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Liquidity, Systemic Risk, and the Bankruptcy Treatment of Financial Contracts

Rizwaan J. Mokal

LIQUIDITY, SYSTEMIC RISK, AND THE BANKRUPTCY TREATMENT OF FINANCIAL CONTRACTS

Rizwaan Jameel Mokal[*]

ABSTRACT

Parties to repos, and to swaps and other derivatives are accorded privileged treatment under the bankruptcy laws of several dozen countries. Several key international "best practice" standards urge legislators in other jurisdictions to provide likewise. The beneficiaries of these privileges are solvent counterparties enabled, unimpeded by bankruptcy moratoria, to implement close-out netting arrangements, and to dispose of collateral. The purported rationale is mitigation of systemic risk.

Taking a broad international perspective, this Article explores the "domino" contagion view of distress that motivates these privileges. This view derives from the outdated "microprudential" understanding of systemic risk, and is theoretically flawed and empirically false. Drawing instead on the "macroprudential" approach, this Article argues that the elements of the broad close-out netting process—contractual termination, marked-to-market valuation, netting, and unimpeded collateral disposals—

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* Chair of Law and Legal Theory, University College London. The views expressed in this Article, the mistaken ones in particular, are mine alone. The Article has had a lengthy gestation. I prepared its earliest iteration as head of the World Bank's Insolvency and Creditor/Debtor Regimes (ICR) Initiative as part of the preparatory materials for a 2011 meeting of the World Bank's ICR Task Force in Washington, D.C. *See* Hon. James M. Peck, Rapporteur's Report, Bankruptcy Treatment of Financial Contracts: Lessons for Developing and Emerging Markets, World Bank Insolvency and Creditor/Debtor Regimes Task Force Meetings (Jan. 11, 2011), http://siteresources.worldbank.org/EXTGILD/Resources/WB_TF_2011_Bankruptcy_Treatment_of_Financial_Contracts.pdf. A primary purpose of these previous iterations was to provide "best practice" guidance when assessing enterprise bankruptcy regimes in developing and emerging markets. Work drawing on subsequent versions was presented at the National Conference of Bankruptcy Judges (Tampa, 2011); the World Bank and American Bankruptcy Institute Roundtable on Financial Contracts (National Harbor, Maryland, 2012); a World Bank Legal Staff Seminar (Washington, D.C., 2012); the United Nations Commission on International Trade Law's Fourth Colloquium on International Insolvency Law (Vienna, 2013); the International Insolvency Institute's 15th Annual Conference (Naples, 2015); the *Brooklyn Journal of Corporate, Financial & Commercial Law* symposium: "The Treatment of Financial Contracts in Bankruptcy and Bank Resolution," held at Brooklyn Law School (New York, 2015); and a UCL Laws Staff Seminar (London, 2015). Work deriving from a previous version of this Article formed part of Hon. James M. Peck, Rizwaan J. Mokal & Edward Janger, *The Long and Short of It—Financial Engineering Meets Chapter 11*, Eighty-fifth Annual Meeting of the National Conference of Bankruptcy Judges (Oct. 14, 2011). I have greatly benefited from discussions with, and comments from, Don Bernstein, David Billeter, Iris Hse-Yu Chiu, Jenny Clift, Look Chan Ho, Ted Janger, Stephen Lubben, Monica Marcucci, Irit Mevorach, Sarah Paterson, James Peck, Robin Phelan, John Pottow, Rodrigo Rodriguez, Timothy Schnabel, Steven Schwarcz, Vijay Tata, Jay Westbrook and from other participants in the aforementioned events, in addition to the editors of the *Brooklyn Journal of Corporate, Financial & Commercial Law*. A particularly heartfelt thanks to Francis Grier.

exacerbate systemic risk by increasing common exposures to risk, systemic uncertainty, procyclicality, and leverage, while reducing lending standards, collateral utilization, and regulatory capital buffers.

A recent attempt to provide a new rationale for financial contract privileges highlights their contribution to the "exponentiation" of liquidity. This Article shows that the privileges diminish the liquidity of markets and financial institutions alike. What they exponentiate is "froth." This rather unfamiliar label describes the all too familiar state in which assets are persistently and/or progressively overvalued and in which negative net-value projects obtain funding. The exponentiation of froth—*the* textbook recipe for systemic crises—should only be attractive to financial institution decision makers whose remuneration perversely tracks the riskiness of their institutions.

This Article also throws new light on the international spread of financial contract privileges. It expands on existing literature by mapping the path-dependent process by which national legislators and international standard setters were persuaded as to the alleged value of these privileges. It illustrates the key mechanisms by which any consideration of the costs of the privileges was precluded.

The Article concludes by rebutting the argument that bankruptcy law should not play any role in systemic risk mitigation, and by consolidating proposals to reform bankruptcy laws to protect the social welfare-enhancing features of financial contracts without encouraging systemic risk, value destruction, or unfairness.

INTRODUCTION

It seems obligatory, when writing about financial contracts and markets, to mention the eye-watering sums at stake. The global market for over-the-counter (OTC) derivatives alone is notionally worth $630 trillion USD, with about $21 trillion USD at risk excluding netting, or $3.4 trillion USD with netting.[1] On-exchange, futures worth $27.5 trillion USD and options totaling $41.4 trillion USD are outstanding.[2] In addition, the global repos market is estimated at €15 trillion EUR.[3] The sheer scale of these markets dwarfs anything most readers are likely to encounter elsewhere. It may

1. These figures are for notional amount outstanding, gross market value of outstanding contracts, and gross credit exposure, respectively, as of December 2014. BANK FOR INT'L SETTLEMENTS, STATISTICAL RELEASE: OTC DERIVATIVES STATISTICS AT END-DECEMBER 2014 1–2 (2015), http://www.bis.org/publ/otc_hy1504.pdf. The U.S. $3.4 trillion figure overstates the value at risk since it does not take account of collateral. *Id.* at 2.

2. Notional principal, as of March 2015. BANK FOR INT'L SETTLEMENTS, BIS QUARTERLY REVIEW, at A146 (2015), http://www.bis.org/publ/qtrpdf/r_qt1506.pdf.

3. Estimate attributed to the ICMA Centre, Reading University. *See How Big is the Repo Market?*, INT'L CAPITAL MKTS. ASS'N, http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/frequently-asked-questions-on-repo/4-how-big-is-the-repo-market/ (last visited Sept. 1, 2015).

appear uncouth to suggest that the dominant players in these gargantuan markets should play by anything like the rules that apply to lesser mortals. Indeed, the bankruptcy and bank resolution laws of several of the world's most advanced economies oblige by according unique privileges to financial contract counterparties. Similarly, special treatment is urged upon other jurisdictions by several international soft-law instruments that identify "best practices" in the domain. The privileges are said to be justified because they mitigate systemic risk. An even more important justification, it has recently been claimed, is that they enhance market liquidity.

In the wake of the global financial crisis of 2007–2009, the systemic risk rationale for financial contract privileges has come under sharp scrutiny.[4] Most such debates relate to the U.S. Bankruptcy Code.[5] This Article adds to the literature from a broader international perspective. It focuses on enterprise bankruptcy regimes,[6] though it also considers issues and evidence relating to special resolution regimes for banks and other regulated financial institutions. Drawing on international bankruptcy best-practice standards, as well as on the EU's Financial Collateral Arrangements Directive (FCD), this Article examines the rationale and justifications for financial contract privileges. It finds that these privileges—a relic of a bygone understanding of the nature and genesis of systemic risk—more likely exacerbate than reduce that risk. Nor do they have beneficial effects on liquidity, whether it be liquidity of assets, markets, or market participants.

Part I provides a primer on systemic risk and liquidity. It explains the micro- and macroprudential conceptualizations of systemic risk. Espousing

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4. For some illuminating examples from before, as well as after, the crisis, see Robert R. Bliss & George B. Kaufman, *Derivatives and Systemic Risk: Netting, Collateral, and Closeout*, 2 J. FIN. STABILITY 55 (2006); Stephen J. Lubben, *The Bankruptcy Code Without Safe Harbors*, 84 AM. BANKR. L.J. 123 (2010) [hereinafter Lubben, *Safe Harbors*]; Mark J. Roe, *The Derivatives Market's Payment Priorities as Financial Crisis Accelerator*, 63 STAN. L. REV. 539 (2011); David A. Skeel, Jr. & Thomas H. Jackson, *Transaction Consistency and the New Finance in Bankruptcy*, 112 COLUM. L. REV. 152 (2012); Edward J. Janger, *Arbitraging Systemic Risk: System Definition, Risk Definition, Systemic Interaction, and the Problem of Asymmetric Treatment*, 92 TEX. L. REV. SEE ALSO 217 (2014); Edward R. Morrison, Mark J. Roe & Christopher S. Sontchi, *Rolling Back the Repo Safe Harbors*, 69 BUS. LAW. 1015 (2014); Steven L. Schwarcz & Ori Sharon, *The Bankruptcy Law Safe Harbor for Derivatives: A Path Dependence Analysis*, 71 WASH. & LEE L. REV. 1715 (2014); Steven L. Schwarcz, *Derivatives and Collateral: Balancing Remedies and Systemic Risk*, 2015 U. ILL. L. REV. 699 (2015) [hereinafter Schwarcz, *Derivatives*].

5. For two valuable exceptions, see Louise Gullifer, *What Should We Do About Financial Collateral?*, 65 CURRENT LEGAL PROBS. 377 (2012), and; Philipp Paech, *The Value of Financial Market Insolvency Safe Harbours*, 36 OXFORD J. LEGAL STUD. 1 (2016).

6. English bankruptcy lawyers addressing a U.S. audience usually offer a word on terminology. In England, "bankruptcy law" is taken to refer to the law that applies to the bankruptcy of natural persons, whereas "insolvency law" governs other entities. This usage, a relic of path dependency, unhelpfully confuses the factual state of a debtor's insolvency and the legal processes which may be invoked in response. The distinction between factual insolvency and legal bankruptcy, employed in this Article, is often more analytically useful than that between the legal bankruptcy of a natural person and that of other debtors.

the latter, it considers the vulnerabilities that make systems prone to crises, the channels through which risk is transmitted, and the factors that amplify it. This Part also introduces the concepts of market, asset, institutional, and funding liquidity. Adopting the rather unfamiliar label of "froth" to describe the very familiar state in which markets persistently and/or progressively overvalue assets, it provides an initial characterization of how the amount of credit and leverage in the system is linked with the constituents of systemic risk.

Part II introduces bankruptcy law as a potential bulwark against systemic risk. The primary purposes of collective distress resolution regimes—the preservation of value in distressed estates and the distribution of that value in a normatively defensible manner—are discussed, as is the related distinction between payment priorities within a bankruptcy proceeding and immunities from such proceedings. This Part analyzes the effects of immunities and priorities both on the attempts to restructure distressed, but viable, enterprises and on the ex post allocation of bankruptcy harm. Part II also introduces two international soft-law instruments that provide guidance on best practices in bankruptcy law, both generally and in their application to financial contracts. These instruments are the Legislative Guide on Insolvency Law (Guide) promulgated by the United Nations Commission on International Trade Law (UNCITRAL) and the Principles on Effective Insolvency and Creditor/Debtor Rights Systems (Principles) issued by the World Bank. The role of four bankruptcy value-preservation mechanisms is explained with reference to these instruments. While familiar to bankruptcy lawyers in the United States, these mechanisms neither function fully in most other jurisdictions, nor are their rationales properly understood. It is in relation to these mechanisms that financial contracts receive a privileged position.

Part III introduces the relevant financial contracts and their immunities. The descriptions of the contracts are sufficiently detailed to enable a nonspecialist to contextualize the discussion to follow. The immunities derive from the FCD, the Guide and the Principles, and a third specialist soft-law instrument, the Principles on the Operation of Close-Out Netting Provisions, which the International Institute for the Unification of Private Law issued in 2013 (UNIDROIT Netting Principles).[7]

Part IV explains the effect of the immunities on market discipline. It rebuts recent assertions that there is no fundamental difference between these effects and those of "standard" secured credit. Standard secured credit reduces counterparty credit risk by mitigating financial agency and adverse selection costs. By contrast, bankruptcy immunities, at best, merely shift

7. INT'L INST. FOR THE UNIFICATION OF PRIVATE LAW [UNIDROIT], PRINCIPLES ON THE OPERATION OF CLOSE-OUT NETTING PROVISIONS (2013) [hereinafter UNIDROIT NETTING PRINCIPLES], http://www.unidroit.org/english/principles/netting/netting-principles2013-e.pdf.

that risk to those less able to bear it. Like any other method for externalization of the downside costs of decision making, the immunities thereby reduce the average quality of funded projects and counterparties in the system. The focus of this Part is on the immunities themselves, and it argues that, all else equal, any form of funding that is immune to bankruptcy would tend to weaken market discipline.

Part V turns to the particular mechanism of netting. A product of the increasingly disfavored microprudential approach to systemic risk, netting is based on the simplistic view that systemic risk is pro tanto reduced to the same extent as the reduction in risk to each individual financial institution in the system. In fact, however, netting encourages greater leverage and inter-party concentrations, weakens lending standards by exacerbating financial agency and adverse selection costs, redistributes counterparty risk rather than reducing it, exacerbates market volatility in times of stress, and thus creates an additional channel for risk transmission, propagating the effects of shock through the financial system. Drawing on the discussion thus far, Part V also shows that the immunities do not enhance the type of market, or any other, liquidity that represents a public good. The type of fair-weather "liquidity" that the immunities do exponentiate, by contrast, is a menace since it is *the* main channel for systemic risk. Financial sector regulators, in (re)discovering some of these costs, have somewhat moderated their misguided reliance on netting as a risk mitigant. Netting nevertheless maintains an exaggerated hold on their imaginations, not least because perversely incentivized financial market participants continue to lobby hard for it.

Part VI confronts the core argument in favor of the immunities, namely, that they mitigate systemic risk. The argument is premised on the existence of "domino risk"—the view that a significant market participant's failure to meet its obligations would result in similar failures by its counterparties. Domino risk is another relic of the microprudential understanding of systemic risk. The domino risk argument misconstrues how financial systems become susceptible to crises, is based on implausible assumptions, and is contradicted by all available evidence. The same evidence is examined to show that financial contract immunities, defended because they protect against the nonexistent domino threat, end up actually exacerbating real risk.

