53; George Pennacchi, *Narrow Banking*, 4 *ANN. REV. FIN. ECON.* 1 (2012). In Ricks’s proposal, the government would guarantee “money claims” issued by private entities pursuant to a government license. Levitin offers a version of 100% reserve banking, where banks could only issue deposit claims against cash or short-term U.S. Treasury securities. Pennacchi would allow “narrow banks” to issue claims against a pool of U.S. Treasury securities.

⁶³ *See e.g.*, Portes, *supra* note 21 (criticizing safe assets as a damaging meme, and questioning the empirical claims in the literature), Fisher, *supra* note 28 (questioning the utility of combining disparate functions and instruments under one term).

⁶⁴ *Id.*

assets that look equally safe, or are regulated as if they were.⁶⁵ Perceptions of safety diverge again in crisis, when public safe assets are more likely to stay safe while the private ones fail.⁶⁶

Discontinuous perceptions of safety are another shared concern. When traders stop treating contracts as if they were risk-free, their value drops abruptly. The financial system suffers a shock because safe assets are widely held, and connect different firms and markets. State intervention follows in the form of bailouts; public safe assets replace private ones.⁶⁷

With empirical research in early stages, most policy questions posed in the economic literature stand unanswered:

- Whether there is a shortage of safe assets, and how one might tell;⁶⁸
- Whether governments should issue more or less debt for the sake of financial stability, who should buy it, and how it should be treated for regulatory purposes;⁶⁹
- Whether governments should avoid restructuring their bonds to maintain their safe asset status at all costs, or move decisively to reduce unsustainable debts;⁷⁰

⁶⁵ See *supra* Part II.B.1 Bernanke et al., *supra* note 32.

⁶⁶ See e.g., Brunnermeier & Haddad, *supra* note 13

⁶⁷ IMF GFSR, *supra* note 2, at 110-1; Gourinchas & Jeanne, *supra* note 30; Gorton & Ordoñez, *supra* note 37.

⁶⁸ See e.g., Caballero, *supra* note 9; Caballero & Farhi, *supra* note 37; Gorton et al., *supra* note 2; IMF GFSR, *supra* note 2; Portes, *supra* note 21; Fisher, *supra* note 29 and accompanying text. *see also* DEP'T OF THE TREASURY ET AL., JOINT STAFF REPORT: THE U.S. TREASURY MARKET ON OCTOBER 15, 2014 (2015), http://www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_Report_Treasury_10-15-2015.pdf

⁶⁹ See e.g., Caballero & Farhi, *supra* note 37, Greenwood et al., *supra* note 37; Greenwood et al., Zoltan Poszar, *Institutional Cash Pools and the Triffin Dilemma of the U.S Banking System*, 22 FIN. MKT. INST. & INSTRUMENTS 283 (2013) (issue more government debt); [others – stop letting central banks hog government debt/monetary stimulus]. *See e.g.*, Charles A. E. Goodhart, *The Macro-Prudential Authority: Powers, Scope and Accountability*, 2011, Portes, *supra* note 21, ESRB, SOVEREIGN REPORT, *supra* note 12; Nouy, *supra* note 11; 2011 IMF 2012; Jens Weidmann, President of Deutsche Bundesbank, Speech at Harvard University: Europe's Monetary Union—Making It Prosperous and Resilient (Nov. 25, 2013), *available at* <http://www.bis.org/review/r131126b.htm>; Hervé Hannoun, Deputy Gen. Manager, Bank for Int'l Settlements, Speech at the Financial Stability Institute High-Level Meeting: Sovereign Risk in Bank Regulation and Supervision: Where Do We Stand? (Oct. 26, 2011), *available at* <http://www.bis.org/speeches/sp111026.htm> (raise risk premia, eliminate regulatory privileges.)

⁷⁰ See e.g., Hans J. Blommestein, *The Debate on Sovereign Risk, Safe Assets and the Risk-Free Rate: What are Possible Implications for Sovereign Issuers?*, 1 EKONOMI-TEK 55 (2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2250377; Trichet, *supra* note 4 (observing the loss of safe assets status for euro area sovereign debt); Ashoka Mody, *The ghost of Deauville*, VOXEU (Jan. 7, 2014), <http://www.voxeu.org/article/ghost-deauville> (criticizing general aversion to sovereign debt restructuring in the euro area); *but see* Douglas A. Redicker & Angela Ubide, *A Disruptive Proposal for the IMF*, BLOOMBERG (Feb. 7, 2014), *available at* <http://www.bloombergview.com/articles/2014-02-17/a-disruptive-proposal-by-the-imf> (criticizing IMF insistence on restructuring of unsustainable debt).

- Whether private firms should be allowed to issue safe assets at all and, if yes, on what conditions;⁷¹ and
- Whether regulators should require banks to hold more liquid assets and what, if any, requirements along the same lines should apply to non-bank financial firms.⁷²

We do not answer these questions directly below, but recast the context in which they arise. The current policy debate about safe assets adopts a focus on shortages and gluts from the macroeconomic literature, and mostly glosses over institutional and political choices. We move these choices to the foreground. Instead of asking whether state intervention would produce more or less safety, we ask how different forms of intervention might distribute safety attributes and the accompanying subsidies across the financial sector—for example, between bank intermediation and securities trading, or between public and private debt. We consider interactions among intervention tools, and the incentives for public and private actors to manipulate them for their respective ends.

II. The Legal Architecture of Safe Assets

Safe assets do not grow on trees; they are deliberately constructed, nurtured, and adapted to meet the needs of particular constituents. Public and private actors make, label, and guarantee contracts to pay off in full and on time. *Making* a contract safe is a form of financial engineering and legal design to reduce risks to payoff. At the extreme, it is possible to reduce some of the risks to the point where they could be assumed away, at least for some purposes. A contract is *labeled* safe to attract buyers. An effective label dissuades market participants from acquiring additional information about the asset.⁷³ *Guarantees* import safety from the outside, when issuer and contract attributes are not enough to secure risk-free treatment.

⁷¹ See e.g., Ricks, *supra* note 60; Martin Wolf, *THE SHIFTS AND THE SHOCKS: WHAT WE'VE LEARNED—AND HAVE STILL TO LEARN—FROM THE FINANCIAL CRISIS* (2014) and Levitin, *supra* note 59 (100% reserve banking); cf. Gorton et al., *supra* note 2, at 105 (warning against efforts to regulate private safe asset creation).

⁷² IMF GFSR, *supra* note 2 at 115 (noting that Basel liquidity requirements create demand pressure on safe asset markets); see also Basel Committee on Bank Supervision, *Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools* (2013), available at <http://www.bis.org/publ/bcbs238.pdf>; Financial Stability Board, *Identifying the Effects of Regulatory Reforms on Emerging Market and Developing Economies: A Review of Potential Unintended Consequences* (Report to the G20 Finance Ministers and Central Bank Governors) (June 19, 2012), at 15 (summarizing concerns about the Basel III liquidity framework due to a limited supply of high quality liquid assets (HQLA) in emerging and developing economies). See also Part II.B, *infra*.

⁷³ Dang et al, *supra* note 51 and accompanying text.

In this Part, we spell out our framework for analyzing public intervention in safe assets. We describe the architecture of making, labeling, and guarantees, before analyzing its vulnerabilities in Part III.

As we illustrate in Table 1 and elaborate below, the basic three-part architecture of intervention is the same for public and private safe assets.⁷⁴ However, states have a wider range of tools at their disposal than private market participants, by virtue of their powers to tax, print money, and regulate. States use their tools purposefully to endorse the safety of some private contracts and lend safety attributes to others. For their part, market participants design contracts around existing laws and institutions to minimize specific risks.⁷⁵ In practice, most safe assets grow out of continuous public-private collaboration.⁷⁶

⁷⁴ On private tools to make and guarantee safe assets, *see e.g.*, 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, 800 (2013) (an autopsy of financial engineering and transactional techniques in to create claims with desired risk characteristics); Anna Gelpern & Adam J. Levitin, *Rewriting Frankenstein Contracts: The Workout Prohibition in Residential Mortgage-Backed*, 82 S. Cal. L. Rev. 1077, 1084-5 (2009) (describing formal, structural, and functional approaches to creating “rigid contracts” immune from variations in payoff).

On labeling by private credit rating agencies, *see e.g.*, Frank Partnoy, *The Paradox of Credit Ratings*, in 9 RATINGS, RATINGS 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 (1997)

⁷⁵ For example, sponsors of asset-backed securitizations used pre-existing features of U.S. bankruptcy law, such as the limited definition of entities eligible to file for bankruptcy protection, to insulate securitized asset pools from restructuring in bankruptcy. Gelpern & Levitin, *supra* note 74 at 1094-98; 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, 801 (2013).

⁷⁶ Purely private safe assets are rare: even if the state were not involved in designing or endorsing the safety attributes, at a minimum, the assets’ systemic importance raises the possibility that they would be guaranteed *ex post*.

Table 1: The Safety Toolkit—Public and *Private* Ordering

	Made Safe	Labeled Safe	Guaranteed Safe
Institution	<ul style="list-style-type: none"> • Balance sheet regulation <ul style="list-style-type: none"> ○ Assets, incl. liquidity coverage ○ Liabilities, incl. depositor preference, loss-absorbent debt, minimum capital • Activity restrictions • Affiliation restrictions • Risk retention • <i>Tiered liabilities</i> • <i>Portfolio construction</i> • <i>Negative covenants</i> 	<ul style="list-style-type: none"> • Charter, license • Primary dealer designation • <i>Credit ratings</i> 	<ul style="list-style-type: none"> • Eligibility for LOLR loans • Eligibility for extraordinary support (institutions)⁷⁷ • Central bank swap lines • <i>Affiliate guarantees</i> • <i>Insurance and other credit enhancement</i>
Asset	<ul style="list-style-type: none"> • Underwriting and product standards • Collateral rules (margin, haircut) • Central clearing • Exemptions and priorities <ul style="list-style-type: none"> ○ Bankruptcy safe harbors ○ Depositor preference • <i>Short maturity</i> • <i>Collateral</i> 	<ul style="list-style-type: none"> • Exemptions from asset regulation <ul style="list-style-type: none"> ○ Concentration limits • License to invest <ul style="list-style-type: none"> ○ Permitted investments ○ High Quality Liquid Asset • Asset risk weights • Regulatory accounting <ul style="list-style-type: none"> ○ Stable NAV • <i>Credit ratings</i> • <i>Collateral “haircuts”</i> 	<ul style="list-style-type: none"> • Deposit insurance • Eligibility for central bank operations (incl. collateral) • Eligibility for extraordinary support (contracts)⁷⁸ • <i>Insurance and other credit enhancement</i> • <i>Ex post guarantees</i>

The table is illustrative, not exhaustive. We try to capture a range of statutory, regulatory, and contractual tools whose stated objective directly implicates asset safety. For the remainder of Part II, we consider the three categories of tools in turn. We explore overlaps, misalignments, and other hidden risks in Part III.

⁷⁷ For example, Term Auction Facility (TAF), Primary Dealer Credit Facility (PDCF), and Term Securities Lending Facility (TSLF). http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm

⁷⁸ For example, Commercial Paper Funding Facility (CPFF), Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), Money Market Investor Funding Facility (MMIFF), and the Term Asset-Backed Securities Loan Facility (TALF). http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm

A. Made Safe(r)

The state can engineer safe assets in two ways. First, it can promote “safe and sound” (solvent, liquid, and otherwise less risky) institutions, whose liabilities serve as safe assets. Second, it can reduce risks associated with particular contracts or categories of contracts to support full and timely repayment, stable prices, and trading at par in multiple states of the world.

1. *Institutions Made Safe*

Bank balance sheet regulation is the best-known example of making institutions safe. Bank deposits function as safe assets for people and firms. They are both a store of value and a payment medium, available in full on demand. For a bank, deposits are senior liabilities whose payoff depends on the quality of its assets, the cushion of junior liabilities available to absorb losses, and the way in the bank runs its business. To protect demand deposits, laws and regulations prescribe the composition of bank assets and junior liabilities; they also restrict bank activities and affiliations.⁷⁹ A similar approach is used for other financial intermediaries, such as money market mutual funds, which issue presumptively risk-free claims to the public.