The discussion thus far leaves us with a mystery. Several dozen sophisticated legal systems have incorporated financial contract immunities. Immunity enthusiasts insinuate that the explanation for this phenomenon must lie in the immunities' welfare-enhancing effects. Part VII draws on and extends an alternative, debunking explanation based on path dependence. The immunities resulted from intensive lobbying of extremely well-resourced interest groups over a period of three decades. Accumulating extensions of the immunities in the United States resulted from

unsubstantiated, ever-bolder and ever-less-nuanced assertions about their contribution to systemic stability. The vast U.S. immunities were then cited to foreign governments in lobbying for similar changes in their own jurisdictions, and in international fora to shape soft-law instruments. The process was accompanied by the marginalization, or complete exclusion, of any consideration of the costs of the immunities. This Article uses examples of lobbying by the International Swaps and Derivatives Association (ISDA), whose members include dominant financial market participants, to illustrate the process. The formulation of the Guide and the UNIDROIT Netting Principles provides illustrations of the information and reputation costs associated with exploring alternatives to path-dependent immunity extensions. This Part concludes by highlighting the costs of cross-border financial integration, of which financial contract immunities are a particularly troubling component.

Part VIII suggests how a well-designed bankruptcy regime would treat financial contracts. It begins by assessing the argument that a bankruptcy regime should not seek to mitigate systemic risk at all, which should be left to "regulation." Even if, arguendo, bankruptcy regimes should not seek to *mitigate* systemic risk, the argument fails to show why they should be designed so as to *add* to it. The argument, in any case, misunderstands both the nature of systemic risk and, therefore, the necessarily multifactorial response that it demands. Part VIII then turns to the legitimacy and importance for bankruptcy regimes to facilitate certain constituent practices of financial contracts, such as the posting of "margins" and the netting of appropriately connected contracts. Bankruptcy regimes should also strike a careful balance between at least three, sometimes competing, objectives: the prevention of systemic contagion, the maximization of the value of the bankruptcy estate, and the interests of solvent financial contract counterparties in closing out and netting their positions, and disposing of collateral.

I. A PRIMER ON SYSTEMIC RISK, LIQUIDITY, AND FROTH

This Part draws on the literature examining systemic risk and crises to provide the conceptual framework for the discussion in the rest of the Article. It introduces two understandings of systemic risk, and explains its preference for one over the other. It describes the factors that make a system vulnerable to risk and those that amplify this risk. It concludes by explaining the relevant concepts of liquidity and draws attention to the importance of distinguishing it from froth, with which liquidity is often damagingly confused.

A. SYSTEMIC RISK: TWO APPROACHES

There are two ways to conceptualize systemic risk.[8] The first, which was dominant amongst financial sector regulators until the onset of the 2007–2009 crisis, is the "microprudential" approach. Microprudential regulations are rooted in the desire to protect individual financial institutions and each institution's depositors and investors. Each institution is considered on a stand-alone basis, disregarding its relationships with other institutions and its position within the system. The risk it faces is regarded as mostly exogenous to its own and other institutions' behavior. Systemic risk is viewed in a bottom-up manner as a simple aggregation of the risk of individual institutions, with the implication that "the whole financial system is sound if and only if each institution is sound."[9] Systemic crises are conceptualized as being triggered by exogenous shocks to individual institutions, with the failure of one institution spreading, domino-like, to others, mostly through payment and settlement systems. With this "domino" conception of systemic risk in place, microprudential regulations seek to protect each institution against shocks and are coupled with the strengthening of payment and settlement systems so as to dampen shock transmission.[10]

The microprudential approach suffers from the "fallacy of composition," which is the assumption that what is good for an individual financial institution is ipso facto good for the financial system as a whole.[11] This approach focuses on procyclical measures of risk. When the financial sector is stable, a credit boom takes hold, credit costs fall, asset prices rise, and the spreads between government and corporate bonds narrow, the microprudential approach regards the risk in the system as *declining*. Conversely, risk is thought to increase during stress and recessions. As discussed below, however, this gets things exactly the wrong way around, afflicting the microprudential approach with the "paradox of financial instability," that is, "[a] system [that] looks strongest precisely when it is most vulnerable."[12] *Even assuming* that the procyclical focus is rational for individual market participants, it is systemically problematic. Credit ratings

8. *See* Claudio Borio, *Rediscovering the Macroeconomic Roots of Financial Stability Policy: Journey, Challenges, and a Way Forward*, 3 ANN. REV. FIN. ECONS. 87, 88–91 (2011). For an excellent discussion of the nature, propagation, and regulation of systemic risk, see Iman Anabtawi & Steven L. Schwarcz, *Regulating Systemic Risk: Towards an Analytical Framework*, 86 NOTRE DAME L. REV. 1349 (2011).

9. Borio, *supra* note 8, at 88.

10. In this light, close-out netting can be seen as a mechanism for enabling the counterparties of a distressed entity to seek to insulate themselves from that distress by terminating their relationships with it.

11. Borio, *supra* note 8, at 89. For another regulator's take on fallacies of composition in the design of international financial regulation, see Benoît Cœuré, Exec. Bd. Member, European Central Bank, Paradigm Lost: Rethinking International Adjustments, Address at Egon and Joan von Kashnitz Lecture, Clausen Center for International Business and Policy (Nov. 21, 2015).

12. Borio, *supra* note 8, at 100.

based on this view have long been recognized as failing timeously to predict crises, and bank capital and loan loss provisioning regulations premised on it have proven potent amplifiers that exacerbate financial sector stress.[13]

Against this background, this Article draws and expands on the "macroprudential" approach, to which regulatory authorities have increasingly turned in the wake of the 2007–2009 crisis.[14] The ultimate objective of this approach is to protect, not stakeholders of an individual institution, but the real economy.[15] The approach is top-down, starting with system-wide cost/benefit analyses of regulatory requirements, such as those relating to solvency and capital, and deriving from these its treatment of individual institutions in a way that is sensitive to their relationships with others and their position within the system.[16] The macroprudential approach regards risk as *accumulating* in booms, and *materializing* when the cycle turns. While the micro- and macroprudential approaches are partly complementary, they do yield conflicting recommendations, particularly in a downturn.[17]

In this Article, systemic risk is understood schematically as the risk that (i) given attributes of the financial system that weaken its resilience ("vulnerabilities"), (ii) an event in either the financial or real sectors (a "shock") would trigger (iii) financial sector "stress," in the form of loss of economic value or confidence, and attendant rise in uncertainty, resulting in (iv) serious adverse effects on the real economy. The effects of shock on the financial system, and of financial sector stress on the real economy, are propagated between sectors, and between different economies, through "channels," and may be heightened by any of several "amplifiers." Systemic risk increases when new vulnerabilities, amplifiers, or channels are created, and when existing ones are exacerbated or enlarged.[18] It is

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13. FIN. STABILITY FORUM, REPORT OF THE FINANCIAL STABILITY FORUM ON ADDRESSING PROCYCLICALITY IN THE FINANCIAL SYSTEM 8 (2009) [hereinafter FIN. STABILITY FORUM], http://www.financialstabilityboard.org/wp-content/uploads/r_0904a.pdf.

14. "[O]ne widely shared lesson of the crisis is that financial supervision and regulation need to become much more 'macroprudential' (rather than remaining 'microprudential'), that is, they should be geared towards containing systemic risk (rather than the risks of individual intermediaries or markets)." Olivier de Bandt, Philipp Hartmann & José-Luis Peydró, *Systemic Risk in Banking After The Great Financial Crisis*, *in* THE OXFORD HANDBOOK OF BANKING 667, 668 (Allen N. Berger, Philip Molyneux & John O.S. Wilson eds., 2d ed. 2015) (footnote omitted).

15. *See* Borio, *supra* note 8, at 93.

16. For an illuminating illustration, see Céline Gauthier, Alfred Lehar & Moez Souissi, *Macroprudential Capital Requirements and Systemic Risk*, 21 J. FIN. INTERMEDIATION 594, 597 (2012).

17. de Bandt, Hartmann & Peydró, *supra* note 14, at 674.

18. This draws on and develops notions of systemic risk from several sources. *See, e.g.*, Borio, *supra* note 8; Stijn Claessens, Giovanni Dell'Ariccia, Deniz Igan & Luc Laeven, *Lessons and Policy Implications from the Global Financial Crisis* 11–12 (IMF, Working Paper No. WP/10/44, 2010) [hereinafter Claessens et al., *Lessons*]; IMF, *Effects of Consolidation on Financial Risk*, Report on Consolidation in the Financial Sector 126–27 (Jan. 2001) [hereinafter Report on

understood as partly endogenous: the collective behavior of financial institutions affects systemic vulnerabilities, channels, and amplifiers. This collective behavior has both a temporal and a cross-sectional dimension. The temporal dimension manifests in "procyclicality," which is "the dynamic interaction[] (positive feedback mechanisms) between the financial and the real sectors of the economy."[19] The cross-sectional dimension consists of common exposures to the same vulnerabilities ("correlations"). A systemic crisis results when systemic risk materializes.[20]

B. VULNERABILITIES

A number of important factors are strongly associated with systemic crises.[21] The factors interact in complicated ways, which the following discussion greatly simplifies. The objective is not comprehensiveness, which is unattainable anyway, but rather identification of factors arguably relevant to the bankruptcy treatment of financial contracts.

The factors may be regarded as clustering together in this way: financial liberalization tends to be associated with increased systemic uncertainty, weakened market discipline, and credit booms, which, in turn, are associated with asset price bubbles, and eventually with excessive leverage. Each of these features appears to contribute to financial system vulnerability, and a significant combination of them may confidently be taken as "classic telltales of [impending] banking crises."[22]

"Financial liberalization" is a broad term used to describe a variety of ways of deregulating the financial sector, including loosening of: credit controls, reserve requirements, interest rate controls, entry barriers, state control of the banking sector, a sector's prudential regulation and supervision, capital account restrictions, and security market policy,

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Consolidation]. The Group of Ten Report on Consolidation was coauthored by finance ministry and central bank officials from the Group of Ten industrialized countries, and representatives of intergovernmental supervisory bodies, including: the IMF, the Bank of International Settlements, the European Central Bank, the European Commission, and the Organisation for Economic Co-operation and Development (OECD).

19. FIN. STABILITY FORUM, *supra* note 13, at 8.

20. The literature adopts a rough and ready classification of systemic crises as currency, banking, and sovereign crises. *See, e.g.*, Adrian van Rixtel & Gabriele Gasperini, *Financial Crises and Bank Funding: Recent Experience in the Euro Area* 2 (Bank for Int'l Settlements, Working Paper No. 406, 2013) (reporting that from 1970 to 2011 there were 218 currency, 147 banking, and 66 sovereign crises). Where relevant, this Article focuses on banking crises as a proxy for crises in the financial system as a whole.

21. *See, e.g.*, Franklin Allen & Douglas Gale, *Bubbles, Crises, and Policy*, OXFORD REV. ECON. POL'Y, Autumn 1999, at 9.

22. Stijn Claessens, Giovanni Dell'Ariccia, Deniz Igan & Luc Laeven, *Cross-Country Experiences and Policy Implications from the Global Financial Crisis*, 25 ECON. POL'Y 267, 272 (2010) [hereinafter Claessens et al., *Cross-Country*]. For accessible introductions to systemic crisis literature, see Claessens et al., *Lessons*, *supra* note 18, and; CARMEN M. REINHART & KENNETH S. ROGOFF, THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY (reprt. ed. 2011).

including in relation to the development of derivatives markets.[23] Financial innovation, such as securitization and option pricing, may both result from and be a cause of liberalization.[24] The benefits from context-appropriate liberalization are potentially vast and include the stimulation of domestic productivity, savings, and growth, along with reduced reliance on foreign capital flows. These benefits are linked with the ability of banks and other financial intermediaries to fund riskier projects. Inevitably, there are costs. In particular, "any mechanism that may prevent bank managers from appropriately evaluating the downside risk of their lending decisions becomes especially dangerous."[25] Also dangerous are mechanisms that enable the downside risk to be externalized. Liberalization that outstrips legislative, regulatory, and supervisory understanding and capacities makes the financial system vulnerable. This is often the case, and there is a strong correlation between liberalization and systemic crises. For example, eighteen of the twenty-six banking crises between 1970 and 1995 followed within five years of financial liberalization.[26] Another analysis of fifty-three economies between 1980 and 1995 found that, controlling for a variety of factors, including adverse macroeconomic developments and policies, and balance of payments vulnerabilities, financial liberalization exerts a significant independent negative effect on the stability of the financial system.[27]

A "credit boom" occurs when growth in the availability of credit to the private sector significantly exceeds its long-run trend.[28] Booms are associated with general economic upswings, and thus with above-trend expansions in real output, consumption, and investment.[29] They are also strongly associated with systemic crises. Indeed, the authors of an analysis of fourteen developed countries between 1870 and 2008 refer to financial crises as "credit booms gone wrong."[30] Another analysis of twenty-seven booms in industrial economies and twenty-two in emerging ones between 1960 and 2006 indicates that while only a minority of booms end in a crisis,

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23. *See* Abdul Abiad, Enrica Detragiache & Thierry Tressel, *A New Database of Financial Reforms* 17 (IMF, Working Paper No. WP/08/266, 2008).

24. REINHART & ROGOFF, *supra* note 22, at 208.

25. Asli Demirgüç-Kunt & Enrica Detragiache, *Financial Liberalization and Financial Fragility* 8 (IMF, Working Paper No. WP/98/83, 1998).

26. Graciela L. Kaminsky & Carmen M. Reinhart, *The Twin Crises: The Causes of Banking and Balance-of-Payments Problems*, 89 AM. ECON. REV. 473, 480 (1999) (cited in REINHART & ROGOFF, *supra* note 22, at 155–57, 165).

27. Demirgüç-Kunt & Detragiache, *supra* note 25, at 1. These effects can be partially mitigated by effective law enforcement, an efficient bureaucracy, and absence of corruption.

28. Enrique G. Mendoza & Marco E. Terrones, *An Anatomy of Credit Booms: Evidence from Macro Aggregates and Micro Data* 5 (Nat'l Bureau of Econ. Research, Working Paper No. 14049, 2008).