On the asset side, regulation encourages some investments and restricts others, to make all of the firm’s liabilities safer. For example, deposit-taking banks may only hold enumerated assets and, within this set, are encouraged to hold some over others.⁸⁰ At the limit, scholars have argued that banks should hold cash reserves equal to their deposit liabilities.⁸¹ Money market mutual funds in the United States must maintain the market value of their assets within a very narrow range.⁸²

⁷⁹ We defer the discussion of deposit insurance until Part II.C. *See e.g.*, Robert C. Clark, *The Soundness of Financial Intermediaries*, 86 YALE L.J. 1 (1976); HOWELL E. JACKSON & EDWARD L. SYMONS, *REGULATION OF FINANCIAL INSTITUTIONS* (1999); Arthur E. Wilmarth, Jr., *A Two-Tiered System of Regulation Is Needed to Preserve the Viability of Community Banks and Reduce the Risk of Megabanks*, 2015 MICH. ST. L. REV. 249 (2015); ANAT ADMATI & MARTIN HELLWIG, *THE BANKERS’ NEW CLOTHES: WHAT’S WRONG WITH BANKING AND WHAT TO DO ABOUT IT* (2013).

⁸⁰ *See, e.g.*, National Bank Act, 12 U.S.C. § 24 (Seventh) (limiting the activities of U.S. banks); Valentine V. Craig, *Merchant Banking: Past and Present*, FDIC Banking Review (2002), *available at* <https://www.fdic.gov/bank/analytical/banking/2001sep/article2.html> (explain historical development of restrictions on commercial banks’ merchant banking activities). *See* Part III.B.2 *infra*.

⁸¹ *See e.g.*, Levitin, *supra* note 59 and sources cited (reviewing the economic literature on 100% reserve banking).

⁸² Rule 2a-7, Investment Company Act of 1940, 15 U.S.C. § 80a-1- 64 (1940); 17 C.F.R. § 270.2a-7(a)(2) (2015), 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. 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. Jill Fisch & Eric D. Roiter, *A Floating NAV for Money Market Funds: Fix or Fantasy?*, 2012 U. ILL. L. REV. 1003 (2012). *See* Part III.B.3 *infra*.

On the liability side, a senior-subordinated hierarchy protects senior debt from default. Legislation secures the privileged status of bank deposits (depositor preference) in a growing number of countries.⁸³ Depositors are first in line to be paid under these laws when a bank fails. At the bottom of the hierarchy, capital adequacy regulations mandate a minimum cushion of residual liabilities (capital), so that deposits are repaid in full even when bank assets lose value.⁸⁴

Structural measures can be used in addition to or in lieu of balance sheet regulation, to help insulate firms that issue safe assets from risks elsewhere in the financial system. Activities such as trading securities, dealing in derivatives, or investing in hedge funds might be barred or severely curtailed, along with potentially risky affiliations.⁸⁵ Transactions with affiliates are also regulated partly out of concern that risk-taking within financial conglomerate might infect protected firms.

⁸³ See, e.g., U.K. Parliament, *Financial Services (Banking Reform) Act*, 2013, c. 33, §13 available at <http://services.parliament.uk/bills/2013-14/financialservicesbankingreform.html> (introducing and enacting legislation on depositor preference in U.K.); Council of the European 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 “Under 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.”).

⁸⁴ See, e.g., 12 C.F.R. §§ 3, 5, 6, 208, 217, 225 (2015) (U.S. capital adequacy regulations and Basel III implementation), available at <http://www.gpo.gov/fdsys/pkg/FR-2013-10-11/pdf/2013-21653.pdf>; Basel Comm. on Banking Supervision, *Basel III: A global regulatory framework for more resilient banks and banking systems* (June 2011), available at <http://www.bis.org/publ/bcbs189.pdf>; Basel Comm. on Banking Supervision, *Basel III: A global regulatory framework for more resilient banks and banking systems* (Jan. 2014), available at <http://www.bis.org/publ/bcbs270.pdf>. Liability tiering need not accompany asset-side regulation: money market fund liabilities comprise mostly equity.

⁸⁵ 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., Board of Governors of the Federal Reserve System et al., *Agencies Issue Final Rules Implementing the Volcker Rule* (Dec. 10, 2013), <http://www.federalreserve.gov/newsevents/press/bcreg/20131210a.>; U.K. Independent Commission on Banking, *Final Report Recommendations* (September 2011) (“Vickers Report”), available at <http://webarchive.nationalarchives.gov.uk/20131003105424/https://hmt-sanctions.s3.amazonaws.com/ICB%20final%20report/ICB%2520Final%2520Report%5B1%5D.pdf>; Liikanen et al., *High-Level Expert Group on Reforming the Structure of the EU Banking Sector* (October 2012) (“Liikanen Report”), available at http://ec.europa.eu/internal_market/bank/docs/high-level_expert_group/report_en.pdf; French law No. 2013-672 (July 2013); *Trennbankengesetz* (German Bank Separation Law) which is 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), BGBl. 2013 I Nr. 47, 3090; <http://www.imf.org/external/pubs/ft/sdn/2013/sdn1304.pdf>; José Viñals et al., *Creating a Safer Financial System: Will the Volcker, Vickers, and Liikanen Structural Measures Help?*, IMF Staff Discussion Note (May 2013), available at <http://www.imf.org/external/pubs/ft/sdn/2013/sdn1304.pdf>; Leonardo Gambacorta and Adrian van Rixtel, *Structural Bank Regulation Initiatives: Approaches and Implications*, BIS Working Papers No. 412, available at <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. Banking Act of 1933, Pub. L. No. 73-66, 48 Stat. 162. Structural separation is also used to protect

2. *Contracts Made Safe*

Statutes and regulations prescribe contract terms, contracting practices, and repayment priorities, and shield some claims from restructuring in bankruptcy. They work alongside private law techniques to reduce risk in contracts.

Underwriting standards for asset-backed securities represent direct legal intervention in the contracting process, designed to reduce credit risk.⁸⁶ Criteria for debtors' ability to repay, minimum loan-to-value ratios, due diligence standards, and (less commonly) constraints on the financial terms reduce the risk of default on consumer loans. Once the loans are repackaged, these measures also support the performance of securitization claims.⁸⁷

Central clearing is a tool to mitigate counterparty risk in private financial contracts. 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.⁸⁸ In 2008, traders in derivatives and

claims by contract and regulation outside banking, among other areas, in asset securitization (Gelper and Levitin 2009) and investment fund regulation (Morley 2014).

⁸⁶ Patricia A. McCoy & Elizabeth Renuart, *The Legal Infrastructure of Subprime and Nontraditional Home Mortgages*, Joint Center for Housing Studies of Harvard University, http://jchs.harvard.edu/sites/jchs.harvard.edu/files/ucc08-5_mccoy_renuart.pdf.

⁸⁷ We do not suggest that consumer mortgages become safe assets for banks by virtue of complying with consumer protection regulations. However, post-crisis reforms of mortgage securitization expressly link consumer protection, mortgage underwriting standards and the safety of mortgage-backed securities, which have functioned as safe assets. See 12 CFR § 1026.43 “Minimum standards for transactions secured by a dwelling.” A mortgage that meets the “qualified mortgage” requirements of the Consumer Financial Protection Bureau is exempt from the risk retention requirement (skin in the game) for securitization under the Dodd-Frank Act. See *id.* (defining “qualified mortgage”); Office of the Comptroller of the Currency et al., Credit Risk Retention; Proposed Rule, 78 F.R. 57928 (Sept. 20, 2013).

Making asset-backed securities safe entails a mix of contract and balance sheet regulation. Laws that require lenders to retain a portion of the credit risk when selling off pools of loans try to promote more resilient cash flow structures and better monitoring. Covered bond laws, which leave the original lenders responsible for the performance of their repackaged loans, are an alternative approach to risk retention. Risk retention in securitization can resemble capital adequacy requirements elsewhere. Contract and institutional measures combined seek to align the incentives for safe asset engineers, issuers, investors, and parties to the underlying contracts. IMF GFSR, *supra* note 2. For background on covered bonds, see Congressional Research Service, *Covered Bonds: Background and Policy Issues*, R41322 (Apr. 2013); Standard & Poor's, *Covered Bonds—A Primer on the Top Five Global Jurisdictions* (Mar. 14, 2011), http://www.standardandpoors.com/spf/upload/Ratings_EMEA/2011-03-14_CoveredBondsAPrimerOntheTop5GlobalJurisdictions.pdf.

⁸⁸ A common objection to this requirement is that it replaces the risk of bilateral counterparty failure with the risk of central counterparty 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); Levitin, *supra* note **Error! Bookmark not defined.**; Adam J. Levitin, *Prioritization and Mutualization: Clearinghouses and the edundancy of the Bankruptcy Safe Harbors*, 10 BROOK. J. OF CORP., FIN., AND COMM. L. (forthcoming 2015), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2610469; Yesha Yadav, *The Problematic Case of*

repo markets feared that their contract counterparties might fail; their individual efforts to manage the risk by demanding more collateral led to panic sales and more failures.⁸⁹ In response, world leaders agreed in 2009 to require previously unregulated derivatives contracts to be cleared through central counterparties—regulated institutions that mutualize counterparty risk.⁹⁰ The United States and other jurisdictions have since implemented reforms to that effect.⁹¹ Regulators have also advocated central clearing for repos in domestic and international fora; however, they have stopped short of mandating it by law, and have relied instead on moral suasion.⁹²

Margin and collateral requirements are contractual analogues to minimum capital in institutional regulation. Brokers, exchanges, and public authorities have long required investors to make a minimum down payment (margin) when buying a security with borrowed funds.⁹³ Similarly, over-collateralization (haircuts) is common in securities-based lending, such as repos.⁹⁴ Post-2008 regulatory reform proposals advocate minimum haircuts for contracts that do not clear through central counterparties.⁹⁵ Collateral requirements here mitigate risk on their own, and encourage central clearing.

Clearinghouses in Complex Markets, 101 GEO. L.J. 387 (2013). While clearinghouses are an old device, regulations mandating that traders use them is new.

⁸⁹ See e.g., Gorton & Metrick, *supra* note 59.

⁹⁰ Leaders' Statement at the Pittsburgh Summit, The G20 (Sept. 24-25, 2009), available at https://g20.org/wp-content/uploads/2014/12/Pittsburgh_Declaration_0.pdf.

⁹¹ Dodd-Frank Wall Street Reform and Consumer Protection Act, §§ 761-774, Pub. L. No. 111-203 (2010); Financial Stability Board, OTC Derivatives Market Reforms: Eighth Progress Report on Implementation (Nov. 7, 2014), available at http://www.financialstabilityboard.org/wp-content/uploads/r_141107.pdf?page_moved=1.

⁹² COMMITTEE ON PAYMENT AND SETTLEMENT SYSTEMS, STRENGTHENING REPO CLEARING AND SETTLEMENT ARRANGEMENTS (2010), available at <http://www.bis.org/cpmi/publ/d91.pdf>; Liz McCormick, *Financial Firms Move Closer to Central Clearing in Repo Market*, BLOOMBERG (Apr. 13, 2015, 1:18 PM), <http://www.bloomberg.com/news/articles/2015-04-13/financial-firms-move-closer-to-central-clearing-in-repo-market>.

⁹³ GERDING, *supra* note 15, at 379

⁹⁴ 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. GERDING, *supra* note 15, at 375; Tobias Adrian & Hyun Song Shin, *Money, Liquidity, and Monetary Policy*, 99 AMER. ECON. REV. 600, 602 (2009).

⁹⁵ FIN. STABILITY BD., STRENGTHENING OVERSIGHT AND REGULATION OF SHADOW BANKING: REGULATORY FRAMEWORK FOR HAIRCUTS ON NON-CENTRALLY CLEARED SECURITIES FIN. TRANSACTIONS (2014), available at

Bankruptcy priorities support payoff for senior debt even when the issuer is insolvent. Claims with absolute priority in liquidation are paid in full before those behind them get anything.⁹⁶ Priorities minimize credit, but not liquidity risk, since senior claims can be tied up in insolvency proceedings for a long time.⁹⁷

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 automatic stay on creditor enforcement, rules against setoff, and against preferential transfers to creditors.⁹⁸ They are “effectively exempt from bankruptcy.”⁹⁹ For example, while other secured creditors must petition the court to sell their collateral, repo lenders can sell it immediately. Unlike other creditors, they

http://www.financialstabilityboard.org/wp-content/uploads/r_141013a.pdf. Contracts secured by government debt would be exempt. *See also* Gorton & Metrick, *supra* note 59.

⁹⁶ 11 U.S.C. § 507. *See also, e.g.*, 11 U.S.C. § 1129(b) (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).

⁹⁷ *See, e.g.*, 11 U.S.C. § 507 (listing claims in order of priority; 11 U.S.C. § 364 (providing that a party who provides post-petition financing to a debtor may negotiate a “superpriority”). *See also, e.g., Dewsnuip 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); *see Morrison et al., supra* note **Error! Bookmark not defined.** at 8; *see also Dang et al., supra* note 51.

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 the bank must be closed. Depositor preference comes into play if deposit insurance is not enough. Daniel C. Hardy, *Bank Resolution Costs, Depositor Preference and Asset Encumbrance*, 22 J. FIN. REGULATION AND COMPLIANCE 96 (2014), *available at* <http://www.emeraldinsight.com/doi/pdfplus/10.1108/JFRC-07-2013-0022>.

⁹⁸ Morrison et al., *supra* note **Error! Bookmark not defined.**

⁹⁹ 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); Ondersma Shadow Banking, *supra* note 59; for repos, *see Morrison et al., supra* note **Error! Bookmark not defined.**

can also accelerate and terminate their contracts.¹⁰⁰ For repos, special treatment is justified expressly by the need to keep this vital funding market safe and liquid.¹⁰¹

3. *Made Safe(r): Conclusions*

State intervention can reduce risks associated with financial contracts. Laws and regulations prescribe issuers' balance sheets and restricts their activities and affiliations. They mandate contract terms and contracting procedures. They even insulate debt contracts from the debtor's insolvency.

Making assets safe usually entails incremental moves to reduce particular risks. Multiple forms of intervention can operate simultaneously on the asset and its issuer, dialing safety precautions up or down. None tell buyers to treat the asset as if it were risk-free.¹⁰² Labels are different.

B. **Labeled Safe**

We use the shorthand "labels" for authoritative public statements about the riskiness of particular assets. Labels are part of the machinery of balance sheet regulation (making institutions safe); this section describes their distinct contribution to the safety of contracts.

Two kinds of labels are prominent in safe asset construction: label-as-license and label-as-price. Label-as-license permits regulated firms to buy assets that would otherwise be off-limits to them. Label-as-price can determine the cost of different investments for regulated firms, or the quoted value of their liabilities.

¹⁰⁰ In bilateral repos, sellers (borrowers) and buyers (lenders) deal with each other directly; in triparty repos, agents intermediate between them, stand ready to substitute collateral and, in some cases, to 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; most tri-party repos use other assets. See Morrison et al., *supra* note **Error! Bookmark not defined.**

¹⁰¹ See *Exploring Chapter 11 Reform: Corp. and Fin. Institutions Insolvencies; Treatment of Derivatives before the Subcomm. on Reg. Reform, Com. and Antitrust L. of the H. Comm. on the Judiciary*, 113th Cong. (Mar. 26, 2014) (testimony of Seth Grosshandler, Partner, Cleary Gottlieb Steen & Hamilton LLP), <http://judiciary.house.gov/cache/files/63291df9-95b7-42ba-b1e4-a6720ea65201/grosshandler-testimony.pdf>; but see, *Exploring Chapter 11 Reform: Corp. and Fin. Institutions Insolvencies; Treatment of Derivatives Before the Subcomm. on Reg. Reform, Com. and Antitrust L. of the H. Comm. on the Judiciary*, 113th Cong. (Mar. 26, 2014) (testimony of Hon. Christopher S. Sontchi, Judge, U.S. Bankr. Ct. for the D. of Del.), <http://judiciary.house.gov/cache/files/debf819f-2ef1-4738-95c7-df47b7c992de/sontchi-s-testimony.pdf>.

¹⁰² We address the possibility that intervention to "make safe" would convey incidental labels in Part III *infra*.

1. *Label as License*

An asset included among permitted investments for regulated firms is effectively labeled “safe enough” for those firms. The label also works as a license to invest. Some regulations specify permitted investments by name, as, for example, in the “legal lists” of bank investments published by U.S. states.¹⁰³ Others describe asset attributes. For instance, some state laws limit banks, municipalities and insurance firms to investments with stable net asset value (NAV).¹⁰⁴ Exemptions operate as versions of licensing: U.S. government debt is exempt from prohibitions on affiliate transactions and proprietary trading under U.S. banking law;¹⁰⁵ European government debt is exempt from concentration limits under EU bank regulations.¹⁰⁶

Label-as-license does not call an asset risk-free, only safe enough to buy. By extension, label-as-license does not dispense with the need for regulated buyers to research the risk attributes of an asset, it just gets them over a regulatory threshold. Although labels might help market participants conserve information-gathering costs, their primary function is to keep vulnerable firms away from the riskiest of investments.¹⁰⁷ When labels coordinate regulated firms to invest in

¹⁰³ See e.g., The Commonwealth of Massachusetts Commissioner of Banks, *List of Legal Investments*, <http://www.mass.gov/ocabr/banking-and-finance/laws-and-regulations/list-of-legal-investments.html> (listing investment deemed “legal” under Massachusetts General Laws chapter 167 section 15A); see also W. BRADDOCK HICKMAN, CORPORATE BOND QUALITY AND INVESTOR EXPERIENCE 211-78 (1957) (on the performance of bonds on “Legal Lists.”)

¹⁰⁴ INVESTMENT COMPANY INSTITUTE, REPORT OF THE MONEY MARKET WORKING GROUP 27-28 & Appendix D (2009), available at 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, absent a stable NAV, many state and local governments no longer would be able to use money market funds to help manage their cash.” *Perspectives on Money Market Mutual Fund Reform: Hearing Before the U.S. Senate Committee on Banking, Housing and Urban Affairs*, 112th Cong. at 31-32 (June 21, 2012) (testimony of Paul Schott Stevens, CEO, Investment Company Institute), http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=12d86f5f-3e1d-4f64-a2db-f2f7f1126c0a.

¹⁰⁵ The proprietary trading exemption also applies to some non-U.S. government debt under a limited set of circumstances. Office of the Comptroller of the Currency et al., *Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds*, 79 F.R. 5536 (Jan. 2014).

¹⁰⁶ Capital Requirements Regulation (CRR), Regulation (EU) No 575/2013, Article 400(2)(g) and (h); Bank of England, *Large exposures*, Supervisory Statement SS16/13 (Dec. 2013).

¹⁰⁷ The functions of label-as-license are analogous to those of gatekeepers in securities markets. Rating agencies, accounting firms, investment banks, law firms and others can serve as “reputational intermediaries who provide verification and certification services to investors.” John C. Coffee, Jr. *Understanding Enron: “It’s About the Gatekeepers, Stupid”*, 57 BUS. LAW. 1403, 1405 (2002); See also Stephen Choi, *Market Lessons for Gatekeepers*, 92 NW. U. L. REV. 916, 918 (1998). Gatekeepers can also restrict market access. 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”).

a limited set of known assets, they may also reduce the monitoring costs of balance sheet regulation for governments.

Licensing operates as an on-off switch, potentially creating a market for an asset where there was none. It can also work as a railroad switch, redirecting large-scale financial flows from one industry to another. As a result, a lot rides on a labels. U.S. banking history can resemble an endless a string of battles over permitted and forbidden investments, including over a century of conflict between commercial banks and their competitors over banks' ability to buy and sell securities.¹⁰⁸

The distribution stakes in labels are on display in the protracted controversy over liquidity standards for big banks and certain other systemically important financial institutions. Following international agreement,¹⁰⁹ U.S. regulators mandated a Liquidity Coverage Ratio (LCR) for such firms as a buffer against sudden cash outflows of the sort that led to bailouts in 2008.¹¹⁰ Only High Quality Liquid Assets (HQLA) with minimal credit risk and proven market liquidity are eligible for inclusion in LCR. The HQLA label in the draft and final rule covered U.S. federal and certain foreign government debt, but not state and municipal debt.¹¹¹ Comment letters threatened dire

¹⁰⁸ Larry R. Mote, *Banks and the Securities Market: The Controversy*, 3 ECON. PERSPECTIVES No. 8, Fed. Res. Bank of Chicago (Mar. 12, 1979), available at <https://www.chicagofed.org/publications/economic-perspectives/1979/mar-apr-mote-3>; Helen Garten, U.S. FIN. REG. & THE LEVEL PLAYING FIELD (2001) (describing the history of U.S. regulatory approaches to competition among banks and securities firms, among others). The securities turf wars look quaint by comparison with more recent ones over derivatives, commodities, and proprietary trading, each with its own constellation of vested interests. On derivatives and commodities, see e.g., Saule T. Omarova, *The Quiet Metamorphosis: How Derivatives Changed the "Business of Banking,"* 63 U. MIAMI L. REV. 1041 (2009); Saule T. Omarova, *The Merchants of Wall Street: Banking, Commerce & Commodities*, 98 Minn. L. Rev. 265 (2012). On proprietary trading, see e.g., Ian Talley, *Could Volcker Rule Be a 'Stealthier' Way to Cut U.S. Debt*, WALL ST. J. (Dec. 26, 2013, 10:00 AM), <http://blogs.wsj.com/economics/2013/12/26/could-volcker-rule-be-a-stealthier-way-to-cut-u-s-debt/>; Cheyenne Hopkins, *U.S. Regulators Weight Volcker Rule Exemption for Sovereign Debt*, BLOOMBERG (Feb. 1, 2012, 12:01 AM), <http://www.bloomberg.com/news/articles/2012-02-01/u-s-regulators-weigh-volcker-exemption-for-sovereign-debt> (describing lobbying by top foreign officials to exempt their government debt from proprietary trading restrictions of the Volcker Rule under the Dodd-Frank Act).

¹⁰⁹ BASEL COMMITTEE ON BANK SUPERVISION, BASEL III: THE LIQUIDITY COVERAGE RATIO AND LIQUIDITY RISK MONITORING TOOLS (Jan. 2013) available at <http://www.bis.org/publ/bcbs238.pdf>.

¹¹⁰ Liquidity Coverage Ratio: Liquidity Risk Measurement, Standards, and Monitoring; Proposed Rule, 78 Fed. Reg. 71,818, 71,868 (proposed Nov. 29, 2013) (to be codified at 12 C.F.R. pts. 50, 249 and 329), available at <http://www.gpo.gov/fdsys/pkg/FR-2013-11-29/pdf/2013-27082.pdf>; Liquidity Coverage Ratio: Liquidity Risk Measurement Standards; Final Rule, 79 Fed. Reg. 61,440, 61,541 (Oct. 10, 2014) (to be codified at 12 C.F.R. pts. 50, 249 and 329), available at <http://www.gpo.gov/fdsys/pkg/FR-2014-10-10/pdf/2014-22520.pdf>. Europe is also in the process of implementing the liquidity coverage ratio. See, e.g., Nicholas Comfort, *Basel IV is the Buzzword as Europe's Banks Brace for Costs*, BLOOMBERG (Aug. 6, 2015 11:29 A.M.), <http://www.bloomberg.com/news/articles/2015-08-06/basel-iv-is-the-buzzword-as-europe-s-big-banks-brace-for-costs> (noting that the liquidity coverage ratio is expected to be implemented in the E.U. by 2019).

¹¹¹ U.S. LCR regulations, *supra* note 110, exceed Basel requirements.

consequences for states and municipalities; one from a state treasurer implied that federal regulators favored Botswana over California.¹¹² The authorities relented in May 2015, and offered to include some municipal debt in HQLA, only to face more pressure to include the rest.¹¹³

2. *Label as Price*

Regulatory labels can function as price tags attached to the assets and liabilities of regulated firms. For example, a bank's assets are "weighted," or adjusted for risk, to determine the minimum level of capital it must hold to protect against unexpected loss.¹¹⁴ 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. Assets risk-weighted at zero, including bonds issued by some governments and international institutions, take no capital at all.¹¹⁵ To the extent a bank pays more to issue capital compared to other liabilities,¹¹⁶ it pays more to hold assets with higher risk weights. It is discouraged but not barred from buying such assets—and encouraged to herd into others with lower risk weights. Risk weights, like licenses, can also convey government assessments of risk.