29. Claessens et al., *Lessons*, *supra* note 18, at 5.

30. *See* Moritz Schularick & Alan M. Taylor, *Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870–2008*, 102 AM. ECON. REV. 1029, 1032 (2012) (also finding that larger financial sectors are more crisis prone).

crises are more likely to occur in the wake of a boom, and their severity and duration are positively correlated with those of the preceding boom.[31] In emerging and industrialized economies alike, a credit boom resulting from a sustained surge of capital inflow into the economy is strongly procyclical and strongly associated with crises.[32] The primary relevant mechanisms by which booms contribute to systemic vulnerabilities are the creation of asset price bubbles, weakening of lending standards, and excessive leverage.[33]

An "asset price bubble" exists when prices significantly exceed their fundamental values, which are the discounted, present values of the assets' future payoffs.[34] Three of the reasons canvassed in the literature for bubble inflation are particularly relevant. First, the availability of cheap credit, often sparked by financial liberalization, is an important cause.[35] Second, "prices [may] overreact to a potentially informative signal about fundamentals," such as when markets overestimate the positive effect, on some aspect of the real economy, of the advent of railroads, electricity, information technology, or securitization.[36] A third source is a decision maker's ability to pass on to others the downside costs of his decisions.[37]

Two ways in which bubbles contribute to systemic risk are worth noting.[38] First, lenders increasingly lend on the expectation of a continuing rise in the prices of assets offered as collateral rather than on the basis of a borrower's cash flow assessments. Such lending weakens market discipline. Second, lenders' risks become increasingly correlated as they crowd into an inflating market for a piece of the action, so that the same factor that might cause loss to one—the bursting of the bubble—may instead end up stressing a significant part of the financial system.[39]

Lending standards decline in line with a lender's ability to externalize the net downside costs of its lending decisions on to others. The greater its

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31. *See generally* Mendoza & Terrones, *supra* note 28, *discussed in* Claessens et al., *Lessons*, *supra* note 18, at 5.

32. *See* REINHART & ROGOFF, *supra* note 22, at 141–74.

33. Claessens et al., *Lessons*, *supra* note 18, at 4–5; Frederic S. Mishkin, *How Should We Respond to Asset Price Bubbles?*, 12 FIN. STABILITY REV. 65, 66–67 (2008).

34. For the complexities of defining a bubble, see Jeremy J. Siegel, *What Is an Asset Price Bubble? An Operational Definition*, 9 EUR. FIN. MGMT. 11 (2003).

35. *See* REINHART & ROGOFF, *supra* note 22, at 208.

36. Anna Scherbina, *Asset Price Bubbles: A Selective Survey* 20 (IMF, Working Paper No. WP/13/45, 2013) (citing Behzad T. Diba & Herschel I. Grossman, *On the Inception of Rational Bubbles*, 102 Q.J. ECONS. 697, 697–700 (1987)). This point goes back to Irving Fisher, *The Debt-Deflation Theory of Great Depressions*, 1 ECONOMETRICA 337, 349 (1933) ("There is probably always a very real basis for the 'new era' psychology before it runs away with its victim.").

37. *See generally* Franklin Allen & Gary Gorton, *Churning Bubbles*, 60 REV. ECON. STUD. 813 (1993); Franklin Allen, Stephen Morris & Andrew Postlewaite, *Finite Bubbles with Short Sale Constraints and Asymmetric Information*, 61 J. ECON. THEORY 206 (1993).

38. *See* Mishkin, *supra* note 33, at 65–74.

39. Claudio Borio, Craig Furfine & Philip Lowe, *Procyclicality of the Financial System and Financial Stability: Issues and Policy Options* 4–5 (Bank for Int'l Settlements, BIS Paper No. 1, 2001), https://www.bis.org/publ/bppdf/bispap01a.pdf.

ability to do so, the riskier the projects funded, with the attendant accumulation of systemic risk. Contributing to this are any techniques that weaken the ability and/or incentives of a lender to assess potential borrowers ex ante, and to monitor them over the term of the loan.[40]

"Excessive leverage" is a part of the flip-side of the credit boom coin. For our purposes, leverage may be understood as the ratio of total assets at risk ("exposure") to equity.[41] Leverage adds to systemic risk in several ways. Debt enables a borrower's decision makers to externalize part of the borrower's downside risk to the lender. This means that the greater the level of debt in the borrower's balance sheet, the more likely this borrower is to take on risk. Further, the higher the level of a debtor's leverage, the greater the proportion of its revenue stream it must allocate to debt servicing. All else equal, therefore, the borrower is correspondingly more likely to be rendered illiquid and/or insolvent because of smaller drops in those revenues or rises in the cost of debt.[42] The problem is particularly acute when the excessively leveraged borrower is a financial institution.[43] The quality, not merely the quantity, of the borrowing undertaken by a financial institution matters; a desire to participate in the rewards of a credit boom may encourage banks to lend in excess of available retail deposit funds, and to cover their own funding gap in more volatile wholesale markets.[44] This reduces the resilience of the banking system.

"Excessive uncertainty" is a key financial system vulnerability, playing a role in several of the factors described above. It is a constitutive factor in legislative, regulatory, and supervisory weaknesses in the face of financial liberalization and innovation, to the inflation of bubbles, and to the decline of lending standards.[45] In the 2007–2009 global financial crisis, the opacity inherent to complex collateralized debt obligations and similar instruments, and to banks' incentives to keep risks off balance sheets until forced to do

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40. *See* Claessens et al., *Lessons*, *supra* note 18, at 6–8. *See generally* Constantinos Stephanou, *Rethinking Market Discipline in Banking: Lessons from the Financial Crisis* (World Bank Policy Research, Working Paper No. 5227, 2010); Giovanni Dell'Ariccia, Igan Deniz & Luc Laeven, *Credit Booms and Lending Standards: Evidence from the Subprime Mortgage Market*, 44 J. MONEY CREDIT & BANKING 367 (2012); Atif Mian & Amir Sufi, *The Consequences of Mortgage Credit Expansion: Evidence from the 2007 Mortgage Default Crisis*, 124 Q.J. ECONS. 1449 (2009).

41. For a new measure of leverage, introduced to "restrict the build-up of leverage in the banking sector to avoid destabilising deleveraging processes that can damage the broader financial system and the economy," see BANK FOR INT'L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, BASEL III LEVERAGE RATIO FRAMEWORK AND DISCLOSURE REQUIREMENTS 1 (2014), http://www.bis.org/publ/bcbs270.pdf.

42. For a clear explanation of the role played by excessive leverage in the demise of the UK bank, Northern Rock, see Hyun Song Shin, *Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis*, 23 J. ECON. PERSP. 101 (2009).

43. *See* Claessens et al., *Lessons*, *supra* note 18, at 9–10.

44. Vanessa Le Leslé, *Bank Debt in Europe: Are Funding Models Broken?*, paras. 6–7 (IMF, Working Paper No. 12-299, 2012).

45. *See, e.g.*, Allen & Gale, *supra* note 21, at 12–13, 15.

otherwise, was a fruitful source of risk externalization, bubble inflation, and systemic vulnerability.[46]

C. CHANNELS AND AMPLIFIERS

The discussion thus far describes a financial system primed for crisis. A shock may result in "a sharp change in risk perception"[47] and thus spark a crisis. In the 2007–2009 crisis, the shock was the bursting of the U.S. "subprime" property bubble, signaled by a spike in delinquency rates and market exit of key lenders.[48] These shocks resulted in up to $500 billion USD in losses from subprime mortgage defaults and, in turn, in many trillions of dollars of losses to the global economy.[49] The purpose of this sub-Part is to explore some of the primary mechanisms by which an initial shock translates into severe systemic harm.

"Asset value contagion" is amongst the most important risk amplifiers.[50] It is a collective action problem in which an asset price shock, such as that resulting from the bubble bursting, "causes balance sheet constraints on asset-holders to tighten, causing assets to be liquidated, lowering asset prices further, and so on."[51] This contagion may operate through forced sales of assets[52] because of pressures in relation to any or all of leverage, margin, collateral, or capital. In each case, the amplifier results from individually rational attempts to liquidate assets, triggering price collapses, and thus proving systemically disastrous. For example, a regulated financial institution that has suffered losses may be faced with the requirement either to raise new equity or to reduce its exposure. Assuming that the losses have resulted from financial system stress, it may be difficult in this circumstance to raise equity, and the institution may be forced to sell assets instead. However, since the system is stressed, other institutions are likely to be selling similar assets, creating a downward pressure on prices,

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46. Claessens et al., *Lessons*, *supra* note 18, at 7–8. For an accessible and interesting account, see James Crotty, *Structural Causes of the Global Financial Crisis: A Critical Assessment of the 'New Financial Architecture'*, 33 CAMBRIDGE J. ECONS. 563 (2009).

47. Timothy Geithner, President & CEO, Fed. Res. Bank of N.Y., Remarks at the Federal Reserve Bank of Atlanta Financial Markets Conference: Liquidity Risk and the Global Economy (May 15, 2007), http://www.ny.frb.org/newsevents/speeches/2007/gei070515.html. For background, see Gary Gorton, *Banking Panics and Business Cycles*, 40 OXFORD ECON. PAPERS 751 (1988).

48. Claessens et al., *Cross-Country*, *supra* note 22, tbl.I.

49. *See, e.g.*, Arvind Krishnamurthy, *Amplification Mechanisms in Liquidity Crises*, AM. ECON. J.: MACROECONOMICS, July 2010, at 1, 1; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-180, FINANCIAL CRISIS: LOSSES AND POTENTIAL IMPACTS OF THE DODD-FRANK ACT (2013).

50. See Roe, *supra* note 4, for perhaps the finest account of bankruptcy immunities' facilitation of collateral value contagion. Roe's work has deeply influenced the thinking underlying this Article.

51. Krishnamurthy, *supra* note 49, at 2.

52. A "forced sale" occurs when the seller cannot meet its own obligations without selling assets. Andrei Shleifer & Robert Vishny, *Fire Sales in Finance and Macroeconomics*, 25 J. ECON. PERSP. 29, 30 (2011) [hereinafter Shleifer & Vishny, *Fire Sales*].

and making it correspondingly harder for each institution to regain capital adequacy.[53] Recognition of the importance of this amplifier is not exactly new. Irving Fisher wrote about it in 1933 as a key dynamic in the economic cycle:

> Assuming . . . that . . . a state of over-indebtedness exists, this will tend to lead to liquidation. . . . *Debt liquidation* leads to *distress selling* . . . [which in turn results in a] *fall in the level of prices*. . . . [I]f the over-indebtedness with which we started was great enough, the liquidation of debts cannot keep up with the fall of prices which it causes. In that case, the liquidation defeats itself. . . . [The] *very effort of individuals to lessen their burden of debts increases it, because of the mass effect of the stampede to liquidate in swelling each dollar owed*. Then we have the great paradox which . . . is the chief secret of most, if not all, great depressions: *The more the debtors pay, the more they owe*.[54]

Asset value contagion has repeatedly been identified in the wake of crises, and is thus a well-studied phenomenon.[55] In relation to financial contracts in particular, it seems that it was forgotten until the 2007–2009 crisis, notwithstanding a sharp reminder around 1998.[56]

"Marked-to-market" valuation, when linked with risk management and investment decision rules, has proved strongly procyclical and thus another powerful amplifier.[57] Such valuation is part of the "fair-value" approach that is mandatory for financial instruments such as derivatives under international accounting standards. Fair-value accounting consists of three hierarchical "levels," at which value is assigned by reference, respectively, to (i) quoted prices in active markets for identical instruments; (ii) quoted prices for similar instruments or observable attributes of the valued instruments, such as interest rates and yield curves; and (iii) unobservable attributes of the instruments.[58] The first two levels reflect different degrees of the marked-to-market approach, while the third is "marked-to-model." While accounting standards exclude forced sales and inactive market prices from feeding into the valuation process—thus permitting a switch from level one and/or two to level three—the process involves discretion and

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53. *See, e.g.*, Robin Greenwood, Augustin Landier & David Thesmar, *Vulnerable Banks*, 115 J. FIN. ECONS. 471, 471 (2015).

54. Fisher, *supra* note 36, at 341–42, 344. *See also* Basel Comm. on Banking Supervision, *Literature Review of Factors Relating to Liquidity Stress – Extended Version* 14 (Bank for Int'l Settlements, Working Paper No. 25, 2013).

55. For a finance literature survey at the onset of the 2007–2009 episode, see Krishnamurthy, *supra* note 49, at 1–15.

56. *See infra* Part VII.

57. IMF, *Financial Stress and Deleveraging: Macrofinancial Implications and Policy*, Global Financial Stability Report, at 109, 115 (Oct. 2008) [hereinafter IMF, *Financial Stress*].

58. *See, e.g.*, Commission Regulation 1126/2008, IAS 39, paras. 48–49, app. A at AG69–AG82, 2008 O.J. (L 320) 270.

uncertainty, and does not eliminate the adverse feedback.[59] Marked-to-market valuations thus incentivize banks to increase their leverage during booms, and when the cycle turns, also encourage asset sales that can set off or exacerbate asset value contagion by tightening regulatory capital and collateral constraints.[60] Economists have long recognized this amplifier. Milton Friedman and Anna Schwartz quote the N.Y. Federal Reserve's Deputy Governor explaining to his Board in 1931 that the bonds with the most active markets—which were thus susceptible in effect to being marked-to-market—were causing the most serious risk to bank solvency as a result of forced sales and the subsequent declines in market prices.[61]

"Information contagion" occurs when market participants suffer unexpected uncertainty and react so as to exacerbate financial sector stress.[62] Of particular importance is "Knightian" uncertainty, which exists when the relative odds of events are unknown. By contrast, risk exists when such odds are known.[63] Knightian uncertainty is most likely, though not exclusively, to arise when imperfectly understood financial innovations behave in unexpected ways, "[in] environments where market participants have had a limited experience in dealing with a particular asset."[64] Consider the example of AAA-rated subprime loan tranches, which suffered losses in the run-up to the 2007–2009 financial crisis:

> Investors were not surprised that high-risk homeowners defaulted on some loans; rather, they were surprised that such defaults had a material effect on the values of the most senior of the tranches backed by pools of subprime mortgages. Moreover, given that a myriad other credit products .

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59. The switch away from marked-to-market valuations has its own problems. An experienced bank examiner told me that level three, and to a lesser extent, level two, are sometimes described in the trade as "marked-to-supervisor," in recognition that they are what sectoral supervisors can be persuaded to allow institutions to get away with. The result is an increase in market opacity.

60. *See, e.g.*, Franklin Allen & Elena Carletti, *Mark-to-Market Accounting and Liquidity Pricing*, 45 J. ACCT. & ECONS. 358 (2008); Tobias Adrian & Hyun Song Shin, *Liquidity and Leverage*, 19 J. FIN. INTERMEDIATION 418 (2010); Urooj Khan, *Does Fair Value Accounting Contribute to Systemic Risk in the Banking Industry?* (Columbia Bus. Sch. Research Paper, 2010), http://ssrn.com/abstract=1911895; Douglas W. Diamond & G. Raghuram Rajan, *Fear of Fire Sales, Illiquidity Seeking, and Credit Freezes*, 126 Q.J. ECONS. 557 (2011); Craig B. Merrill, Taylor D. Nadauld, René M. Stulz & Shane M. Sherlund, *Why Were There Fire Sales of Mortgage-Backed Securities by Financial Institutions During the Financial Crisis?* (Charles A. Dice Center, Working Paper No. 2013-02), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2212684.

61. MILTON FRIEDMAN & ANNA JACOBSON SCHWARTZ, A MONETARY HISTORY OF THE UNITED STATES, 1867-1960, at 355–56 (1971).

62. This term is owed to Mark J. Roe, *The Derivatives Market's Payment Priorities as Financial Crisis Accelerator*, 63 STAN. L. REV. 539, 567 (2011).

63. *See generally* FRANK H. KNIGHT, RISK, UNCERTAINTY, AND PROFIT (Houghton Mifflin, 1st ed. 1921).

64. Krishnamurthy, *supra* note 49, at 22. For a discussion of the role of such uncertainty in relation to asset-backed commercial paper in the 1970 Penn Central Railroad default, portfolio insurance strategies in the October 1987 stock market crash, and the hedge fund crisis in 1998, see *id.* at 22–23. The last of these is discussed in Part VII, *infra*.

> . . had been structured in much the same way as subprime investments, investors' model-uncertainty went across the entire market.[65]

The rational response may be to assume the worst, which may trigger demands for more collateral, thus stressing counterparties' liquidity and then solvency; to dispose of assets, thus risking asset value contagion; and perhaps to disengage from the market so that market liquidity evaporates.[66] Information contagion also creates cross-border risk transmission channels, with investors exposed to Knightian uncertainty in one jurisdiction treating it as a "wakeup call," and becoming wary of another, which they recognize as sharing attributes that they perceive as relevant.[67]

"Common lender effects" create another channel for risk transmission between countries. On the one hand, subsidiaries of well-capitalized foreign banks might react countercyclically, and thus beneficially, in relation to a local crisis.[68] On the other, lenders—and investors more generally—who come under capital or margin pressures in one country, especially in a country that has suffered a crisis, might rebalance portfolios by reducing lending in other countries.[69] Several of the amplifiers discussed above might play a part in heightening this effect. A local crisis in one economy might thereby spread to another.

Since the debate about financial contracts is littered with loose talk of "liquidity," a preliminary note of caution is merited on the relationship between systemic vulnerabilities on the one hand and liquidity on the other.

D. LIQUIDITY AND FROTH

Liquidity is an attribute of markets, assets, and institutions. An asset is liquid to the extent that it robustly retains a market value at or near its fundamental value.[70] A market is liquid to the extent that it easily enables realization of significant volumes of assets at or near their fundamental

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65. *Id.* at 15–22.

66. *Id.* at 15.

67. Thomas Moser, *What Is International Financial Contagion?*, 6 INT'L FIN. 157, 162–66 (2003).

68. IMF, *Financial Stress*, *supra* note 57, at 73–105.

69. *See, e.g.*, Caroline Van Rijckeghem & Beatrice Weder, *Sources of Contagion: Is it Finance or Trade?*, 54 J. INT'L ECONS. 293, 295 (2001); Graciela L. Kaminsky & Carmen M. Reinhart, *On Crises, Contagion, and Confusion*, 51 J. INT'L ECONS. 145, 154 (2000); Itay Goldstein & Ady Pauzner, *Contagion of Self-Fulfilling Financial Crises Due to Diversification of Investment Portfolios*, 119 J. ECON. THEORY 151, 152 (2004); Claessens et al., *Cross-Country*, *supra* note 22, at 274.

70. Roughly parallel to this is the understanding of asset *illiquidity* as the difference between the asset's fire sale price and its value in best use. *See* Andrei Shleifer & Robert W. Vishny, *Liquidation Values and Debt Capacity: A Market Equilibrium Approach*, 47 J. FIN. 1343, 1344 (1992). A "fire sale" is a forced sale in a distressed market. *See* Shleifer & Vishny, *Fire Sales*, *supra* note 52, at 30.

value.[71] An institution is liquid to the extent that its balance sheet contains more liquid assets, and its liabilities consist more of "softer" claims like equity and less of "harder" ones like debt, particularly short-term debt. Funding liquidity—the ease with which a market participant may raise external finance—is best understood as a function of asset and market liquidities, since it is the sale of a particular asset, namely, a contingent claim to a part of the borrower's value. A "flight to liquidity" occurs when investors seek to dispose of less liquid assets in favor of more liquid ones.[72]

Liquid markets, which enable assets to change hands *at or close to* their fundamental value, enhance social welfare since they enable social resources to remain at or near their most economically valued use. However, market liquidity must be sharply distinguished from a very different state with which it is characteristically confused, which we will call "market froth." A frothy market is one in which assets are progressively and/or persistently overvalued.[73] That is, froth characterizes a market in which an asset price bubble is inflating, typically fed by a credit boom. Froth is thus associated with a decline in lending standards and excessive leverage. It is inherently fragile. In the end, assets either generate the cash-flow necessary to service the claims in relation to them, or the claims suffer default. The greater the discrepancy between the cash-flows—which are constitutive of the assets' fundamental value—and the claims—represented by the assets' market price—the greater the likelihood of default.[74] Indeed, froth may contain the seeds of its own destruction, as, for example, when a frothy housing market results in an oversupply of housing, which in turn causes declines in the fundamental value of the housing stock.[75] This heightens divergence between market prices and fundamental value, thereby increasing both the probability and severity of a market price readjustment (i.e., a crash). Accordingly, froth is a major systemic vulnerability, both a mechanism for, and a sign of, risk accumulation. Keep this in mind when we turn to assessing the argument that financial contract immunities exponentiate liquidity.

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71. A derivatives industry advocacy document describes a liquid market as "one in which it is possible to transact immediately with minimum effect on price and minimum loss of value," and considers four dimensions to liquidity: immediacy, cost, depth, and resiliency. David Mengle, *The Economic Role of Speculation* 4 (Int'l Swaps & Derivatives Ass'n, Research Notes No. 2, 2010).

72. These definitions are adapted from Krishnamurthy, *supra* note 49, at 25–28.

73. Olivier Blanchard and Mark Watson's *Bubbles, Rational Expectations and Financial Markets* is a seminal work on froth, though the term itself is not used. Olivier J. Blanchard & Mark W. Watson, *Bubbles, Rational Expectations and Financial Markets*, *in* CRISES IN THE ECONOMIC AND FINANCIAL STRUCTURE 295 (Paul Wachtel ed., 1982).

74. James Crotty has made an analogous point. *See* Crotty, *supra* note 46, at 576.

75. Blanchard & Watson, *supra* note 73, at 301–02. Fundamental value, which here is the present value of housing services (rents), falls as supply increases while demand remains constant. *Id.*

II. BANKRUPTCY LAW AS COUNTERCYCLICAL BULWARK

This Part highlights the ways in which paradigmatic features of a well-developed bankruptcy regime can serve to disrupt or weaken procyclical dynamics. It also adds to the social welfare-oriented discussion so far (i.e., how social value may be preserved or destroyed) with considerations of fairness (i.e., how value ought to be distributed). The source of the relevant features within bankruptcy law is the Insolvency and Creditor/Debtor Regimes Unified Standard (ICR Standard) constituted by the Recommendations of the Guide, read together with the Principles.[76] While nonbinding soft-law, the ICR Standard is regarded as the international best practice in the domain. It is one of fourteen such standards recognized by the Financial Stability Board (FSB) to be "broadly accepted as representing minimum requirements for good practice that countries are encouraged to meet or exceed [and whose implementation is] key for sound financial systems and deserving of priority implementation depending on country circumstances."[77] Intergovernmental organizations, including the World Bank and the International Monetary Fund (IMF), use the ICR Standard as the basis for assessing domestic bankruptcy regimes and for recommending reform.[78] The discussion begins by distinguishing between bankruptcy law's two main functions—preservation of value and distribution of value—conceived at the most general level.

A. PRIORITY, IMMUNITY, WELFARE, AND FAIRNESS

Categories of claims accorded "priority" over others within a bankruptcy proceeding enjoy a superior repayment position. By contrast, a claim given "immunity" finds itself in the privileged position of being excluded from relevant bankruptcy restrictions altogether. Put another way, if bankruptcy proceedings are conceptualized as possessing mechanisms for both (i) gathering, preserving, and maximizing the value of the bankrupt estate (preservation mechanisms), and (ii) distributing that value (distribution mechanisms), then priorities engage the distribution mechanisms, whereas immunities disengage the preservation mechanisms. Note that to disengage preservation mechanisms is also to render irrelevant

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76. U.N. COMM'N ON INT'L TRADE L., UNCITRAL LEGISLATIVE GUIDE ON INSOLVENCY LAW, U.N. Sales No. E.05.V.10 (2005) [hereinafter LEGISLATIVE GUIDE]; WORLD BANK, PRINCIPLES FOR EFFECTIVE INSOLVENCY AND CREDITOR/DEBTOR RIGHTS SYSTEMS (2015) [hereinafter WORLD BANK PRINCIPLES]. For a thoughtful, though controversial, discussion of the genesis and development of the ICR Standard, see TERENCE C. HALLIDAY & BRUCE G. CARRUTHERS, BANKRUPT: GLOBAL LAWMAKING AND SYSTEMIC FINANCIAL CRISIS 38–165 (2009) (ch. 3 is co-authored by Susan Block-Lieb).

77. *Key Standards for Sound Financial Systems*, FIN. STABILITY BD., http://www.financialstabilityboard.org/what-we-do/about-the-compendium-of-standards/key_standards/ (last visited Sept. 1, 2015).

78. *See Factsheet: Standards and Codes: The Roles of the IMF*, INT'L MONETARY FUND, http://www.imf.org/external/np/exr/facts/pdf/sc.pdf (last visited Sept. 1, 2015).

the distribution mechanisms: value not preserved in the bankruptcy estate is also not available for distribution according to bankruptcy rules. It follows that a claim accorded immunity would usually also, as a matter of fact, enjoy priority in relation to the proceeds of the relevant assets over nonimmune claims.

The immunity/priority distinction is crucial since priorities primarily affect the distribution of value from the bankruptcy estate, whereas immunities primarily affect how much value is available for distribution in the first place. As a corollary, the primary cost of ill-chosen priority rules is the misallocation of value from the bankruptcy estate, that is, the misallocation of bankruptcy loss. The primary cost of wrong immunities is not merely the misallocation but the *destruction* of value from the estate.

1. Priority

An important role of bankruptcy proceedings is to allocate loss from the insolvency in a normatively defensible manner. The key here is not the formal equality of treatment represented by the famous, if much misunderstood, pari passu principle,[79] but the substantive equality of concern that is, or at least ought to be, enshrined in the statutory priorities regime.[80] This regime is a critical tool, channeling the loss pro tanto from creditors placed at a higher ranking to those placed at a lower one. All else equal, a normatively defensible priorities regime would accord a higher ranking to claims whose holders could not reasonably be expected to protect their position ex ante by choosing whether to lend at all; bargaining for a higher interest rate; obtaining security; achieving exit in anticipation of their debtor's distress; and/or those who would not be well placed ex post to bear loss, because they were proportionately undiversified and not shielded from insolvency loss through another reasonably feasible method.

Consider, by way of illustration, the position of a commercial debtor's tort claimants (those wrongfully injured by the debtor's activities and owed compensation for their injuries), employees, main bank lender, trade creditors, and also the government's tax departments. In general, the average tort claimant, employee creditor, or tax authority has no choice whether to "lend,"[81] has little control over the interest it may charge on their claims, cannot obtain security, and cannot effectively obtain exit from a given debtor. This is primarily because it has little to no knowledge of the

79. There are three conflicting ways in which the pari passu principle is usually understood, often with little appreciation that the meanings differ, let alone conflict. *See, e.g.*, Rizwaan J. Mokal, *At the Intersection of Property and Insolvency: The Insolvent Company's Encumbered Assets*, 20 SING. ACAD. L.J. 495, 527–28 (2008).

80. *See* RIZWAAN J. MOKAL, CORPORATE INSOLVENCY LAW: THEORY AND APPLICATION 32–132 (2005).

81. Characteristically, torts are inflicted without the consent of the tort victim, and wages and taxes are paid in arrears.

debtor's prospects and little to no influence over its repayment decisions. However, tax authorities are maximally diversified; they enjoy some influence on tax rates and thus on the total quantum of their claim, and may also have special investigative and enforcement powers. These factors distinguish them from both tort and employee claimants, and substantiate the familiar intuition—though one not always given full, or any, effect in bankruptcy codes—that tax authorities are less vulnerable to insolvency harm than either tort or employee claimants. While tort and employee claimants are not diversified in relation to their claims, important categories of tort claimants may have the benefit of compulsory insurance schemes—as in relation to workplace injury and road traffic accidents—or reasonably effective recovery mechanisms, such as class action suits. Considerations similar to those sketched out here justify the statutory priority for wage and other employee claims accorded by the bankruptcy codes of many jurisdictions, and the existence of wage protection funds, into which all employees and/or employers make payments, and against which the employees of an insolvent employer may claim.[82]

In the paradigm case of a bankruptcy priorities regime gone askew, loss flowing from some or all bankruptcies would be allocated to those who were unable to protect their position ex ante and least able ex post to bear it. The law would have failed to perform its legitimate and crucial role of protecting those unable to protect themselves. The outcome might also be value destructive downstream, with parties required to absorb an inordinate proportion of the bankruptcy loss themselves, in turn, suffering avoidable distress.