Asset risk weights purport to recognize but not alter the attributes of an asset. This is not strictly accurate. Risk weights can be sharply discontinuous and static in a way that risk is not. For example, for much of the history of international capital adequacy regulation, governments had agreed on a "bucket" approach to risk. They divided bank assets into four credit risk categories,

¹¹² Letter from Bill Lockyer, Treasurer, State of California (Jan. 31, 2014), *available at* http://www.federalreserve.gov/SECRS/2014/February/20140221/R-1466/R-1466_022114_112029_567028751783_1.pdf The letter from California is notable in light of its persistent fiscal crises, and the fact that most of the foreign government securities listed in it would not in fact qualify for inclusion in LCR. *See, e.g.,* Stephanie Simon, *Cash-strapped California's IOUs: Just the Latest Sub for Dollars*, Wall. St. J. (Jul. 25, 2009) <http://www.wsj.com/articles/SB124846739587579877> (discussing California's decision to issue scrip in a 2009 financial crisis)

¹¹³ *Regulation WW: Liquidity Coverage Ratio: Treatment of Municipal Securities as High-Quality Liquid Assets*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/apps/foia/ViewComments.aspx?doc_id=R-1514&doc_ver=1 (last visited Aug. 28, 2015).

¹¹⁴ 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. *Supra* notes 79 & 84 and accompanying text. Governments have coordinated their approaches to capital adequacy regulations, including risk weights, since the 1980s under the auspices of the Basel Committee on Banking Supervision. The scope of coordination has broadened since 2008. Basel Committee on Banking Supervision, *A brief history of the Basel Committee* (Oct. 2014), <http://www.bis.org/bcbs/history.pdf>.

¹¹⁵ *See* BASEL COMM. ON BANKING SUPERVISION, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS (1988), <http://www.bis.org/publ/bcbs04a.pdf>.

¹¹⁶ The magnitude of the effect and explanations for it are subject to debate. *Compare* ADMATI & HELLWIG, *supra* note 79 with Institute of International Finance, *Risk Sensitivity: The Important Role of Internal Models*, <https://www.iif.com/publication/regulatory-report/risk-sensitivity-important-role-internal-models>.

corresponding to zero, 20%, 50% and 100% risk weights depending on the nature of the issuer and the contract. Assets would not normally move between buckets.¹¹⁷ Static labels might be good at herding investors, and easier to monitor. However, the risk assessments they convey are crude bordering on fictional.

Regulatory accounting rules applied to the liabilities safe asset issuers can also serve as price tags directed at potential buyers. For example, as already noted, U.S. securities regulations have long permitted money market mutual funds to quote their shares at a stable net asset value (NAV), typically \$1 per share, provided the market value of their assets (shadow NAV) stayed close to the quoted value.¹¹⁸ Stable NAV allows buyers of money market fund shares to treat them as if they guaranteed repayment at par; it makes them more “money-like.”¹¹⁹

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. In contrast, while zero-risk weighting in capital adequacy regulations might imply total safety, on its face it only tells regulated investors that they need not hold regulatory capital against the asset.

3. *Labeled Safe: Conclusions*

Labels tell potential buyers that an asset is safe, or at least safe enough for their purposes. They can deter market-based information discovery, promote information insensitivity, and boost the liquidity of labeled assets. Unlike the tools we surveyed in Part I.A, labels do not make the issuer of labeled assets more creditworthy or payoff more certain.

Stark, discontinuous labels are best at coordinating potential asset buyers; they may also facilitate public oversight. “Zero-risk” and “\$1 per share” labels illustrate: they are transparent, administrable, and make better focal points for investors than labels reflecting fine risk gradations.

¹¹⁷ Discontinuity has diminished as standards evolved, but it never disappeared altogether. *See* BASEL COMM. ON BANKING SUPERVISION, *supra* note 115.

¹¹⁸ The use of stable NAV was limited, but not eliminated, in post-crisis regulatory reform. 17 C.F.R. 270.2a-7; U.S. Securities and Exchange Commission, *Money Market Fund Reform; Amendments to Form PF*, 79 F.R. 47736 (Aug. 14, 2014).

¹¹⁹ *See, e.g.*, Krishnamurthy and Vissing-Jorgenson, *supra* note 44; Greenwood et al., *supra* note 37 at 4-5; and discussions in Part I.B. Some sophisticated institutional investors derive additional regulatory and accounting benefits from holding fund shares with stable accounting value; this resembles the label-as-license effect. ICI, *supra* note 104.

They promote herding into assets labeled safe, but can also prompt runs and crashes when taken away.¹²⁰

More than any other tools, labels traffic in fictions.¹²¹ They can authoritatively deem an asset category to be safe, not just a bit safer, and instruct regulated firms to act on the label in lieu of an independent risk assessment. Labels can save investors on the cost of risk assessment if regulators have superior information, or can do a better job evaluating it. This is a big “if”: public authorities do not have an information advantage with respect to financial assets in general, apart from their own debt and claims issued by the firms they regulate. Information advantage cannot fully explain why market participants would embrace public labels.

C. Guaranteed Safe

A government does have superior tools to ensure the safety of any given contract: it can make the contract its own. 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. We describe the key permutations below.

1. Credit Guarantees

Credit guarantees commit fiscal resources to the safety of private contracts. Full and unconditional credit guarantees turn private contracts into government debt; they can encourage excessive risk-taking by absolving private actors of the consequences. At the other extreme, partial and conditional guarantees entail substantial uncertainty about payouts, and do little for asset safety. The ubiquitous pejorative “bailouts” describes *ex post* public rescues whose terms are not spelled out in advance. The payout itself shapes expectations of future guarantees. In practice, unconditional guarantees of safe assets are rare; on the other hand, conditions specified in ordinary times rarely hold up in a systemic crisis.

¹²⁰ See e.g., Steinar Holden et al., An Equilibrium Model of Credit Rating Agencies, Norges Bank Res. Working Paper No. 2012-23 (Dec. 18, 2012) available at http://www.norges-bank.no/pages/92250/Norges_Bank_Working_Paper_2012_23.pdf (modelling rating agencies as solving coordination problems among investors).

¹²¹ *Supra* note 11 and the accompanying text.

Bank deposit insurance is a widely known and relatively transparent credit guarantee, usually elaborated in statutes and regulations.¹²² Although it attaches to deposits, insurance also supports the bank itself by dissuading depositors from running. While statutory guarantees make deposits “default-free” in the eyes of the public, they are rarely unconditional or full.¹²³ Caps, co-insurance and payout delays qualify the safety of deposits for depositors. For banks owners and creditors, the availability of insurance depends on compliance with solvency and business conduct regulations; moreover, payout may not be available until after exhausting some combination of equity, junior debt, affiliate contributions and industry financing.¹²⁴ Insurance schemes try to get as close as possible to cash-like safety for the depositors without subsidizing the others.

Government commitments to pay no more and no less than promised fail in two situations. First, governments extend coverage to more claims and claimants in crisis, out of concern for system-wide spillovers. Both the United Kingdom and the United States did so in 2007-2008.¹²⁵ Second, governments run out of resources or political capacity to honor the original guarantee, and curtail coverage or choose among the claimants in crisis. When it became apparent that Iceland’s

¹²² On deposits as safe assets, see Part II.A.1 *supra*. See, e.g., Asli Demirguc-Kunt & Edward J. Kane, *Deposit Insurance around the Globe: Where Does It Work?*, Journal of Economic Perspectives, American Economic Association, vol. 16(2), pages 175-195, Spring 2002; Demirgüç-Kunt, Asli, Baybars Karacaovali and Luc Laeven, *Deposit Insurance around the World: A Comprehensive Database*, Policy Research Working Paper #3628, World Bank (2005); Financial Stability Board, Thematic Review on Deposit Insurance Systems (Feb. 2012), http://www.financialstabilityboard.org/publications/r_120208.pdf.

¹²³ Ricks, *supra* note 60. In most cases, deposit insurance is capped to limit the benefit to small retail depositors who cannot protect themselves. In some cases, depositors are required to absorb a small portion of the losses. Deposits can become illiquid if insurance does not pay out immediately. A combination of these factors made depositors in Northern Rock bank in the U.K. lose confidence in the safety of their deposits in September 2007. See House of Commons, Treasury Comm. *The Run on the Rock*, 5th Report, Sess. 2007-8, Vol. I 93-94 (Jan. 24, 2008) available at <http://www.publications.parliament.uk/pa/cm200708/cmselect/cmtreasy/56/56i.pdf>.

¹²⁴ See, e.g., Jianping Zhou et al., *From Bail-out to Bail-in: Mandatory Debt Restructuring of Systemic Financial Institutions*, IMF Staff Discussion Note SDN/12/03 (April 2012), available at <https://www.imf.org/external/pubs/ft/sdn/2012/sdn1203.pdf>; see also Federal Deposit Insurance Corporation, *Resolution of Systemically Important Financial Institutions: The Single Point of Entry Strategy*, 78 F.R. 243 (Dec. 2013). Entire bank regulatory regimes can be justified as deposit insurance conditions. See e.g., Federal Deposit Insurance Act, 12 U.S.C. §§ 1811-1835a (2015).

¹²⁵ See, e.g., Jean Eaglesham et al., *UK to Guarantee Northern Rock Deposits*, Financial Times (September 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 Financial Services Compensation Scheme, *Deposit Limits*, <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).”). See also Federal Deposit Insurance Corporation, *Temporary Liquidity Guarantee Program* (Last Updated 02/27/2013), <https://www.fdic.gov/regulations/resources/tlgp/> (“On October 14, 2008, ... the FDIC implemented the Temporary Liquidity Guarantee Program (TLGP). ... The TLGP 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.”). Anna Gelper, *Financial Crisis Containment*, 41 CONN. L. REV. 493 (2009) (describing blanket *ex post* bank guarantees in the U.K. and Korea).

deposit insurance scheme was bankrupt in 2008, Iceland paid its own nationals ahead of U.K. and Dutch depositors in Icelandic banks.¹²⁶

Bailouts reveal and deliver on implicit credit guarantees. The usual beneficiaries are national champions, too-big-to-fail financial firms, political subdivisions and other entities whose failure would be macroeconomically or politically intolerable.¹²⁷ Implicit guarantees may be widely recognized *ex ante*, as in the case of Fannie Mae and Freddie Mac, the U.S. government-sponsored enterprises (GSEs, or Agencies).¹²⁸ Investors accurately predicted that the economic and political significance of the housing finance agencies in the U.S. economy, U.S. and global financial markets would make their failure inconceivable. In other cases, expectations of guarantees are attenuated before the crisis, but might become entrenched after the bailouts materialize.¹²⁹ Fear of moral hazard prompts new *ex ante* limits on bailout authority; however, fresh memories of bailouts detract from the credibility of such limits.¹³⁰

¹²⁶ The risk is especially high in countries whose banking system is many times the size of the economy (Iceland's was nine times the size). The European Free Trade Area court upheld Iceland's decision. EFTA Surveillance Authority v. Iceland, EFTA Court Case E-16/11 (2013) (stating that in October 2008, U.K. and Netherlands depositors of Landesbanki, an Iceland bank, lost access to their deposits).

¹²⁷ Adam J. Levitin, *In Defense of Bailouts*, 99 GEO. L.J. 435 (2011).

¹²⁸ See, *supra* note 39 and accompanying text for a discussion of Agency debt. *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).

Agency debt was used by reserve and asset managers around the world as a stand-in for U.S. Treasury debt long before federal backing was made explicit in the summer of 2008, followed by government takeover. See Congressional Research Service (hereafter "CRS"), *China's Holdings of U.S. Securities: Implications for the U.S. Economy*, RL34314 (August 19, 2013) (observing that Agency securities had accounted for more than 40% of China's overall holdings of U.S. securities before the crisis, but have since dropped substantially); CRS, *Fannie Mae's and Freddie Mac's Financial Problems: Frequently Asked Questions*, RS22916 (July 15, 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"); CSR, *GSEs and the Government's Role in Housing Finance: Issues for the 113th Congress*, R40800 (September 13, 2013) (describing Agency conservatorship arrangements, including solvency guarantees from the U.S. Treasury); see generally, David J. Reiss, *Fannie Mae and Freddie Mac and the Future of Federal Housing Finance Policy: A Study of Regulatory Privilege*, Alabama Law Review vol. 61, no. 5 (2010): 907-55.

¹²⁹ See, *e.g.*, Kacperczyk & Schnabl, *supra* note 3 at 48 (describing the consequences of federal rescue of commercial paper market); Marcin Kacperczyk & Philipp Schnabl, *Implicit Guarantees and Risk Taking: Evidence from Money Market Funds*, NBER Working Paper 17321 (Aug. 2011), available at <http://www.nber.org/papers/w17321> (evaluating risk-taking after unexpected implicit federal guarantee was made explicit); see also The Federal Reserve Bank of Minneapolis, *Special Studies – Too Big To Fail*, available at https://www.minneapolisfed.org/publications_papers/studies/tbtf/ (conference papers debating the magnitude of the implicit subsidy for "Too Big to Fail" institutions before and after the financial crisis beginning in 2007).

¹³⁰ Allen Mattich, Can You Really End 'Too Big To Fail?', WALL ST. J. MONEYBEAT (Nov. 10, 2014) available at <http://blogs.wsj.com/moneybeat/2014/11/10/can-you-really-end-too-big-to-fail/>; Arthur E. Wilmarth, Jr., *The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-To-Fail Problem*, 89 OR. L. REV. 951 (2011); FINANCIAL STABILITY BOARD, ADEQUACY OF LOSS-ABSORBING CAPACITY OF GLOBAL SYSTEMICALLY IMPORTANT

2. *Liquidity Guarantees*

If market participants could replace an asset at face value with central bank money at any time, they would certainly be justified in using that asset as if it were risk-free. Central banks have multiple ways to make it happen. They can buy and sell assets as part of monetary policy operations.¹³¹ They can make emergency loans to support solvent financial firms, and increasingly, asset markets. In theory, these interventions are distinct from credit guarantees, which remain the province of fiscal authorities. The trouble is that the line between liquidity and credit support—which tends to mark the boundary of central banks’ legal and political mandates—is fuzzy.¹³²

The fuzziness follows from the mechanics of monetary policy and Lender of Last Resort (LOLR) operations. For example, under normal conditions, an independent central bank targeting prices across the economy, might buy and sell short-term government bonds in the secondary market, and quickly reverse the transactions. It tries to avoid influencing particular asset prices and holding a large stock of securities on its balance sheet.¹³³ In crisis, the same central bank might react to acute distress in particular market segments, or even particular institutions. In a prolonged downturn, it might publicly commit to buy specific securities in large quantities and hold them for a long time, to induce a durable change in market and popular sentiment.¹³⁴ As a result, the central bank effectively guarantees the liquidity and boosts the price of specific assets eligible for its extraordinary operations.¹³⁵ Its counterparties (primary dealers) also benefit from the commitment to replace their securities with cash. Central banks take on credit risk and face political backlash.¹³⁶

BANKS IN RESOLUTION (2014), available at https://g20.org/wp-content/uploads/2014/12/adequacy_loss-absorbing_capacity_global_systemically_important_banks-1.pdf

¹³¹ 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.

¹³² We have addressed this point elsewhere. See e.g., Gelpern, *supra* note 126 at 525-30.

¹³³ See e.g., Stephen G. Cecchetti & Piti Disyatat, *Central Bank Tools & Liquidity Shortages*, F.R.B.N.Y. ECON. POL. REV. (Aug. 2010), available at <http://www.ny.frb.org/research/epr/10v16n1/1008cecc.pdf>.

¹³⁴ On unconventional asset purchase (quantitative easing) programs in the United States and the United Kingdom, see e.g., Jack Meaning & Feng Zhu, *The impact of recent central bank asset purchase programmes*, BIS QUARTERLY REV. 73 (2011), available at http://www.bis.org/publ/qtrpdf/r_qt1112h.pdf. On quantitative easing in the euro area, see *Asset Purchase Programmes*, EUR. CENTRAL BANK, <https://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html> (Last Updated Aug. 21, 2015). See also Gregory Claeys et al., *Eur. Central Bank Quantitative Easing: The Detailed Manual*, BRUEGEL.ORG (Mar. 11, 2015), <http://bruegel.org/2015/03/european-central-bank-quantitative-easing-the-detailed-manual/>.

¹³⁵ See e.g., Meaning & Zhu, *supra* note 134.

¹³⁶ Cecchetti & Disyatat, *supra* note 135 (discussing banks taking on credit risk).

Recent extraordinary measures by the European Central Bank (ECB) illustrate the monetary policy dilemma. As the Greek debt crisis intensified and threatened to spread across Europe in 2010, the ECB announced measures to buy government bonds in those countries hardest hit by the crisis. It also lent to banks at longer maturities against an expanding range of collateral.¹³⁷ While the ECB's stated goal was to overcome failures in monetary policy transmission, distressed governments received important collateral benefits: lower borrowing costs and a ready buyer for their debt. Critics accused the ECB of violating treaty prohibitions on bailouts of member states (monetary financing).¹³⁸ Accusations came from another direction in 2015, when the ECB curtailed lending to Greek banks against Greek government bonds as collateral: it was blamed for precipitating a political crisis.¹³⁹

The U.S. Federal Reserve came under criticism for stretching its LOLR mandate and for proving that certain assets and institutions enjoyed implicit government guarantees.¹⁴⁰ In 2008, it adapted legal authority dormant since the Great Depression to replace billions of dollars in private debt issued by banks, securities dealers, and money market mutual funds, as well as repos, mortgage-backed securities and commercial paper¹⁴¹ with public safe assets (money and

¹³⁷ The ECB conducts a unified monetary policy to achieve stable prices across the euro area, so that a euro in booming Germany has the same value as a euro in deeply depressed Greece. This is difficult to achieve when the interest rate on Greek government bonds is several times the rate on its German counterparts.

ECB tools include open market operations (buying and selling financial assets), secured lending to banks, and requiring banks to hold funds on reserve with it. Government bonds are an important channel for price transmission because (1) the cost of borrowing for other actors in the economy is based on the interest rate on government bonds, (2) a big drop in the value of government bonds can impair the balance sheets of banks and other important institutions that hold them, and (3) an illiquid government bond market can reduce the availability of collateral for other financial transactions. This can lead to less lending, higher interest rates, and economic contraction in the country whose government bond markets have seized up. See ECB Monthly Bulletin September 2011 at 53 https://www.ecb.europa.eu/pub/pdf/other/box5_mb201109en.pdf?f09794af1fde65a2dc6c0bbd1a32791c

¹³⁸ See e.g. H.W. Sinn, *Responsibility of States and Central Banks in the Euro Crisis*, Expert report commissioned by the German Constitutional Court, Second Senate Constitutional complaints 2 BvR 1390/12, 2 BvR 1439/12 and 2 BvR 1824/12 Organstreitverfahren (proceedings related to a dispute between supreme federal bodies) 2 BvE 6/12 (translated in CESifo Forum 1/2014 (Mar. 2014)), available at https://berlinoeconomicus.diw.de/geldpolitik/wp-content/uploads/sites/4/2014/09/Stellungnahme_HWSinn_en.pdf (challenging crisis interventions by the ECB and other European institutions). See also, Claire Jones & Stefan Wagstyl, *Mario Draghi vindicated as court backs ECB bond-buying plan* (June 16, 2015, 10:03 AM), <http://www.ft.com/intl/cms/s/0/c200c62e-1402-11e5-9bc5-00144feabdc0.html> (reporting on a legal challenge to the ECB's €1.1tn quantitative easing program, and the court decision upholding it).

¹³⁹ Claire Jones & Ferdinando Giugliano, *ECB split points to sensitivity of Greek liquidity curbs* (Feb. 5, 2015, 7:25 PM), <http://www.ft.com/intl/cms/s/0/8f36e752-ad5d-11e4-97c1-00144feab7de.html>. (reporting criticism of the ECB's curbs on the use of Greek government debt as collateral).

¹⁴⁰ *Starr Int'l Co. v. United States*, 121 Fed. Cl. 428 (Fed. Cl. 2015).

¹⁴¹ *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 visited Aug. 29, 2015); Michael J.

government debt). Such aggressive intervention is a far cry from 19th century conceptions of LOLR, which must stem panic by lending to already-solvent commercial banks against already-good collateral.¹⁴² In theory, a LOLR does not make banks solvent or collateral safe. In practice, modern central banks have found themselves guaranteeing banks, non-banks, and asset markets, and lending against collateral of variable quality and uncertain value.¹⁴³ Post-crisis backlash has brought limits on the Federal Reserve's lending authority.¹⁴⁴

3. *Guaranteed Safe: Conclusions*

The examples cited in this section and throughout this Article suggest that laws and regulations specifically authorizing guarantees are poor predictors of government intervention in

Fleming, *Federal Reserve Liquidity Provision during the Financial Crisis of 2007-2009* (Fed. Reserve Bank of NY, Staff Reports No. 563, 2012), available at http://www.newyorkfed.org/research/staff_reports/sr563.pdf; Christian A. Johnson, *Exigent and Unusual Circumstances: The Federal Reserve and the U.S. Financial Crisis*, in *LAW REFORM AND FINANCIAL MARKETS* 269 (Kern Alexander & Niamh Moloney eds. 2012) (describing Federal Reserve liquidity facilities).

Federal Reserve Act § 13(3), 12 U.S.C. § 343 (2006) (before the Dodd-Frank Act); Dodd-Frank Wall Street Reform and Consumer Protection Act section 1101 (amending Federal Reserve Act § 13(3)); Board of Governors of the Federal Reserve System (hereafter "Federal Reserve"), Extensions of Credit by Federal Reserve Banks, Federal Register Vol. 79, No. 3 (January 6, 2014) (proposing rules under the amended section 13(3)); Federal Reserve, American International Group (AIG), Maiden Lane II and III (Last update: August 2, 2013), http://www.federalreserve.gov/newsevents/reform_aig.htm; Federal Reserve, Bear Stearns, JPMorgan Chase, and Maiden Lane LLC (Last update: August 2, 2013), http://www.federalreserve.gov/newsevents/reform_bearstearns.htm. See generally, Alexander Mehra, *Legal Authority in Unusual and Exigent Circumstances: The Federal Reserve and the Financial Crisis*, 13 U. PA. J. Bus. L. 221 (2010) (providing an overview of the development of the Federal Reserve Act § 13(3)); see also Johnson, *supra* note 141.

In a letter to the Federal Reserve, the U.S. Treasury expressly assumed the credit risk associated with non-traditional assets bought by the Federal Reserve as part of the emergency programs. Donald L. Kohn, Vice Chairman, Bd. of Governors of the Fed. Reserve Sys., Speech at Carleton University, Ottawa, Canada (May 13, 2010), available at <http://www.federalreserve.gov/newsevents/speech/kohn20100513a.htm>.

¹⁴² Walter Bagehot, *LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET* (1873). In theory, LOLR prevents a solvent bank from failing in a generalized panic, in contrast to deposit insurance, which compensates depositors after their bank has failed. See, *supra* notes 59 (runs) and **Error! Bookmark not defined.** (deposit insurance). EUROPEAN CENTRAL BANK EUROSYSTEM, ELA PROCEDURES, https://www.ecb.europa.eu/pub/pdf/other/201402_elaprocedures.en.pdf?e716d1d560392b10142724f50c6bf66a. (The ECB does not have LOLR authority, which remains with national central banks. As a result, its emergency response has been framed in monetary policy, not LOLR terms.) A LOLR cannot guarantee the liquidity of assets denominated in a currency it does not issue.

¹⁴³ See e.g., PERRY MEHLING, *THE NEW LOMBARD STREET: HOW THE FED BECAME THE DEALER OF LAST RESORT* (2010); Stephen G. Cecchetti & Piti Disyatat, *Central Bank Tools and Liquidity Shortages*, 16 *ECON. POL. REV.* 29 (2010); HIROSHI NAKASO, *THE FINANCIAL CRISIS IN JAPAN DURING THE 1990S: HOW THE BANK OF JAPAN RESPONDED AND THE LESSONS LEARNT* (2001), available at <http://www.bis.org/publ/bppdf/bispap06.pdf>.

¹⁴⁴ See *supra* note 141 (discussion of amendments to the Federal Reserve Act § 13(3)).

crisis. With the partial exception of retail deposit insurance (guarantees that visibly benefit consumers with premia charged to banks), large-scale commitments of fiscal resources and central bank liquidity to support safe assets have been based on obscure, open-ended or creatively adapted authorities that were unlikely to have shaped buyers' expectations beforehand. On the other hand, many of the beneficiary assets—including commercial paper, money market mutual funds, repos, and asset-backed securities—had been labeled as safe or singled out for special treatment (other than guarantees) in the years leading up to the crisis.¹⁴⁵ In times of stress, governments effectively label and guarantee assets as safe when they use them in monetary policy operations, or accept them at face value as collateral for central bank lending.

Spelling out the terms of government guarantees for safe assets in full ahead of time risks moral hazard. It may also be politically toxic and impractical, in light of the uncertain distinction between credit and liquidity support. Nonetheless, market participants can form expectations of guarantees based on other factors, such as risk-free and low-risk regulatory labels, and pressure governments to deliver accordingly.