2. Immunity

The socially undesirable effects of a poorly designed bankruptcy priorities regime can be harsh. However, such effects can be compounded by the presence of ill-advised immunities. Notice that bankruptcy proceedings are paradigmatically governed by what we may call the "principle of collectivity," that is, by the objective that the whole of the bankrupt's estate be dealt with together, rationally—at least presumptively—in a value-maximizing manner, with a view to providing the best feasible returns to all relevant claimants considered as a group.

The bankruptcy regime's preservation mechanisms are critical to achieving this objective. A distressed business may retain a "going-concern surplus," inhering in the fact that some or all of its assets are more valuable if retained as a productive unit than if split up from each other and disposed of piecemeal. A key role of reorganization proceedings is to identify and preserve any going-concern surplus, since it may maximize the returns of creditors as a group. It may also be socially value-maximizing by

82. *See* WORLD BANK PRINCIPLES, *supra* note 76, princs. C10.4(iv), C12.4.

preventing unnecessary productive capacity destruction, job losses, and other resource misallocations. In liquidation proceedings, the distressed business, in whole or in part, may be sold off to new claimants as a going concern. Even an inappropriate priorities regime generally allows for the preservation of the going concern, so long as efficacious preservation mechanisms—operating upstream from distribution mechanisms—are in play.

Contrast this with the effect of according immunity to some of the bankrupt's claims or assets. A party immune from, say, the bankruptcy moratorium may enforce its claim against some of the debtor's assets, removing those assets from the bankruptcy estate. The value represented by those assets, which in the absence of the immunity would have to be shared with other relevant creditors, is now allocated first, and perhaps exclusively, to the bankruptcy-immune claimant. However, this allocation results from tinkering with the bankruptcy law's mechanisms, not merely for distributing value, but for preserving and realizing it in the first place. If the assets in question formed part of the going concern of the debtor's business, their removal results in a loss to the estate—and, as explained, to society—which is greater than the gain of the bankruptcy-immune claimant. The difference represents the destruction of synergetic values. In the paradigm case of a poorly designed immunities process, bankruptcy losses would again be loaded on to claimants in the worst place to bear them through no fault of their own, in a way which is inequitable, and downstream, is destructive to the value of the estate. This time, however, the misallocation would be caused even in the first instance by the destruction of any synergetic values, potentially resulting in unnecessary loss of productive capacity, avoidable loss of employment, and consequent losses to the taxpayer.

B. FOUR PRESERVATION MECHANISMS

We now consider four preservation mechanisms: (1) the bankruptcy moratorium; (2) the invalidation of contractual termination and acceleration rights; (3) the treatment of set-off rights; and (4) the adjustment or avoidance of certain pre-bankruptcy transactions. Each mechanism is supported by the principle of collectivity, and while not optimally utilized in all bankruptcy regimes, each can or would play a critical role in the bankruptcy law's ability to prevent value destruction and resource misallocation.

The four mechanisms perform several indispensable countercyclical functions. Ex ante, counterparties fearing potential entanglement with bankruptcy proceedings become more sensitive to information about each other's creditworthiness and viability. Over the duration of the relationship, the counterparties retain incentives to monitor each other's behavior. These incentives discourage excessive uncertainty in markets and thwart

deteriorations in lending standards.[83] Post default, friction is created in the asset disposal process, thus counteracting asset value contagion and common lender effects. To similar effect, asset disposals on the eve of bankruptcy are discouraged.[84]

1. Moratorium

Bankruptcy lawyers around the world are familiar with the moratorium, or the stay on claim enforcement, upon the commencement of bankruptcy proceedings. The moratorium defines the collective bankruptcy regime by mitigating creditors' individualistic incentives to engage in wastefully duplicative pre-bankruptcy monitoring of the debtor and to dismember the debtor's estate by "running" for its assets upon distress.[85] This preservation of the estate is, in principle, particularly beneficial for vulnerable creditors and other stakeholders unable to mount the sort of effective private responses to their debtor's distress outlined above. A normatively justifiable bankruptcy regime takes due account of the interests of such creditors by providing them with appropriate priorities or other protections within the bankruptcy process.[86]

In bankruptcy law, international best practice is to automatically impose a moratorium upon the commencement or continuation of proceedings concerning the assets or obligations of the debtor. This includes actions to execute secured claims against encumbered assets,[87] as well as those to create or perfect security interests.[88] Unless lifted by a court, a stay should remain in place until a reorganization plan takes effect.[89] Secured creditors are protected in a variety of ways. In liquidation, a moratorium on secured claim enforcement lifts within a stipulated period—usually thirty or sixty days—unless extended by a court persuaded that retention of the collateral is necessary to maximize the value of the estate and that the secured creditor can be protected against diminution in the collateral's value.[90] In liquidation and reorganization alike, collateral may be retained as part of an estate only if the secured creditor's position is protected through cash payments from the estate, the provision of additional collateral, or other means.[91] Similar measures should be available for the period from the filing of a bankruptcy petition to the actual commencement of a case.[92]

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83. This is discussed further *infra* Part IV.
84. *See* discussion *infra* Part VII.
85. THOMAS H. JACKSON, THE LOGIC AND LIMITS OF BANKRUPTCY LAW 9, 12, 16 (2001).
86. MOKAL, *supra* note 80, at 82–86.
87. LEGISLATIVE GUIDE, *supra* note 76, rec. 46(c).
88. *Id.* rec. 46(b), (e).
89. *Id.* rec. 49.
90. *Id.* rec. 49(c), n.28.
91. *Id.* rec. 50.
92. *Id.* recs. 39–45.

2. Contractual Termination and Acceleration

A bankrupt business should survive as a going concern if and only to the extent that it generates a going-concern surplus, that is, it possesses greater value as a going concern than would result from the piecemeal disposal of its constituent assets. Most synergetic value arising from the continued harnessing of productive factors to their present use is conditional upon business relationships, for instance, from existing contracts and goodwill. The latter is in part the inclination for past counterparties to engage in future dealings on favorable—or at least not unfavorable—terms. A bankruptcy law devoted to preserving going-concern value will not allow the destruction of business relationships. It will also recognize the collective action problem facing solvent counterparties, of whom some might be willing to continue doing business with the distressed entity, but only if it has sufficient prospects of being rehabilitated, with the latter being a function, among other things, of the number and importance of contractual relationships it could maintain through a bankruptcy process.

Accordingly, in relation to nonfinancial contracts, the ICR Standard requires the moratorium on claim enforcement to extend to the termination of contracts on the basis simply that the debtor has become subject to bankruptcy proceedings.[93] Contractual clauses providing for automatic termination and/or for the acceleration of contractual obligations upon bankruptcy ("ipso facto clauses") also ought to be rendered unenforceable.[94]

The ICR Standard seeks to mediate carefully between the interests of the estate and its counterparties. This serves considerations of fairness, reduces the chances of distress radiating to solvent counterparties, and strikes a balance between preserving extant contracts and the goodwill that would affect whether, and on what terms, future contracts will be formed. The ICR Standard vests the option to continue a bankrupt's executory contracts in its bankruptcy estate; the option to reject or assign them may also do so. The option must be exercised within a reasonable time.[95] The contract must be treated in its entirety, meaning that an estate may not "cherry-pick" favorable parts of a contract and reject others.[96] Where an estate elects to continue a contract, it must cure any breaches, place its counterparty substantially in the position in which it was prior to the breach, and henceforth perform its obligations under the contract.[97] Performance received by the estate prior to its election to affirm or reject the contract should be paid for at the contractual rate and as a bankruptcy administrative

93. *Id.* rec. 46(d).
94. *Id.* rec. 70.
95. *Id.* recs. 72–76, 83–85.
96. *Id.* rec. 73.
97. *Id.* rec. 79.

expense, and the nonbankrupt counterparty should be protected against any diminution in the value of its assets.[98]

3. Set-off

A bankruptcy regime which does not recognize set-off would require the solvent counterparty—who both owes money to and is owed money by the bankrupt party—to pay a hundred cents on the dollar into the estate while being restricted to a bankruptcy dividend that, by definition in the bankrupt's insolvency, would fall below that level. Thus, the recognition of set-off causes the estate to lose value. This is only true ceteris paribus, however, and parties who are not permitted to use their own indebtedness as collateral might be less willing to lend. While this counterfactual is difficult to assess and there is no empirical evidence bearing directly upon it, many legal systems uphold some form of bankruptcy set-off.

International best practice is to preserve, within bankruptcy proceedings, any general, pre-bankruptcy set-off rights, while subjecting them to scrutiny under the standard bankruptcy avoidance rules.[99] In particular, transfers of claims occurring within the "suspect period" preceding a counterparty's bankruptcy that alter the relative position of some creditors may be avoided.[100]

4. Avoidance or Adjustment of Pre-bankruptcy Transactions

Well-designed bankruptcy regimes recognize and respond to value-destructive incentives arising during the suspect period.[101] These include the incentives of those controlling the distressed firm, acting in their own and/or the formal equity-holders' interests, to bet the firm's assets on negative net present-value transactions in the hope of staving off bankruptcy. Similar incentives may result in straightforward asset stripping, with value being tunneled from the firm to favored parties. Such transactions are injurious to the distressed entity's creditors, taken as a whole, and to prospects for a rational, value-maximizing decision about its assets and affairs. Further, knowledgeable and influential creditors also have value-destructive incentives to engineer repayments to themselves, thus removing assets, including cash, some of which might be necessary to preserve the distressed firm's going concern. Such preferential repayment might also be regarded as inequitable, placing influential lenders of the debtor in a better position compared to legally similar, but less influential, creditors.

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98. *Id.* rec. 80. Should the estate reject the contract, the counterparty's damages rank as ordinary unsecured claims. *Id.* rec. 82.

99. *Id.* paras. 204–06, rec. 100; WORLD BANK PRINCIPLES, *supra* note 76, princ. C10.4.

100. *See* LEGISLATIVE GUIDE, *supra* note 76, at 144.

101. *See, e.g.*, MOKAL, *supra* note 80, at 305–39.

Accordingly, the ICR Standard requires bankruptcy regimes to retroactively overturn a range of transactions occurring during the suspect period. These include undervalue or preferential transactions where the debtor was factually insolvent, as well as other transactions intended to defeat, delay, or hinder a creditor's ability to collect.[102]

III. IMMUNE FINANCIAL CONTRACTS

In relation to each of these four preservation mechanisms, financial contracts are accorded a privileged position. Employing the immunity/priority distinction introduced in Part II, it becomes clear that this special treatment amounts not only to (super)priorities over other claim categories, as several commentators suggest, but also immunities from a significant part of the standard armory of value preservation mechanisms. Accordingly, what is at stake is not mere misallocation of value, but also its destruction.

This Part describes the relevant contracts and the privileged treatment accorded to those party to them, in comparison to the treatment the ICR Standard accords to other types of solvent counterparties. This comparison, by reference to internationally recognized best practice guidelines, provides an important corrective to the misapprehension that worrying about the privileged position of financial contracts is "biased" toward or suffering from a "domestic tunnel vision" in relation to the "idiosyncratic" U.S. bankruptcy system.[103] This Part then introduces the legal framework applicable to financial contracts, including the FCD, the Guide, and the UNIDROIT Netting Principles.

Crucially, the ICR Standard, consisting of the UNCITRAL Guide and the World Bank's Principles, is not unified in relation to financial contracts. Until 2015, the Principles simply directed national lawmakers' attention to the importance of "upholding automatic termination, netting, and close-out provisions contained in financial contracts."[104] In January 2009, the World Bank's ICR Task Force initiated a process to ascertain whether guidance on the legal regulation of insolvency ought to be modified in light of any lessons from the financial crisis. A key element of this process was the amendment of the recommended treatment of financial contracts.[105] By

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102. LEGISLATIVE GUIDE, *supra* note 76, rec. 87. The same rules apply to the creation or enforcement of a security interest. *Id.* rec. 88. *See also* WORLD BANK PRINCIPLES, *supra* note 76, princ. C11.

103. For the terms quoted in this sentence and for variants of the accusation of excessive U.S. centeredness, see Paech, *supra* note 5, at 4–5, 7–13, 29.

104. WORLD BANK PRINCIPLES, *supra* note 76, princ. C10.4.

105. *See* Edward J. Janger, Rizwaan J. Mokal & Robin Phelan, Treatment of Financial Contracts in Insolvency – Analysis of the ICR Standard 5 (Oct. 24, 2014) (unpublished discussion paper), http://siteresources.worldbank.org/EXTGILD/Resources/WB_ICR_TaskForce_2014_FinancialContractsInInsolvency_DiscussionPaper.pdf. The Principles were revised, not without some considerable headwind, by Professor Janger at the request of the Bank's ICR Task Force, which

contrast, the Guide has not benefitted from a post-crisis updating, notwithstanding UNCITRAL's specialist insolvency working group concluding in December 2013 and April 2014 that the Guide's treatment of financial contracts is out of date and in need of revision.[106] This Part concludes by outlining the guidance on financial contracts provided by the revised World Bank Principles.

A. THE CONTRACTS

Financial repurchase agreements (repos) are short-term, secured lending agreements structured as sales and buy-backs of financial instruments.[107] These financial instruments include government-backed securities such as U.S. Treasury bills, bank-backed and corporate bonds, and, occasionally, equity instruments.[108] The debtor sells these instruments to the creditor and simultaneously agrees to buy them back later at a slightly higher price. The difference between the sale (spot) prices and repurchase (forward) prices, in effect, constitutes interest on the loan. Lower quality collateral is discounted below market value (i.e., subjected to a "haircut") to account for the additional risk. Parties may trade on the basis of "general collateral baskets" in which multiple types of instruments are, by agreement, treated

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approved the revisions in May 2015. The process owes much to Professor Janger's ability to combine scholarly acumen with delicate diplomacy, to the leadership of Irit Mevorach, my successor as head of the World Bank's Insolvency Initiative, and to the dexterity and insight of World Bank Chief Counsel, Vijay Tata. Elsewhere in this volume, Professor Mevorach identifies and addresses current gaps in the cross-border resolution framework for financial institutions. Irit Mevorach, *Beyond the Search for Certainty: Addressing the Cross-Border Resolution Gap*, 10 BROOK. J. CORP. FIN. & COM. L. 183 (2015).