D. Implications So Far

In contrast to the economic literature that is our departure point in Part I, our Article describes safe assets as products of legal intervention to reduce risks, attract buyers with risk-free labels, and ratify assumptions about safety with guarantees. Not all forms of intervention operate simultaneously in all safe assets. All three are often visible in private contracts used as if they were risk-free, including bank debt, repos, and asset-backed securities. Labels are the primary means of securing risk-free treatment for the simplest of public safe assets, such as national government debt denominated in the national currency.¹⁴⁶

¹⁴⁵ *Supra* notes 85 (asset-backed securities), 96 and 97 (repos) and 117 (money market mutual funds) and accompanying text. *See also* Bernanke et al., *supra* note 32.

¹⁴⁶ Making safe (policy discipline, financial engineering) and third-party guarantees become more important with the weakening of government control over the means of payment and its authority over the market in which the debt is trading. Government debt denominated in a foreign currency or sold abroad needs more than the debtor's own risk-free label to trade as if it were risk-free. Put differently, where a government functions like a private issuer, it needs more outside reinforcement to achieve risk-free treatment for its debt.

For example, states are not normally subject to balance sheet or activities regulations. However, when a state gives up control of its currency in a monetary union, it may submit to external policy discipline and seek guarantees to have its debt treated as a safe asset. The euro area treaty framework specifies key aspects of the economic policy mix for member states; it can resemble institutional regulation—"making safe." *See e.g.*, R. Daniel Kelemen & Terence K. Teo, *Law, Focal Points, and Fiscal Discipline in the United States and the European Union*, 108 AMER. POL. SCI. REV. 355, 365-7 (2014). However, the euro area's rejection of mutualization (guarantees) cast doubt on the status of weaker members' bonds as safe assets; policy reforms to make them safe were not enough for the markets. *See* Trichet, *supra* note 4. On cashflow tranching, senior-subordinate structures, and debt mutualization, *see* Brunnermeier, *supra* note 38; Jakob von Weizsäcker & Jacques Delpla, *The Blue Bond Proposal*, Bruegel Policy Brief (May 5, 2010), available at <http://bruegel.org/2010/05/the-blue-bond-proposal/>.

Individual tools can perform multiple functions. For example, “making safe” almost always comes with incidental labels, which separate regulated firms and safe harbored contracts from the rest.¹⁴⁷ Express guarantees similarly convey labels. Labels that purport to describe also make assets more liquid. For most tools, it is not hard to tell primary and incidental functions apart.

While our analytical framework is new, it embraces familiar contractual, regulatory and economic policy tools, long used and manipulated by governments and market participants. These tools perform their stated policy function, and, simultaneously, construct safe assets. Our perspective implies a research and policy focus on interactions, misalignments, and tradeoffs among different forms of intervention, which we develop in Part III.

III. What Can Go Wrong? Architecture, Revisited

Many of the risks in the legal architecture of safe assets are simply those associated with any public intervention in finance. This is unsurprising, since the same tools are involved. Poor institutional design, lax oversight, capture and bailouts are not unique to the safe asset universe.

Safe assets are especially prone to mismatches among their risk attributes, their regulatory treatment, and the ways in which they are used in the financial markets. Mismatches follow from safe assets’ fictional character; they can come about in multiple ways and cause serious damage. *First*, safe assets breed new risks when market participants adapt them to different uses and combine them in structures far removed from the original purpose for which they had been made safe.¹⁴⁸ *Second*, making, labeling, and guarantees can become dramatically misaligned. The misalignment, amplified by the credit cycle and exploited by public and private actors, contributes to financial instability. *Third*, public and private actors use the safety toolkit, especially labeling,

¹⁴⁷ National and global designations of systemically important financial firms illustrate incidental labeling. The stated purpose of systemic designation is stricter regulatory oversight. Critics claim that a label such as “Systemically Important Bank” (“SIB”) marks a firm as too economically and politically important to fail, so that its creditors are practically guaranteed a bailout. Press Release, Financial Stability Board, FSB announces update of group of global systemically important banks (G-SIBs) (Nov. 6, 2014), http://www.financialstabilityboard.org/wp-content/uploads/pr_141106b.pdf. Whether the costs of such incidental labels, including guarantees and distortions, exceed the benefits of enhanced oversight in any given case is an empirical question.

¹⁴⁸ Some legal fictions present similar risks. *See e.g.*, Miller, *supra* note 23 (using examples from tax law to illustrate the risks of combining multiple legal fictions); Seema K. Shah, *Piercing the Veil: The Limits of Brain Death as a Legal Fiction*, 48 U. MICH. J.L. REFORM 301, 317–18 (2015) (footnote omitted) (legal fictions facilitate the treatment of different entities as if they were the same). *See also* FULLER, *supra* note 11 at 123 (pointing out the dangers of fictions unmoored from context).

to redistribute resources on a large scale in nontransparent and unaccountable ways.¹⁴⁹ We examine these concerns in turn.

A. Misuse, Composition, and Contagion

A contract that is made and labeled safe for one purpose may be used for another. This versatility as an important shared attribute of safe assets. When credit flows freely, more contracts look safe in general and substitute for one another, even though they had been designed to manage specific risks for specific firms. Similarly, safe assets often serve as ingredients in other safe assets. In good times, design possibilities seem endless; safe asset combinations and pyramids proliferate. In a downturn, substitution and composition schemes unravel. The very strategies that fueled financial transactions become channels of contagion.

To illustrate, we return to the tangle of wires linking government debt, bank debt, money market fund shares, repos and asset-backed securities (ABS). Commercial banks and money market mutual funds have long bought government debt, sometimes as a condition of licensing or regulatory privilege.¹⁵⁰ For the most part, government debt holdings made regulated firms' liabilities safer, allowed them to be labeled safe, and made them suitable as ingredients in a new round of safe assets. In the mid-2000s, ABS came to substitute for government debt on institutional balance sheets. ABS, including securitized mortgages and Asset-Backed Commercial Paper (ABCP), were designed to rearrange cash flows from underlying debt contracts to meet rating agency specifications, so that highly rated senior tranches could be sold as permitted investments to regulated firms. New exemptions under bank regulatory and bankruptcy statutes made ABS and short-term debt secured by ABS attractive to new buyers; investors promptly followed the safety labels and herded into the contracts. Money market funds bought ABCP, while repos backed by MBS became an important source of funding among banks. Until 2007, all this structuring based on a small kernel of bespoke safety produced positive spillovers, enhanced market liquidity, and seemed to justify continued expansion of safety labels. Shocks to the ABS market beginning in 2007 reverberated across the repo market as lenders demanded more, better collateral, and quickly transmitted to banks and money market mutual funds. Governments and central banks stepped in to substitute their own debt and central bank money for ABS and other assets that had lost value.¹⁵¹

¹⁴⁹ Cf. Smith, *supra* note 18 (judges use legal fictions to mask normative choices).

¹⁵⁰ For banks, *see e.g.*, National Bank Act of 1864, ch. 106, 13 Stat. 99, (codified as amended in scattered sections of 12 U.S.C.S.); Charles-Henri Weymuller, *Banks as Safety Multipliers: A Theory of Safe Assets Creation* (Working Paper 2013) http://scholar.harvard.edu/files/chweymuller/files/chweymuller_banksafe_22nov13.pdf. For money market mutual funds, *see* Fisch & Roiter, *supra* note 82.

¹⁵¹ On bank holdings of ABS, *see* Acharya et al., *supra* note 35. In Europe, countries with outsize banking sectors saw dramatic feedback effects (the “doom loop”): bank rescues shook confidence in government debt, which in turn hurt newly rescued bank balance sheets, and made it harder for banks to borrow. *See e.g.*, Gardner, Barber & Spiegel, *supra* note 38 (describing doom loop effects in the Irish financial crisis).

Beyond reaffirming the perils of complexity and leverage, looking back at recent crises through the lens of safe assets highlights the danger of divergence among the risk attributes of financial contracts, the ways in which they are used, and the users' risk-bearing capacity. If safety is understood as an inherent characteristic of each asset, it matters little whether it is bought by a commercial bank, a central bank, a mutual fund, a currency reserve manager or a currency trading desk. Yet these buyers have different investment horizons, cash needs, legal and practical capacity to manage risks. There is a strong argument that no single asset would be safe for all of them at all times. Moreover, if a few assets perform different functions across the financial system, the system is more exposed to individual asset price shocks.¹⁵²

In sum, the same features that make safe assets useful—their versatility, their capacity to serve as ingredients in financial transactions, including other safe assets—can fuel risks. When a contract designed to minimize particular risks for particular users comes to be perceived as safe in general, it can threaten the financial system as a whole. In terms of our three-part framework, it is not made safe enough for the way in which it is used.

B. Misalignment

The spectacular failures of “zero-risk” and “AAA” financial contracts in 2007, 2008, and 2010 are often described in retrospect as crises of mislabeling,¹⁵³ followed by misguided bailouts.¹⁵⁴ It is more accurate to describe them as crises of misalignment. This is because neither the label nor the guarantee is inherently problematic; the threat to financial stability comes from a build-up of risk in contracts labeled safe—so safe that they become systemically important—but

¹⁵² Avinash Persaud, *How Not to Regulate Insurance Markets* (Policy Brief PB15-5, 2015), available at <http://www.iie.com/publications/pb/pb15-5.pdf>; THE U. OF WARWICK, THE WARWICK COMMISSION ON INT'L FIN. REFORM: IN PRAISE OF UNLEVEL PLAYING FIELDS, available at http://www2.warwick.ac.uk/research/warwickcommission/financialreform/report/executive_summary.pdf [hereinafter WARWICK COMMISSION] (criticizing “the erroneous view that there is a single thing called risk, and that it is inherent in the characteristics of an asset or financial instrument... The notion that there are ‘safe’ instruments to be promoted and ‘risky’ ones to be banned creates a false sense of security. You can do a lot of risky things with apparently safe instruments, like a mortgage.”)

¹⁵³ See, e.g., ESRB Report, *supra* note 12; Ben Moshinsky, *Holding Sovereign Debt with No Capital Is Risky*, IASB Chief Says, Bloomberg News (Oct. 03, 2011), <http://www.bloomberg.com/news/articles/2011-10-03/holding-sovereign-debt-with-no-capital-is-risky-iasb-chief-says>; Robert Pozen & Theresa Hamacher, *Not all money market funds are equal*, FIN. TIMES (Dec. 16, 2012, 3:15 AM), www.ft.com/cms/s/0/29e2d6d0-4393-11e2-a68c-00144feabdc0.html (stating that “[r]egulators have argued that a fixed NAV creates systemic risk in the financial system and misleads investors into thinking their investment is guaranteed.”).

¹⁵⁴ See e.g., SKEEL, *supra* note 108.

not made safe enough. If such contracts fail to pay off according to the label, they are likely to trigger *ex post* guarantees.

The state has a contingent liability for safe assets all along, filling gaps between “made safe” and “labeled safe.”¹⁵⁵ Market perceptions of such gaps vary over the course of the credit cycle. Risk-free labels look like accurate descriptions when credit is ample, while regulation looks pointless and costly. Extending (let alone pricing) guarantees seems unnecessary and politically unthinkable in good times. The risk of misalignment is highest when no one is minding the gaps.

Some gaps are hard to avoid because labels tend to be discontinuous. Permitted or forbidden investment, fixed or floating NAV, zero or 50% risk weight are sharp distinctions, useful precisely because they help coordinate market participants in a world of infinite risk gradations. Bright lines help herd market participants into a limited set of investments, which regulators may find easier to monitor. However, discontinuity virtually guarantees a measure of misalignment. As we noted in Part II, tools to make contracts safe often operate incrementally; they work as dials, while labels work as switches. When investors observe a big enough gap between actual and advertised risk, they may rush to sell, or press the state to pay out on implicit guarantees.¹⁵⁶

Misalignment also follows necessarily from the stickiness of safety labels. Once the government or the market attaches the term “safe” to an asset, it is hard to remove. If the label is successful, the asset comes to be used widely; more people have a stake in its safety. Taking the label away can result in abrupt and widespread repricing of risk, as savers rearrange their portfolios, traders demand new collateral, and complex structures unravel because the assets at their core no longer qualify as safe. Fear of market disruption turns into a justification for keeping labels in place or expanding them, a one-way ratchet that leads to more misalignment.¹⁵⁷

Because risk reduction (making safe) and guarantees effectively operate in the same space and complement each other, labels such as “zero risk” convey highly ambiguous messages. Investors can interpret them either as descriptions, or, more likely, as warranties by the labeling authorities to safeguard the labeled assets.¹⁵⁸ For example, the zero-risk label for all European

¹⁵⁵ Similarly, when the guarantee does not live up to the label (as in the example of Icelandic bank debt, *supra* note 126), the gap must be made up by making the asset safer.