106. *See* U.N. Comm'n on Int'l Trade Law, Rep. of Working Group V (Insolvency Law) on the Work of Its Forty-Fourth Session, U.N. Doc. A/CN.9/798, at 8–9 (2014); U.N. Comm'n on Int'l Trade Law, Rep. of Working Group V (Insolvency Law) on the Work of Its Forty-Fifth Session, U.N. Doc. A/CN.9/803, at 13 (2014); *see also* Secretariat of the U.N. Comm'n on Int'l Trade Law, Insolvency Law, Treatment of Financial Contracts and Netting; Sovereign Debt Restructuring, U.N. Doc. A/CN.9/851, at 2 (2015).

107. Strictly, two different types of transactions go under the label of repo: repurchase agreements, which are always documented in writing, and the higher-risk "sell/buy-backs," which may or may not be documented in writing. Repurchase agreements are the norm in markets such as the United States, the United Kingdom, France, Belgium, the Netherlands, and Switzerland, whereas Italy, Spain, and emerging markets, in general, rely upon sell/buy-backs because of legal obstacles to the validity of repurchase agreements. *See Frequently Asked Questions on Repo*, INT'L CAPITAL MKTS. ASS'N 9–10, http://www.icmagroup.org/assets/documents/Regulatory/Repo/Repo-FAQs-20-May-2015.pdf [hereinafter *Questions on Repo*].

108. A large survey of the European repo market suggests that 81.5% of EU-originated collateral consisted of government bonds with German (19.2%), United Kingdom (11.5%), and Italian and French (10.5% each) government bonds predominating. International financial institutions, for example, World Bank, bonds accounted for 2.2%, various fixed income instruments for 8.1%, and equity for 0.1%. INT'L CAPITAL MKTS. ASS'N, EUROPEAN REPO MARKET SURVEY NO. 28, at 15 (2015) [hereinafter MARKET SURVEY], http://www.icmagroup.org/assets/documents/Market-Info/Repo-Market-Surveys/No-28-December-2014/ICMA-ERC-European-Repo-Survey-December-2014.pdf. In the United States, Treasury securities constitute two-thirds of the collateral while government-backed agency debt account for a significant proportion of the remainder. *See Questions on Repo*, *supra* note 107, at 8.

as fungible inter se. Repos may be tri-party, meaning agents are entrusted with post-trade collateral selection and management responsibilities, or they may be bilateral, with the parties themselves performing these functions.[109] The financial collateral mitigates the lender's counterparty credit risk and, through the lender's ability to reuse or rehypothecate it,[110] also its own liquidity risk. The repurchase is frequently agreed to occur the day after the sale,[111] though the term may be seven, thirty, or ninety days, or even longer.[112] From the lender's point of view, the transaction is a "reverse repo." Over the course of the repo, the lender, as legal owner, has the right to coupon or dividend payments on the collateral. Two aspects of standard practice underline the reality of the transaction as security rather than a sale: the borrower is promised a sum equivalent to coupon or dividend payments on the collateral (in UK usage, "manufactured payments"); and, the collateral remains on the debtor's balance sheet.[113] The global repo market is divided into two segments: (i) a repo financing segment consisting of banks and broker-dealers borrowing cash from central and retail banks and money market funds, with the borrowing collateralized by government and corporate bonds, money market instruments, structured products, and equities;[114] and (ii) an interdealer segment consisting of banks and broker-dealers, with the borrowing mostly collateralized by government bonds, at

109. About two-thirds of the U.S. market and only about a tenth of the European market consist of tri-party repos. *Questions on Repo*, *supra* note 107, at 10, 21. U.S. data from the recent financial crisis suggest that haircuts and funding in the tri-party market remained more stable than in the bilateral one, even controlling for collateral type. ADAM COPELAND, ANTOINE MARTIN & MICHAEL WALKER, REPO RUNS: EVIDENCE FROM THE TRI-PARTY REPO MARKET, FED. RESERVE BANK OF N.Y. 2–3, http://www.newyorkfed.org/research/staff_reports/sr506.html (last visited Sept. 1, 2015).

110. Reuse in the repo markets occurs when collateral owned outright by a repo lender is sold by the lender to a third party, with the lender remaining subject to a contractual duty to "return" its equivalent upon the repo's maturity. By contrast, when collateral has merely been pledged, with the pledger/borrower retaining title, the pledgee may be granted power to rehypothecate or repledge that collateral to a third party. When the power is exercised, title transfers from the pledger to the third party without ever vesting in the pledgee. *See Questions on Repo*, *supra* note 107, at 11.

111. *See id.* at 9 ("The US repo market is mainly overnight . . . .").

112. Maturities in the EU-originated market, which tend to be longer than for the U.S. market, are one day (24.3%); two days to one week (15.9%); one week to one month (15.1%); one to three months (19%); three to six months (5.9%); six to twelve months (3.1%); greater than 12 months (1.5%); forward repos, that is, those starting one or more months subsequent to the contract date (8%); and open or demand repos with no fixed maturity date (5.9%). MARKET SURVEY, *supra* note 108, at 21.

113. *Questions on Repo*, *supra* note 107, at 2, 19, 27. Industry groups acknowledge that repos are sales only in legal form, not economic substance. *Id.* at 27, 31–33.

114. Since the global financial crisis, higher risk aversion and regulatory pressures have driven other commercial banks, sovereign wealth funds, pension funds, insurance companies, endowments, and corporate treasuries into this market as well. *See id.* at 7–8.

overnight maturities, and in the United States, Europe, and Japan, involving central counterparty (CCP) clearing.[115]

A derivative is a risk transfer arrangement deriving its value from an asset (the reference asset) such as stocks, bonds, commodities, or market indices. Derivatives may be agreed bilaterally between parties through dealers and either booked directly with each other (over-the-counter or OTC) or with a clearinghouse acting as CCP (cleared derivatives). Alternatively, they may be standardized instruments traded on an exchange (on-exchange) and booked with a CCP. Derivatives are used to hedge risk or to speculate. The OTC derivatives market is divided into distinct customer and interdealer segments.[116] Customers, or end users, include hedge funds, assets managers, institutional investors, and nonfinancial enterprises. Dealers, who are large financial institutions, execute trades on behalf of customers, hedge their own risk on-exchange or in the interdealer market, and engage in both market making and proprietary trading (i.e., trading on their own behalf). Interdealers do not engage in proprietary trading or market making, but do provide price discovery and risk management services.[117]

A swap is an OTC derivative involving an exchange of risks. It can take any of several forms. For example, an interest rate swap involves Party X promising for the duration of the agreement to periodically pay a floating interest rate—say, the London Interbank Offered Rate (LIBOR)—on a notional amount to Party Y in return for Y's promise to pay X a fixed rate—say, 3 percent—on the same amount. In a currency rate swap, X may promise to pay a fixed or floating rate of interest on a notional amount in one currency—say, U.S. dollars—in return for Y's promise to pay a fixed or floating rate of interest on the same notional amount in another currency—say, Japanese Yen. Credit default swaps (CDSs) are OTC contracts under which the "protection seller" in effect guarantees to the "protection buyer" the creditworthiness of the bonds or other financial instruments designated as the reference assets. Upon the occurrence of a

115. *See* FIN. STABILITY BD., SECURITIES LENDING AND REPOS: MARKET OVERVIEW AND FINANCIAL STABILITY ISSUES 1, 3–5 (2012) [hereinafter FIN. STABILITY BD., SECURITIES LENDING], http://www.financialstabilityboard.org/wp-content/uploads/r_120427.pdf (providing the origin of descriptions of both segments of the repo market). It is worth noting that repos are a staple of central bank operations and are used temporarily to add or drain away reserve balances to or from the banking system. That function, however, is not directly relevant to this Article, which focuses on repo use by other market participants. Central bank repo operations are characteristically excluded from discussions of the sorts of issues relevant to this Article. *Id.* at 1 n.4.

116. *See, e.g.*, Richard Heckinger, Ivana Ruffini & Kirstin Wells, *Over-the-Counter (OTC) Derivatives*, *in* UNDERSTANDING DERIVATIVES – MARKETS AND INFRASTRUCTURE 27, 29 (2014), https://www.chicagofed.org/publications/understanding-derivatives/index.

117. *See Questions on Repo*, *supra* note 107, at 6.

"credit event"[118]—for example, default by the bond issuer—the protection seller would pay the difference between the par value of the bonds and their prevailing market value. Whereas a CDS protects only against "credit risk," that is, the risk that the reference assets would suffer a credit event, "total return swaps" protect against both credit and interest rate risk. CDSs and certain other swaps may usefully be compared with insurance. Generally, in order to purchase insurance, a person must demonstrate an "insurable interest," and relatedly, in order to claim under the contract, that person must demonstrate loss. Neither of these requirements applies in relation to CDSs. A protection buyer may have an interest in the financial instruments whose performance is, in effect, being guaranteed, in which case it is likely hedging through the CDS; or, it may have no interest in those instruments, and is likely speculating through acquisition of a "naked" swap.

A securities contract is an agreement for the purchase of financial instruments, mostly equities, or an interest therein. It differs from a repo primarily because a securities contract is economically motivated by a desire to lend and borrow securities, whereas repos are driven by a desire to lend and borrow cash.[119] Insurance companies, pensions, and investment funds lend securities to banks and broker-dealers, collateralized by cash or, mostly in Europe, securities.[120] Commodity and forward contracts are also relevant.[121] A commodity contract is an on-exchange agreement for future delivery of a commodity. A forward is an OTC agreement for future delivery of a commodity for a price determined as of the date of contract.

B. THE IMMUNE PROCESSES: MARGINING AND CLOSE-OUT NETTING

In relation to these contracts, two processes are of particular importance: margining and close-out netting.

Margining may take place at commencement of a repo or derivative transaction (initial margining) and/or periodically thereafter (variation margining), often at least daily.[122] Initial margining, like a haircut, responds to potential future exposure arising over the duration of the contract. Whether initial margining is provided and in what quantity depends on

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118. *See, e.g.*, 2002 MASTER AGREEMENT sec. 5(b)(v) (INT'L SWAPS & DERIVATIVES ASS'N 2002).

119. *Questions on Repo*, *supra* note 107, at 13. Whereas voting rights associated with the collateral in repos generally vest in the lender, securities contracts usually provide the borrower with a right of recall to enable exercise by the borrower of voting rights. *Id.* at 12, 19.

120. FIN. STABILITY BD., SECURITIES LENDING, *supra* note 115, at 2.

121. These, together with repos, swaps, and securities contracts, constitute "qualified financial contracts" benefitting from the U.S. Bankruptcy Code "safe harbors." *See* 11 U.S.C. §§ 362(b)(27), 546(e)–(g), 546(j), 555, 556, 559, 560, 561, 562 (2012).

122. *See* BANK FOR INT'L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, MARGIN REQUIREMENTS FOR NON-CENTRALLY CLEARED DERIVATIVES 10 (2015) [hereinafter BCBS & IOSCO, MARGIN REQUIREMENTS], http://www.bis.org/bcbs/publ/d317.pdf; *Questions on Repo*, *supra* note 107, at 18.

factors such as the frequency with which the contract is revalued and variation margins exchanged, volatility of the underlying instruments, and how long it would take to terminate and replace the contract upon default.[123] For on-exchange derivatives, a CCP member posts a margin with the CCP while the customer may post a margin with the CCP member. For OTCs, best practice is moving toward requiring both parties to exchange collateral constituting initial margins on a gross basis (i.e., without netting the amounts the parties owe each other) and segregated from the recipient's other assets.[124]

Variation margining results from a periodic revaluation of a contract and responds to the loss accrued to one of the parties from market movements since the most recent margin call. In either type of margining, an important consideration in the selection of collateral is "wrong-way risk," which arises where there is a significant positive correlation between contractual counterparty creditworthiness and the probability of collateral value deterioration.[125] Collateral is subject to haircuts, and parties may draw on standardized haircuts promulgated by international supervisory authorities.[126] Margining brings private benefits to counterparties, shifting the costs of default from a nondefaulting party, who on the "survivor pays" model would otherwise have to absorb it, perhaps through regulatory capital, to the defaulter.[127] In addition, it is thought to reduce systemic risk by reducing uncovered exposures in the financial system, and thus contagion and spillover effects.[128]

Margining also helps in understanding the interaction between repos and derivatives. Repos often fund buyers' (long) positions and cover sellers' (short) positions in derivative transactions, and it has been suggested that "an active repo market is an absolute prerequisite for liquid markets in derivative instruments. Attempts to establish new derivative

123. *See* BCBS & IOSCO, MARGIN REQUIREMENTS, *supra* note 122, at 12.

124. *See id.* at 4–5. The requirement applies only to financial firms and systemically important nonfinancial ones, and only where the margin exceeds a stipulated threshold.

125. *See id.* at 17.

126. *Id.* at 8. For example, in relation to noncentrally cleared derivatives, cash is exempt, high-quality government and central bank securities maturing within a year bear a 0.5% haircut, those maturing within and exceeding five years are at 2% and 4% respectively, high-quality corporate bonds and covered bonds maturing within one year, those exceeding one year but under are five years, and those exceeding five years at 1%, 4%, and 8%, respectively; and equities included in major indices as well as gold are each at 15%. *See id.* at 27 app. B.

127. *Id.* at 4. The regulatory literature contrasts the survivor-pays and the defaulter-pays models. These labels are liable to mislead. The primary objective of margining is not to protect solvent party (S) and instead load default costs on to the defaulting party's (D) other claimants after default. The objective, rather, is to change the parties' behavior ex ante, mitigating solvent D's decision makers' incentives to take on excessive risks, because the benefits from doing so would all accrue to them—and to D's equity-holders—while some of the costs would arise only upon D's insolvency and thus fall on D's creditors and other stakeholders. Such "financial agency costs" are further discussed *infra* Part IV.

128. *See, e.g.*, BCBS & IOSCO, MARGIN REQUIREMENTS, *supra* note 122, at 3.

markets, exchange-traded or over the counter, have floundered where there have been no active repo markets."[129]

Close-out netting results from contractual provisions in financial contracts, which, upon default by one counterparty, entitle the other to do any combination of the following: (i) termination of the contract (close-out); (ii) acceleration of contractual obligations; (iii) valuation of the transaction; and (iv) aggregation of the parties' obligations to an overall net amount (netting).[130] The first and fourth of these steps—close-out and netting, respectively—are of particular importance. The value of ensuring the validity of close-out netting is said to lie in its ability to reduce exposure by as much as 85 percent, to protect against adverse market changes, and thus to promote financial system stability.[131] Also of particular importance is the solvent counterparty's ability upon closeout to dispose of collateral. These elements of the broad close-out netting process are considered in the remainder of this Article.