¹⁵⁶ See *e.g.*, Gorton, *supra* note 53; IMF GFSR, *supra* note 2.

¹⁵⁷ See *e.g.*, Omarova, *supra* note 108 (tracing regulatory expansion of permitted derivatives activities for banks); *cf.* Saule T. Omarova, *That Which We Call a Bank: Revisiting the History of Bank Holding Company Regulation in the United States*, 31 REV. OF BANKING AND FIN. L. (2011) (loosening constraints on banking conglomerate regulation).

¹⁵⁸ For example, investors may have read “Greek debt is zero-risk” as “Germany stands behind Greece,” rather than “Greece is creditworthy”—notwithstanding European treaty provisions barring debt mutualization. See David Oakley, *Sovereign debt on red alert*, FIN. TIMES (Dec. 11, 2009, 7:07 PM), <http://www.ft.com/intl/cms/s/0/3760aa96-e683-11de-98b1-00144feab49a.html#axzz3jANp5600>.

government debt was apparently understood in some quarters as a regional promise to avoid default at all costs. The label also worked as a commitment device, since it encouraged financial integration, including German and French financial institutions buying Greek government debt.¹⁵⁹ When European leaders suggested that debt restructuring was a possibility, markets panicked even though member states simultaneously promised to make their debt safer with fiscal reforms.¹⁶⁰ If the risk-free status of Greek, Irish, Italian and Spanish debt hinged on Europe's political commitment to it, then Europe's dilution of this commitment ended the status; fiscal reforms were not enough to make up the difference.¹⁶¹

C. Distribution: The Politics of Safe Assets

Public intervention in safe assets distributes resources and power. Market participants compete to benefit from intervention to attract capital, lower costs, and gain access to subsidies. Labeling contracts and institutions safe is a simple way to route capital in their direction. Government guarantees, particularly those that are not priced in advance, transfer public resources to some combination of safe asset users and issuers. Making contracts and institutions safe can function as a regulatory tax, forcing users and issuers to internalize risks associated with their activities instead of fobbing them off on the public. The scale of distribution is immense: multi-trillion dollar markets depend on the risk-free treatment of certain assets for vital funding. On the other hand, the language of safety obscures the stakes and normative commitments in safe assets:

¹⁵⁹ See Paul Blustein, *Laid Low: The IMF, the Euro Zone, and the First Rescue of Greece* 11 (CIGI Papers No. 61-April 2015), https://www.cigionline.org/sites/default/files/cigi_paper_no.61web.pdf (on French and German bank holdings of Greek debt). Because of its ability to direct investment, the label might have been a more effective commitment device than the prohibition on bailouts in the European treaties, which was not similarly embedded in markets and institutions.

¹⁶⁰ See Franco-German Declaration, Statement for the French-German-Russian Summit Deauville (Oct. 18, 2010), available at http://www.feelingeurope.eu/Pages/Franco-german_declaration%20Deauville%2018-10-2010.pdf [hereinafter *Deauville*]; Peter Spiegel, *Eurocats scratch heads over 'haircuts'*, FIN. TIMES (Sept. 8, 2011, 7:17 PM), <http://www.ft.com/intl/cms/s/0/fbfaed14-da31-11e0-90b2-00144feabdc0.html#axzz3ZQdxloy8>; Lorenzo Bini Smaghi, Member, Executive Board of the ECB, Speech at the Reinventing Bretton Woods Conference (June 6, 2011), <https://www.ecb.europa.eu/press/key/date/2011/html/sp110606.en.html>; Athanasios Orphanides, *The Euro Area Crisis: Politics over Economics* (MIT Sloan School Working Paper 5091-14, 2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2448197; Anna Gelpern & G. Mitu Gulati, *The Wonder-Clause*, 41 J. OF COMP. ECON. 367, 380 (2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2332296.

¹⁶¹ For ECB President Jean-Claude Trichet, the crisis ended a unique "privilege," where "the signature of the advanced economies ... was untouchable – in that sense, there is no more risk-free asset. The investors and savers the world over are looking at every signature on the basis of its fundamentals." The implication seems to be that euro area policy makers had a duty to make the debt risk-free despite any "fundamentals." Trichet, *supra* note 4. By extension, lower risk weights for non-government debt convey a smaller implicit guarantee, another political commitment. Whether such commitments are credible is a separate question, which goes to the guarantor's economic and institutional capacity.

if the public believes safe assets to be “default-free” as a matter of fact rather than policy, public intervention involves no judgment, and accountability is not worth the fight.

Governments constructing safe assets might be responding to diplomatic imperatives, industrial policy, interest group pressure, or a simple need to raise money for the state treasury. Some measures to make contracts safer, such as bank capital regulation,¹⁶² distribute between market participants and the public. Others distribute among private stakeholders. For example, bankruptcy safe harbors for repos instantly made them more attractive than functionally similar contracts, such as short-term secured loans, and helped fuel dramatic growth in the repo market.¹⁶³ Safe harbors also changed the norms of bankruptcy distribution, effectively shifting assets out of the bankruptcy estate for the benefit of the debtor’s repo counterparties.¹⁶⁴

Safety labels help public officials channel popular savings for policy priorities.¹⁶⁵ Low risk weights for housing and small business debt in bank capital adequacy regulation provide a simple illustration.¹⁶⁶ When the regulatory cost of a home mortgage or housing agency debt is a fraction of the regulatory cost of corporate debt, more popular savings should flow to fund housing. Governments can be quite transparent about the political character of labels. For example, when the Basel capital accords were first negotiated in 1988, Europe insisted on uniform treatment for the debt of all its member states. Partly as a result, the accords assigned zero-risk weight to all government and central bank debt issued by members of the Organization for Economic Co-

¹⁶² See e.g., ADMATI & HELLWIG, *supra* note 79.

¹⁶³ When the U.S. Congress enacted bankruptcy exemptions for repos in 1984, it responded to market participants’ widespread use of this instrument as if the market had lowered counterparty risk. After Congress exempted repos from key provisions of the bankruptcy code, repo markets enjoyed significant growth. Acharya & Öncü, *supra* note 16. See also Adrian et al., *supra* note 94; Morrison et al., *supra* note **Error! Bookmark not defined.** at 10. The experience with repos highlights potential complexities of distribution in safe assets. On the one hand, bankruptcy safe harbors reduce both credit and liquidity risks associated with repo contracts. On the other hand, protecting repos when the debtor is insolvent comes at the expense of other creditors of the bankruptcy estate and the debtor’s rehabilitation prospects, in tension with bankruptcy policy. It can also come at the expense of the public: making repos more liquid led to runs when the financial system came under stress in 2008 and created a contingent liability for the public. Morrison et al., *supra* note **Error! Bookmark not defined.**

¹⁶⁴ Id.

¹⁶⁵ See, RONALD I. MACKINNON, MONEY AND CAPITAL IN ECON. DEVELOPMENT (1973) and EDWARD SHAW, FIN. DEEPENING IN ECON. DEVELOPMENT (1973) (writing about Asia and Africa) launched a decades-long debate about financial repression in developing countries; recent revival led by Reinhart and co-authors recasts it in the context of heavily indebted high income economies. See e.g., Carmen M. Reinhart & M. Belen Sbrancia, *The Liquidation of Government Debt* (Nat’l Bureau of Econ. Research, Working Paper No. 16893, 2011), available at <http://www.nber.org/papers/w16893> (describing how governments can induce domestic financial firms to buy their debt—a domestic safe asset—and inflate it away). Compare activities restrictions in U.S. bank regulation. 12 U.S.C. § 24 (Seventh). Political economy factors account for the sprawling list of investments that national banks are allowed to make, channeling capital into particular sectors and activities.

¹⁶⁶ *Supra* note 115.

operation and Development (OECD), a diverse group that includes Iceland, Mexico, South Korea, Turkey and the United States.¹⁶⁷ Attaching the same regulatory price tag to the debts of such different countries invites arbitrage and introduces distortions.

We noted earlier that safe assets develop constituencies with abiding interest in their continued safety. In the United States, industry lobbying has resulted in favorable treatment for repos, derivatives, and other safe-harbored contracts. National and local government officials won privileges for their bonds in proprietary trading and bank liquidity regulations.¹⁶⁸ Issuers benefit when governments create a market in their securities with labels, and sustain it with safe harbors.¹⁶⁹ Buyers similarly benefit from secondary market liquidity, which brings the asset closer to cash. Enhanced liquidity also has upstream benefits: more liquid asset-backed securities can expand access to credit and lower the cost of borrowing for firms and consumers.¹⁷⁰

In all these cases, distribution is not the primary problem. The problem is with the safety rhetoric, which wraps distribution choices in technocratic packaging, so that they are unacknowledged and shielded from substantive political debate. For instance, a series of incremental regulatory interpretations that turned highly leveraged derivatives contracts into permitted investments for banks, on par with plain vanilla corporate loans, masked a build-up of systemic risk;¹⁷¹ separately, it was political subterfuge.

Governments and private actors perpetuate misalignments to secure their preferred distributional outcomes. Market participants arbitrage the gap between regulatory labels and the underlying risk attributes of an asset to boost their returns; they count on government guarantees if the gamble fails.¹⁷² Public authorities use safety labels to allocate capital while avoiding

¹⁶⁷ “[M]ost importantly, the member states of the European Community are firmly committed to the principle that all claims on banks, central governments and the official sector within European Community countries should be treated in the same way.” Basel Committee on Banking Regulations and Supervisory Practices, *International Convergence of Capital Measurement and Capital Standards* (1988) at 34, available at <http://www.bis.org/publ/bcbasc111.pdf?noframes=1> [hereinafter *Basel I*] (allowing banks to assign a 0% risk weight to exposures to OECD member countries). For a list of OECD member countries, see <http://www.oecd.org/about/membersandpartners/list-oecd-member-countries.htm>]; see also Talley, *supra* note **Error! Bookmark not defined.** (on the Volker Rule’s trading exemption for foreign government debt following other countries’ lobbying efforts).

¹⁶⁸ *Supra* notes 108-113 and accompanying text.

¹⁶⁹ See Dan Awrey, *Toward a Supply-Side Theory of Fin. Innovation*, 41 J. OF COMP. ECON. (2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2094254; David A. Skeel, Jr. & Frank Partnoy, *The Promise and Perils of Credit Derivatives*, 75 U. CIN. L. REV. 1019 (2007).

¹⁷⁰ See e.g., *supra* note **Error! Bookmark not defined.**

¹⁷¹ Omarova, *supra* note 108.

¹⁷² See e.g., Bernanke et al., *supra* note 32.

politically unpopular regulation and express guarantees, which visibly add to the public debt stock. Deferring awkward questions about subsidies, distribution, and distortions until crisis time offers all potential beneficiaries the hope that they would be lost in the emergency noise.¹⁷³ The political constituency for aligning making, labeling, and guarantees up front is small to begin with; it becomes vanishingly small when safety rhetoric obscures the possibility of misalignment.

IV. Preliminary Prescriptions

Intervention in safe assets should reduce financial instability, align public and private actors' incentives, and inform an open policy debate about embedded trade-offs and distribution. Our framework for analyzing safe assets highlights cyclical misalignment among making, labeling, and guarantees as a critical challenge for financial stability policy, with important political consequences. The same framework points to preliminary prescriptions and familiar tools with which to pursue them.

In this Part, we develop a general approach to mitigate misalignment. We argue that potential safe assets should be monitored throughout the credit cycle. Tools that make, label, and guarantee them should be realigned dynamically, consistent with the policy goals. To promote alignment, public safety labels should be eliminated or treated presumptively as express guarantees by the labeling authority.

A. Dynamic Alignment

A policy response to misalignment must begin by identifying contracts used as if they were risk-free for monitoring throughout the cycle. Financial flow data does not yield a comprehensive picture; isolating contract uses and assumptions behind them—getting “inside safe assets”—requires a nuanced understanding of transaction patterns, institutional design, and regulatory incentives, where legal knowledge is indispensable.¹⁷⁴ Beyond cataloguing potential safe assets,

¹⁷³ On the other hand, keeping guarantees uncertain *ex ante* can dissuade risk-taking; it is especially appealing when charging for guarantees is politically unacceptable. The academic debates about the tradeoffs between implicit and explicit, *ex ante* and *ex post* guarantees is beyond the scope of this Article; here we simply note its relevance to safe assets. See also, Gretchen Morgenson, *If You Can't Sell, Good Luck*, N.Y. TIMES (Mar. 30, 2008), <http://mobile.nytimes.com/2008/03/30/business/30gret.html>; Shefali Anand & Jennifer Levitz, *Auction-Rate Bailouts Bypass Some Investors*, WALL ST. J. (Sept. 4, 2008, 12:01 AM), <http://www.wsj.com/articles/SB122048821448297341> (no government bailout of auction rate securities and the eventual, limited bank buyback of the securities).