C. THE IMMUNITIES

A directive is a key instrument of EU law, regarded as "mysterious"[132] because of its dual character: it is binding upon each member state, but only "as to the result to be achieved . . . [leaving] to the national authorities the choice of form and methods."[133] Directives may be contrasted with regulations and decisions. The former are binding in their entirety and directly obligate the member states, while the latter are also directly binding but only upon those they address.[134] Instruments of the latter two types have both vertical and horizontal direct effect, in that individuals may invoke them in national courts against, respectively, the state and private parties. A directive may only have vertical direct effect, and only has such effect if a state fails to properly implement it.[135]

By virtue of the FCD, all of the member states of the European Union are obligated to accord immunities to financial contracts.[136] The FCD

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129. *Questions on Repo*, *supra* note 107, at 6.

130. UNIDROIT NETTING PRINCIPLES, *supra* note 7, princ. 2, para. 32. For the definition of "Netting Agreement," see the LEGISLATIVE GUIDE, *supra* note 76, at 6.

131. UNIDROIT NETTING PRINCIPLES, *supra* note 7, at 3. *See also* David Mengle, *The Importance of Close-Out Netting* 1 (Int'l Swaps & Derivatives Ass'n, Research Notes No. 1, 2010).

132. ROBERT SCHÜTZE, EUROPEAN UNION LAW 95 (2015).

133. Consolidated Version of the Treaty on the Functioning of the European Union art. 288(3), Oct. 26, 2012, 2012 O.J. (C 326) 47 [hereinafter TFEU].

134. *Id.* art. 288(2), (4).

135. Case 41/74, Van Duyn v. Home Office, 1974 E.C.R. 1337; Case 152/84, Marshall v. Southampton & South-West Hampshire Area Health Auth., 1986 E.C.R. 723; Case C-91/92, Faccini Dori v. Recreb, 1994 E.C.R. I-3325. For an accessible and up to date discussion, see SCHÜTZE, *supra* note 132, at 89–93.

136. The Financial Collateral Directive has been implemented by all member states as well as Iceland and Norway, who are members of the European Economic Area. Directive 2002/47/EC, of

applies to "financial collateral arrangements," including both "title transfer" arrangements, in which the creditor obtains ownership of the collateral,[137] and "security" arrangements, which leave ownership with the debtor.[138] Financial collateral includes (i) cash, or money credited to an account, money-market deposit, or any similar claim for repayment; (ii) financial instruments, which include company shares, bonds, and other market-traded debt instruments;[139] and (iii) credit claims, that is, pecuniary claims arising from bank loan agreements.[140] In such arrangements, the creditor, or its trustee, must possess or control the collateral.[141] The financial contracts are only included where both the creditor and debtor are—or are representatives of or trustees for—public authorities, such as central banks, intergovernmental organizations such as the IMF and the World Bank, financial institutions subject to prudential supervision (including banks, investment firms, and insurance undertakings), CCPs, settlement agents, or similar financial market infrastructure participants.[142] Also included are arrangements where only one counterparty is one of the aforementioned entities and the other is not a natural person.[143] Significantly, however, in implementing the FCD, member states have the option to make it applicable only where *both* are institutions of the aforementioned sort.[144]

The FCD requires member states to uphold the validity of the provision of collateral, regardless of whether collateral was provided in the suspect period or on the date of bankruptcy commencement.[145] The states must also ensure the enforceability of close-out netting provisions, again notwithstanding a counterparty's bankruptcy.[146] Their laws must permit financial collateral to be realized through sale, appropriation, or set-off as agreed by the parties, regardless of a counterparty's bankruptcy, and

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the European Parliament and of the Council of 6 June 2002 on Financial Collateral Arrangements (L 168) 43 [hereinafter FCD]; *Evaluation Report on the Financial Collateral Arrangements Directive (2002/47/EC)*, COM (2006) 833 final (Dec. 20, 2006).

137. Recharacterization of repos as secured credit transactions is prohibited. FCD, *supra* note 136, art. 6(1).

138. *Id.* art. 2(1)(a)–(c). In the interest of readability but at the expense of accuracy, the FCD's references to "collateral taker" and "collateral provider" are rendered as creditor and debtor.

139. *Id.* art. 2(1)(e). In implementing the FCD, states have the option of excluding from its ambit arrangements where the collateral consists of shares in the debtor itself or an entity affiliated to it—where wrong-way risk would be acute—or where it is a consumer or a micro or small enterprise. *Id.* art. 1(4)(a)–(b).

140. *Id.* art. 2(1)(d), 2(1)(e), 2(1)(o). Somewhat misleadingly, "cash" excludes banknotes. *Id.* pmbl., para. 18.

141. *Id.* arts. 1(5), 2(2).

142. *Id.* art. 1(2)(a)–(d).

143. *Id.* art. 1(2)(e).

144. *Id.* art. 1(3).

145. *Id.* art. 8(3).

146. *Id.* arts. 5(5), 6(2), 7. Close-out netting is defined as including contractual and, in their absence, statutory provisions. *Id.* art. 2(1)(n).

without the need for notice, approval, or any other noncontractual step.[147] States must also uphold contractual rights of use, withdrawal, and substitution of collateral.[148] Finally, the FCD requires member states to exempt the creation, validity, perfection, enforceability, and admissibility of such financial collateral arrangements, and of the collateral, from any formal requirement such as registration or notification.[149]

The soft-law instruments discussed in this Article have requirements similar to those of the FCD, though with certain significant differences. In particular, the Guide exempts financial contracts in their entirety from the stay, while the UNIDROIT Netting Principles require the same for close-out netting provisions.[150] Both also require national laws to permit termination of financial contracts, and the Guide, in addition, bids laws to allow financial contract counterparties to enforce security interests.[151] Both protect extensive contractual set-off rights.[152] As to avoidance rules, the Guide exempts "routine pre-bankruptcy transfers consistent with market practice, such as the putting up of margin for financial contracts and transfers to settle financial contract obligations."[153] Similarly, the UNIDROIT Netting Principles provide that close-out netting provisions should not be susceptible to classification as voidable preferences, and their operation in the suspect period should not be caught by avoidance actions.[154]

The World Bank's Principles,[155] amended in early 2015 to reflect emergent best practice, perforce take an inclusive, more nuanced position.[156] In accordance with existing international instruments, the World

147. *Id.* art. 4(1), (4), (5). States are permitted to subject collateral realization or valuation to commercial reasonability requirements. *Id.* art. 4(6).

148. *Id.* arts. 2(1)(m), 5, 8(2), (3).

149. *Id.* art. 3(1).

150. LEGISLATIVE GUIDE, *supra* note 76, recs. 101, 103; UNIDROIT NETTING PRINCIPLES, *supra* note 7, princ. 7(1)(a).

151. LEGISLATIVE GUIDE, *supra* note 76, recs. 101, 103; UNIDROIT NETTING PRINCIPLES, *supra* note 7, princ. 7(1)(a).

152. *See* LEGISLATIVE GUIDE, *supra* note 76, recs. 101, 102; UNIDROIT NETTING PRINCIPLES, *supra* note 7, princ. 7(1)(a).

153. LEGISLATIVE GUIDE, *supra* note 76, rec. 104 (footnote omitted).

154. UNIDROIT NETTING PRINCIPLES, *supra* note 7, princ. 7(c)–(d).

155. WORLD BANK PRINCIPLES, *supra* note 76.

156. *Id.* princ. C10.4(ii), at 21 n.10. This Principle was revised so as to ensure that it would not penalize national bankruptcy regimes complying with any of the various instruments arguably evidencing best practices. Since there are important differences in the treatment such instruments recommend for financial contracts, the Principle was by necessity required to be nuanced and inclusive. The instruments include the UNCITRAL Guide, the FSB Key Attributes, the FCD, the EU Bank Recovery and Resolution Directive, and the UNIDROIT Netting Principles. For a review of the differences in the treatment of financial contracts recommended by these various instruments, see Janger, Mokal & Phelan, *supra* note 105, at 5–11. *See also* Rizwaan J. Mokal, Presentation at the U.N. Comm'n on Int'l Trade Law Colloquium: Financial Contracts and Netting 7 (Dec. 17, 2013), http://www.uncitral.org/pdf/english/colloquia/insolvency-2013/B2_financial_contracts_3_Mokal.pdf.

Bank's Principles require careful, policy-justified legislative identification of the contracts that will be privileged. The relevant criterion is the risk to market stability arising from the absence of close-out netting. The Principles suggest that such risks may arise because of the nature of the counterparty or transaction. Close-out netting provisions should only enjoy bankruptcy immunity in relation to this clearly defined sub-category of financial contracts. In turn, this immunity may be subject to a short stay for a defined period under the national laws governing bank resolution or enterprise insolvency, with a view "particularly [toward] accomplish[ing] the orderly transfer of the contracts to a solvent counterparty."[157] The stay must be subject to appropriate safeguards.[158] In particular, the bankrupt counterparty must continue to perform its substantive obligations.[159]

IV. IMMUNITIES, LENDING STANDARDS, AND SYSTEMIC RISK

We now turn to assessing the effect of the privileged treatment that bankruptcy regimes and best-practice guidelines accord to financial contracts. This Part contrasts the functioning of security interests enjoying limited or no bankruptcy immunity with that of the financial contract immunities.

It has been asserted that "there are no fundamental differences between traditional security interests and safe harbours," in that both "entail a shift of the risk from one segment of the market to another."[160] This reflects a fundamental misunderstanding of "traditional" security interests, which in fact are comparable to financial contract immunities in one respect alone: reducing the particular lender's private counterparty risk. The precise mechanism by which they do so is not identical, however. Security interests characteristically *reduce* counterparty credit risk for all creditors of the borrower that has encumbered its assets. By contrast, bankruptcy immunities *move* risk from immune to nonimmune claimants and might even *exacerbate* it. By creating a powerful means to externalize the downside risk of poor lending decisions, immunities also contribute to accumulating uncertainty about counterparty quality, declining lending standards, the corresponding increase in funding for negative net present value assets, credit booms in the markets for such assets, and increased concentrations and leverages amongst lenders. Correspondingly and

157. WORLD BANK PRINCIPLES, *supra* note 76, princ. C10.4(ii), at 21 n.10.
158. *Id.*
159. *Id.*
160. *See* Paech, *supra* note 5, at 14, 20–21. Paech draws on arguments by Vanessa Finch, *Security, Insolvency and Risk: Who Pays the Price?*, 62 MOD. L. REV. 633 (1999), and; VANESSA FINCH, CORPORATE INSOLVENCY LAW: PERSPECTIVES AND PRINCIPLES (2d ed. 2009). Finch's arguments receive a detailed theoretical and empirical rebuttal in MOKAL, *supra* note 80, at 133–87.

considered in the aggregate, while security interests tend to reduce systemic risk, all else equal, financial contract immunities more likely compound it.

The critical insight is as follows: parties enjoying immunity from bankruptcy's preservation mechanisms would tend to lend more and at a lower price than they would in the absence of those immunities, and they would tend to monitor their counterparty's transactions less than they otherwise would. The effect is to increase not only the availability of funds, but also the overall risk of the debtor's activities, to the detriment of its other creditors. Yet these other creditors are unable or unwilling to respond in a way that would force the debtor to fully internalize the costs of this additional risk. As a result, bankruptcy immunities enable some riskier and less transparent activities to be funded, activities that, in the absence of those immunities, either would not have been funded, would have been structured in a more transparent manner, or both.[161] They tend also to increase the degree to which the relevant parties are exposed to each other.

A. SECURED CLAIMS AND COUNTERPARTY RISK MITIGATION

In order to provide context for the discussion to follow, let us briefly consider the economic rationale for, and the best practice recommendations on, the bankruptcy treatment of secured claims.[162] Let us begin with the reminder that whether secured or not, creditors wish to reduce the probability of their debtor's bankruptcy. Unsecured creditors tend to receive little or nothing in such an eventuality.[163] Even secured creditors tend to

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161. For illuminating variants of the argument to follow, see Janis Sarra, *Credit Derivatives, Market Design, Creating Fairness and Sustainability* 8–12 (Network for Sustainable Fin. Mkts., Consultation Paper No. 1, 2009), http://www.sustainablefinancialmarkets.net/wp-content/uploads/2009/02/sarra-credit-derivatives_20jan091.pdf; Roe, *supra* note 4; Franklin R. Edwards & Edward R. Morrison, *Derivatives and the Bankruptcy Code: Why the Special Treatment?*, 22 YALE J. ON REG. 91 (2005).

162. The discussion here is restricted to the paradigmatic situation where new money is provided and fixed proprietary security is obtained over the debtor's assets. The distinctive issues arising from floating security—that is, security where the debtor may unilaterally, without obtaining the creditor's consent, alienate or consume the collateral, or otherwise place it beyond the ambit of the security—and security given for past value, are not considered here. For a detailed discussion, see MOKAL, *supra* note 80, at 133–224. My argument owes much to Steven L. Schwarcz, *The Easy Case for the Priority of Secured Claims in Bankruptcy*, 47 DUKE L.J. 425 (1997).

163. The well-designed U.S. Bankruptcy Code (its financial contract immunities apart) is an exception. For a comparison of direct costs and recovery rates for secured and unsecured creditors in various jurisdictions, see Oscar Couwenberg & Abe de Jong, *Costs and Recovery Rates in the Dutch Liquidation-Based Bankruptcy System*, 26 EUR. J.L. ECONS. 105, 110 (2008). For small firms in particular, see Stephen P. Ferris & Robert M. Lawless, *The Expenses of Financial Distress: The Direct Costs of Chapter 11*, 61 U. PITT. L. REV. 629, 654–56 (2000). For Chapter 11 liquidation plans, see Stephen J. Lubben, *Business Liquidation*, 81 AM. BANKR. L.J. 65, 79–81 (2007). The uniquely high returns to unsecured creditors in Chapter 11 proceedings should give at least some pause for thought to anyone tempted to think of the U.S. system as "debtor friendly" in contrast with "creditor friendly" comparators in the UK and other jurisdictions. *See, e.g.*, Paech, *supra* note 5, at 5, 9, 13, 29. The U.S. regime is far "friendlier" to creditors in affording them better process rights as well as higher returns. This, however, is an argument for another day.

lose out as measured by the terms of their loan agreement,[164] and the entanglement of the collateral in the bankruptcy process requires that, rather than focusing exclusively on the value of the collateral, they continue to also pay at least some attention to the value of the debtor's fundamentals.