¹⁷⁴ Reforms in the U.S. repo market have led to the gathering and publication of more detailed data on securities used as collateral for tri-party repos. *Tri-Party Repo Infrastructure Reform*, FED. RES. BANK OF NEW YORK, http://www.newyorkfed.org/banking/tpr_infr_reform.html. Rationalizing public intervention in safe assets requires more detailed and dynamic data gathering for a broader range of transactions built on assets assumed to be risk-free. Cf. Adrian et al., *supra* note 59 (advocating more granular data gathering on contract terms, collateral, and

it is important to establish who is using them and for what purpose, especially when a single contract serves multiple purposes. Usage patterns and links among users should reveal potential for misuse and contagion.¹⁷⁵

The initial assessment should classify any public interventions that might support the risk-free treatment of identified contracts as making, labeling, or guarantees. Doing so should reveal potential for mixed messages (such as incidental labeling) and misalignment at the outset, and over time. A diagnosis of misalignment implies a risk of abrupt repricing, and a contingent liability for the state. It would normally call for additional intervention to contain assumptions about safety (limit labels), make contracts safer (equity, collateral, activities restrictions), and charge for guarantees.¹⁷⁶ However, charging for guarantees up front must be weighed against the cost of making them explicit and the associated moral hazard.

Monitoring safe assets from the baseline established in the initial assessment should reveal sharp changes in supply or demand, as well as the emergence of novel transaction patterns and asset uses. Monitoring should presumptively focus on assets that enjoy regulatory privileges, including but not limited to express labels. Changes in the volume or use of such assets could serve as early warning signals of misalignment, regulatory arbitrage, and growing systemic significance of particular asset markets.

We argue against evaluating contracts as safe or risky in general; and for an oversight regime that focuses on matching the risk attributes of a contract to the way in which it is being used.¹⁷⁷ Gaps between asset uses and attributes can harbor systemic risk. Alignment, not safety, is the goal.

A spike in the use of certain contracts as if they were risk-free, or rapid growth in substitution and complex combinations, should prompt a review of the underlying intervention tools and realignment among them, if necessary. Raising capital charges for surging assets,

counterparties in the repo market). On legal knowledge in financial markets and regulation, *see* RILES, *supra* note **Error! Bookmark not defined.**

¹⁷⁵ Adrian et al. *supra* note 59.

¹⁷⁶ Stress tests for firms and markets focusing on deterioration of certain key assets should help identify the extent of public exposure. The review may also conclude that the liability cannot be reduced or if reducing it is undesirable. This too is a valuable exercise. *See* Adrian Blundell-Wignall & Patrick Slovik, *The EU Stress Test and Sovereign Debt Exposures 9-11* (OECD Working Papers on Fin., Insurance and Private Pensions, No. 4, 2010), available at <http://www.oecd.org/finance/financial-markets/45820698.pdf>.

¹⁷⁷ Compare WARWICK COMMISSION, *supra* note 152; Persaud, *supra* note 152; and Fisher, *supra* note 28; with Nouy, *supra* note 11. A boom in any given asset may make it both more fragile and more entrenched—either gradually, or past a tipping point of systemic importance.

imposing quantitative restrictions, or attempting to charge for guarantees are among the options. Such measures need not apply to all uses and users across the board; in some cases, it may be enough to keep particularly vulnerable regulated firms away from the riskiest forms of substitution and combination.

Separately, the implicit safe asset functions of public intervention tools should be monitored for compatibility with their stated policy functions. For example, bankruptcy safe harbors support debtor rehabilitation and minimize risks associated with certain financial contracts. When tensions surface between bankruptcy and safe asset functions, both may be compromised. The tool may need to be adjusted, supplemented, or replaced.¹⁷⁸

A safe asset crisis exposes the failure of prior intervention; old goals and tools give way to new ones. The immediate objective in crisis is to contain direct and spillover damage from an abrupt loss of safety. “Making safe” works incrementally *ex ante*; prudential regulations are ill-equipped to stop a generalized panic. Regulatory forbearance, or directing firms to act as if the assets were still safe (a form of labeling) can buy time for market participants to rebuild their balance sheets and absorb losses without resorting to public support. However, forbearance can also delay resolution, prolong the crisis, and raise its total costs for the economy and for the government. As the crisis wears on, the state may have little choice but to pay out on express and implied guarantees. Public debt and money would, appropriately, replace private safe assets.¹⁷⁹

Payouts on guarantees lift the veil on the distributive consequences of safe asset policies, and set the stage for distribution battles in resolution and recovery. Fears of moral hazard loom large. Paradoxically, belated revelations about guarantees and public debates about risk can backfire. Public authorities facing a crisis of credibility are tempted to promise safety in general, and forswear bailouts. Neither promise is fully credible; both contribute to misalignment. For instance, it is hard to renounce guarantees and charge for them up front at the same time.

There are few alternatives to “making safe” after a crisis. Nevertheless, some of the safe asset literature surveyed in Part I gives voice to a counter-argument: making individual contracts safer would reduce the stock of safe assets, depress financial activity and slow economic recovery. Empirical evidence so far does not support this view, particularly when tighter regulation of particular contracts and institutions takes place against the background of accommodative

¹⁷⁸ Morrison et al., *supra* note **Error! Bookmark not defined.**

¹⁷⁹ *Supra* note 151 and the accompanying text.

monetary policy.¹⁸⁰ A related concern that regulating some contracts more stringently after a crisis would push out the safety frontier also needs more support.

B. Fixing Labels

Labels are the most troublesome category of tools supporting safe assets. They can be innocuous enough when aligned with the risk attributes of a contract, or with appropriately priced guarantees; however, in practice, they encourage governments and market participants to take hidden risks and shift the consequences onto others. As we noted in Part III, regulators' understandable affinity for simple, discontinuous labels to promote coordination virtually ensures misalignment. Public labels come with the additional cost of muting price signals and preempting market-based information discovery. Since they not only describe low risk, but also enable and encourage market participants to buy and sell, public labels can introduce distortions and discontinuities on the ground, and with them, potential for instability.

Public labels can be justified if market mechanisms fail, but not if the state does no better. The state may have an information advantage with respect to some assets, such as its own debt denominated in a currency it can print. For claims denominated in foreign currencies, claims on other governments and claims on regulated institutions, the information advantage is progressively attenuated.¹⁸¹ On the other hand, real or suspected conflicts of interest can easily offset the information advantage: the state might be expected to use regulatory labels to direct funds into its own coffers, or to politically favored firms and projects—effectively offsetting any information value its labels might have had.

Labels do have one important advantage in the political economy of regulation. Their bluntness makes them more intelligible and therefore more politically accountable.¹⁸² Label-as-license is especially useful in this respect. “Permitted” and “forbidden” investments, activities, and affiliations do not purport to represent safety attributes, even if they might imply a degree of safety (safe enough). Market prices might continue to convey valuable information about such assets.

¹⁸⁰ See e.g., See Valentina Bruno, Ilhyock Shim and Hyun Song Shin, *Comparative assessment of macroprudential policies* (Bank for Int'l Settlements, Working Paper No. 502, 2015), available at <http://www.bis.org/publ/work502.pdf>.

¹⁸¹ From this perspective, zero-risk weight for local-currency government debt is more intuitive than \$1 NAV for money market mutual fund shares, which in turn makes more sense than a 50% risk weight for mortgage loans.

¹⁸² Andrew G. Haldane, Executive Director, Financial Stability, Bank of England, Speech at the Federal Reserve Bank of Kansas City's 366th economic policy symposium: The dog and the Frisbee (Aug. 31, 2012), available at <http://www.bis.org/review/r120905a.pdf>.

Label-as-price has minimal information value of its own, even as it tries to block market price signals. It is also rife with mixed messages, conflicts and distortions. Risk-free labels in particular are liable to be interpreted as veiled warranties—commitments by the state to make good on their content, either by making the asset safe or, more likely, by guaranteeing it.

For these reasons, we argue for minimizing the use of label-as-price to support safe assets. However, we doubt they would disappear any time soon: labels are sticky, and have important constituencies that depend on them for vital funding.¹⁸³ As an alternative, labels with descriptive content, such as zero-risk, should be treated as express guarantees of that content by the labeling government.¹⁸⁴ Accounting for labels as if they were express guarantees would create incentives against using them willy-nilly, as cheap stand-ins for making assets safe. It could also force implicit guarantees of the safety label out into the open, and might lead the state to charge for them. The change we propose would be counter-cyclical, since it would work against the tendency to describe an asset as absolutely safe in good times, only to see it collapse in a downturn.

Paradoxically, our approach would leave the already-controversial zero-risk designation for the labeling governments' own debt largely intact for now. Our reasons are analytical and pragmatic. The content of zero-risk labels for governments' own debt is readily apparent. It reflects a government's assessment of its own ability and willingness to pay (where it has an information advantage); the assessment is open to challenge. Such labels are already debated as political commitment and financial repression, not arms' length description.¹⁸⁵ As a practical matter, forcing governments to reveal or withdraw guarantees implicit in their labels of private contracts, and the debts and currencies issued by other sovereigns, is a bigger priority. Even so, risk-free labels for own-government debt add little value; there are few reasons to keep them.

Conclusions

“A fiction becomes wholly safe only when it is used with a complete consciousness of its falsity.”¹⁸⁶ Fuller's note of caution for legal fictions in 1930 aptly frames our legal intervention in the safe asset debate circa 2015. Safe assets are never “wholly safe,” but they might be safe enough if those who make them and use them know the nature and purpose of the enterprise, and are vigilant about managing its inherent risks.

¹⁸³ See Part III.A & B *supra*.

¹⁸⁴ For purposes of this Article, we do not take a stand on further budget accounting issues, such as how guarantees expressed as labels should be treated compared to more overt guarantees. See, INT'L MONETARY FUND, FISCAL TRANSPARENCY, ACCOUNTABILITY, AND RISK (2012), available at <http://www.imf.org/external/np/pp/eng/2012/080712.pdf>.

¹⁸⁵ See *e.g.*, *supra* note 165.

¹⁸⁶ FULLER, *supra* note 11 at 10.

In this Article, we present a framework for understanding how the law constructs safe assets. It stands in contrast to the economic literature, which describes them as products of natural supply and demand, meeting the organic transactional needs in financial markets. Our account reinjects agency into safe assets: they are not simply produced; governments and market participants produce them together, in an iterative political process.

Our framework also suggests how the legal architecture of safe assets might set the stage for safe asset crises. When assets are labeled safe and used as if they were safe, but are not made safe, they could fail and cause severe damage, invoking *ex post* government guarantees. If guarantees turn out to be inadequate, damage could grow and metastasize. Such misalignments are products of policy choices, political pressure, and regulatory arbitrage. Governments and market participants stand to gain from stretching and adapting safety fictions for their purposes.

In response to the risks in safe assets, we argue for dynamically aligning and re-aligning the three principal kinds of safe asset interventions. We also advocate for doing away with certain labels. It turns out that the macroprudential machinery for constructing safe assets consists of the familiar tools for regulating banks and securities markets. The old toolkit can be deployed to manage the risks in safe assets. However, the downside is familiar as well: policymakers will face political backlash when they try to act countercyclically. Our framework makes the politics and the tradeoffs more readily apparent.

Detailed policy design requires further research. We need to know more about the effects of different kinds of labels on the behavior of market participants, about interaction and feedback effects among different tools, and the relationship between the safe asset toolkit and monetary and fiscal policies. Monitoring patterns of substitution and combination among safe assets should help identify “upstream” and “downstream” effects of safe asset policies, for example, on residential mortgage and municipal debt markets. It should also help regulators chart more robust contagion scenarios.

For better or worse, the safe asset meme would not be squelched.¹⁸⁷ Financial market participants will continue to treat multi-trillion-dollar markets as if they were risk-free—until some don’t, to disastrous effect—and the cycle starts again. Recognizing and mapping legal intervention in safe assets is an essential first step on the way to making them less destructive, and their makers more accountable.

¹⁸⁷ Portes, *supra* note 21; Gorton et al., *supra* note 2.