Consider now the fictional world in which Debtor wishes to borrow $1 million USD from a variety of Creditors, who start off being equal in every respect, including, were it to come to it, their share of Debtor's bankruptcy estate. Debtor's dealings with each Creditor are perfectly transparent to each of the other Creditors, each utilizes this knowledge in writing their loan agreement, and each has equal influence over Debtor. Now suppose that Debtor were to offer Creditor[1] a security interest, and thus payment priority in its bankruptcy over Creditor[2], Creditor[3], and so on. Anticipating that they would now each receive less from Debtor's bankruptcy estate by virtue of their lower ranking, all of the other Creditors would raise their interest rates to compensate. The priority of secured credit thus turns out to be harmless to all unsecured creditors. Debtor's motivation for offering the security also goes unexplained, however, since any interest rate gains it made by offering security to Creditor[1] are negated by corresponding rate rises by the other Creditors.

This final observation, coupled with the artificiality of the assumptions in this hypothetical about the equality of the various creditors' knowledge of and influence over their debtor, have motivated various criticisms of secured credit's bankruptcy priority.[165] At the core of each of these criticisms is the quite correct observation that not all creditors can adjust the terms on which they lend to compensate themselves for being subordinated to the secured lender in their mutual debtor's bankruptcy. At the same time, however, the criticisms are marred by an insufficient appreciation that, at least in the standard case of "new money" security, the grant of the security interest reduces, not merely the proportionate share of the bankruptcy estate available to unsecured creditors, but also the risk of the debtor becoming insolvent in the first place. This reduction in the risk of their mutual debtor's insolvency raises the expected value of the claims of all creditors, including unsecured ones. The argument revolves around the role of security in controlling "financial agency" and "adverse selection" costs.

Financial agency costs arise from the debtor's incentive to engage in excessively risky projects in the anticipation that it would capture the upside benefits—the lender being restricted to its principal and interest—whereas the downside costs would be shared also with the lender, who in

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164. Court-determined "adequate protection" good enough to satisfy bankruptcy code requirements is frequently not good enough to place the secured creditor in the same position that it would have been had there been no bankruptcy proceedings at all.

165. *See, e.g.*, John Hudson, *The Case Against Secured Lending*, 15 INT'L REV. L. & ECONS. 47, 51–52 (1995); Lucian Arye Bebchuk & Jesse M. Fried, *The Uneasy Case for the Priority of Secured Claims in Bankruptcy*, 105 YALE L.J. 857, 903 (1996).

the debtor's bankruptcy would lose some or all of what it was owed. Note that while financial agency costs are costs from the perspective of lenders, debtors may regard their ability to create them as privately beneficial, since the increase in variance in the expected returns from the projects they undertake represents higher expected debtor returns. With this in mind, note also that security interests create effective ways of controlling agency costs. They encumber the debtor's title to the collateral, disabling the debtor unilaterally, without the lender's consent, from placing the collateral beyond the ambit of the security.[166] The collateral acts as a "hostage," enhancing the lender's ability and incentive to stipulate and enforce loan covenants. This is true particularly in relation to nonfinancial debtors,[167] and true, though to a lesser degree, for financial institution debtors.[168] Through lending covenants, the lender characteristically obtains the right to declare a "technical" default even when the debtor is dutifully making repayments on the loan, for example, if the debtor's income or the value of the collateral falls below a particular multiple of the outstanding secured liability.

The threat that, in any such eventuality, the lender may seize the collateral (the "hostage") and sell it, thus disrupting the debtor's business and inflicting disproportionate harm on it, gives the lender considerable

166. The transferee's title to the collateral would remain encumbered with the original security if the transfer occurred without the lender's consent.

167. *See, e.g.*, Raghuram Rajan & Andrew Winton, *Covenants and Collateral as Incentives to Monitor*, 50 J. FIN. 1113, 1115 (1995); Arito Ono & Iichiro Uesugi, *Role of Collateral and Personal Guarantees in Relationship Lending: Evidence from Japan's SME Loan Market*, 41 J. MONEY CREDIT & BANKING 935, 939 (2009); Geraldo Cerqueiro, Steven Ongena & Kasper Roszbach, Collateralization, Bank Loan Rates, and Monitoring 1 (Sept. 17, 2014) (unpublished manuscript) (on file with the Journal of Finance). Raghuram Rajan and Andrew Winton argue and present evidence consistent with the proposition that both covenants and collateral motivate lender monitoring. Rajan & Winton, *supra*, at 1115. Arito Ono and Iichiro Uesugi present evidence that "main banks whose claims are collateralized monitor borrowers more intensively," a finding that is "consistent with the theory that the use of collateral is effective in raising the bank's seniority and enhances its screening and monitoring." Ono & Iichiro, *supra*, at 935. They also find that personal guarantees do not appear to strongly incentivize banks in this way. *Id.* at 953–54. Geraldo Cerqueiro, Steven Ongena, and Kasper Roszbach show that "[w]hile pledging high-quality collateral enables borrowers to pay lower loan rates and benefit from increased credit availability . . . lenders preserve their incentives to monitor the borrower." Cerqueiro, Ongena & Roszbach, *supra*, at 30.

168. For financial sector debtors, a market discipline literature review of sixty-two peer reviewed empirical studies of banks and twenty studies of insurers provides evidence of "monitoring" and refers to modeling that suggests weak "influence" by monitors. *See* Martin Eling, *What Do We Know About Market Discipline in Insurance?*, 15 RISK MGMT. & INS. REV. 185, 193 (2012). Monitoring was weak where investors (equity-holders as well as various lender categories, including depositors and other unsecured and secured lenders) were protected by safety nets, or where there were "too-big-to-fail" distortions, etc. *Id.* at 197, 203. Evidence since the review has been consistent. *See, e.g.*, Zhichao Zhang, Wei Song, Xin Sun & Nan Shi, *Subordinated Debt as Instrument of Market Discipline: Risk Sensitivity of Sub-Debt Yield Spreads in UK Banking*, 73 J. ECONS. & BUS. 1, 1–2 (2014); Scott Miller, Eric Olson & Timothy J. Yeager, *The Relative Contributions of Equity and Subordinated Debt Signals as Predictors of Bank Distress During the Financial Crisis*, 16 J. FIN. STABILITY 118, 118 (2015).

influence over the debtor. The debtor thus has strong incentives to comply with loan covenants, to take early steps to anticipate and remedy falls in the value of the business or the collateral, and if this is not practicable, to commence negotiations with the lender in an attempt to head off enforcement action. The cumulative effect is to moderate financial agency costs, thus lowering the riskiness of the debtor's projects, and hence, the probability that it would be rendered insolvent. By lowering the probability of the debtor's insolvency, the operation of security interests raises the expected value of unsecured as well as secured claims against the debtor. Note, however, that from the debtor's point of view, the loss in its freedom to add to the variance of its projects is itself a cost.

Second, and again from the debtor's perspective, the grant of security has opportunity costs. Anticipating that if the debtor becomes distressed, it would need financing but would find it difficult or impossible to borrow on an unsecured basis, a firm would prefer to leave its assets unencumbered until just such a time. Also, if it foresaw growth opportunities that could only be taken up with additional outside funding, it would anticipate a potential lender's reluctance to lend, arising from its anticipation that they would be subordinated to existing secured creditors. This "debt overhang" represents another opportunity cost for the debtor in prematurely encumbering some or all of its assets. Third and finally, granting security to one or more of its lenders might harm the reputation of a debtor operating in some sectors of the economy.[169] It follows that a debtor would agree to grant security only if the benefits from doing so sufficiently outweigh the sum of these costs.

In broad analytical terms, security would be offered in either of two situations. The first of these situations is where the borrower is able to borrow on an unsecured basis, but nevertheless chooses to borrow on a secured basis. Here, its choice would be a factor of the interest rate difference on the secured and unsecured loans available to it. The difference between these two rates would be determined by—among other things—a potential lender's ex ante assessment of the extent of financial agency costs and the ability to control these costs through the extraction of security. A lender anticipates facing one of two states of the world: it would either lend unsecured and charge more in compensation for the high risk that a debtor might over-invest and suffer insolvency, thus causing it to share proportionately with like creditors; or alternatively, a lender could obtain security and lend at a lower rate, reflecting its increased influence over the riskiness of its debtor's choice of projects and also the increased comfort it

169. The strongest firms in the economy do not offer security over their assets, other than nonrecourse security in relation to particular projects. *See, e.g.*, Ronald J. Mann, *Explaining the Pattern of Secured Credit*, 110 HARV. L. REV. 625, 629 n.15 (1997).

obtains in being able to stand first in the queue for the distribution of the collateral's value. Here, security is a substitute for a higher interest rate.

In the second situation, the borrower simply cannot borrow on an unsecured basis. This would be the case where lenders assess its ex ante risk profile to be such that no level of interest alone would compensate lenders for accepting it. An important factor here is adverse selection. Charging a very high interest rate becomes counterproductive when (1) the obligation to pay it itself significantly increases the probability of the borrower's insolvency by encouraging it to take excessive risks that it would not have taken if under a lower repayment obligation, (2) when only those potential borrowers agree to borrow at the high rate who intend to overinvest in any event, or (3) in marginal cases, when the borrower does not intend to repay at all. In each of these scenarios, a higher interest rate tends to exacerbate, rather than ameliorate, the lender's risk. Here, security would be combined with a relatively high interest rate rather than substituting for it.

In summary, "traditional" security interests are not used simply to shift risk.[170] Instead, the existence of security provides a secured creditor with both ability and incentive to accomplish either or both of two things. A secured creditor may effectively exercise a moderating influence on a debtor's decision making, thus reducing the expected variance of its returns, and it may lend at a price that does not attract adverse selection, compensating for the remaining risk through its rights in and to the collateral.

The critical point is that the outcome in both scenarios is to reduce the probability of the debtor's default—that is, to *reduce,* not merely *shift*, counterparty risk—and in turn, to raise the expected value of all credit claims against it, unsecured as well as secured. That secured claims bring ex ante benefits to the very parties—namely, unsecured creditors as a group—who are harmed by it, provides the core justification for bankruptcy regimes to accord priority to them.[171]

Equally critically, no immunity from standard bankruptcy restrictions is thereby justified, with a secured creditor being presumptively bound by the moratorium unless a court is persuaded that its collateral was not required in order to preserve any going-concern surplus, or alternatively, that it was not practicable to provide a secured claimant with adequate protection within bankruptcy proceedings.[172] The same holds for bankruptcy law's other preservation tools, including those guarding against preferential and

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170. This point and many of the arguments in this sub-Part thus far are brought together in an empirical study based on one multinational bank's lending to 9,211 small and medium enterprises in fifteen countries. Jose Maria Liberti & Jason Sturgess, Uncovering Collateral Constraints (Feb. 28, 2014) (unpublished discussion paper), http://ssrn.com/abstract=2407959.

171. WORLD BANK PRINCIPLES, *supra* note 76, princ. C12.2.

172. *Id.* princ. C5.3.

undervalued transactions. Bringing about this delicate balance between priority and graduated absence of immunity allows for a socially value-maximizing retention of both the benefits of security, and also those of bankruptcy law's preservation tools.

The exposure of market participants to some counterparty risk is a crucial lever for market discipline. An extensive review of the empirical literature on banking and insurance-firm borrowers concludes that "[o]nly if stakeholders consider themselves at risk and are able to observe risk efficiently will market discipline work." [173] The review lists several discipline-weakening dampeners of risk sensitivity, including depositor-guarantee schemes, "'too-big-to-fail' effects, compulsory insurance and judgment-proof buyers, and product and business complexity." [174] The argument in this sub-Part has been that well-designed mechanisms for entangling a secured lender in a debtor's bankruptcy process—protecting its priority but not giving it excessive immunity—beneficially expose a lender to risk, while the priority and hostage roles of security interests improve both a secured lender's ability and incentives to observe and moderate debtor risk. The next sub-Part shows how financial contract immunities act as massive dampeners of lender risk sensitivity, with consequent worsening of lending standards.

B. FINANCIAL CONTRACTS AND COUNTERPARTY RISK

Return to the hypothetical introduced in the previous sub-Part. Now, however, Creditor[1] is not simply offered payment priority within Debtor's bankruptcy, but instead is rendered immune from the bankruptcy process altogether. Several points are worth noting.

First, since Creditor[1]'s fear of becoming entangled with Debtor's bankruptcy is likely to be far lower, it is likely to engage in lower levels of pre-lending due diligence, to extract fewer loan covenants, and to engage in lower levels of monitoring to ensure continuing compliance. Counterparty risk would now be dealt with, to some considerable degree, through reliance on bankruptcy immunity, that is, on exit from the distressed counterparty at the first public sign of distress. Funding of this type is strongly associated with increased systemic risk.[175]

Second, Creditor[1] would possess weaker incentives to obtain collateral from or close to the beginning of the transaction. Obtaining and exercising

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173. Eling, *supra* note 168, at 219.

174. *Id.*

175. *See, e.g.*, Rocco Huang & Lev Ratnovski, *The Dark Side of Bank Wholesale Funding*, 20 J. FIN. INTERMEDIATION 248, 249 (2011); Germán López-Espinosa, Antonio Moreno, Antonio Rubia & Laura Valderrama, *Short-Term Wholesale Funding and Systemic Risk: A Global CoVaR Approach*, 36 J. BANKING & FIN. 3150 (2012); Joon-ho Hahm, Hyun Song Shin & Kwanho Shin, *Noncore Bank Liabilities and Financial Vulnerability*, 45 J. MONEY CREDIT & BANKING 3 (2013); Roe, *supra* note 4.

control over collateral can have costs, which Creditor[1] would wish to minimize. Consistent with this observation, the literature notes that nonfinancial corporate users of derivatives and also large, highly rated financial institutions have not been required to post collateral. [176] Bankruptcy-immune Creditor[1] could demand such collateral at a late stage in the transaction, even on the eve of Debtor's distress, to highly procyclical, and thus systemically damaging, effect. [177] Further, since Creditor[1] does not hold the collateral until this late stage, it also lacks the ability to mitigate Debtor's over-investment incentives, which would arise precisely from collateral's "hostage" role.

Third, creditors generally have an incentive to diversify, since they anticipate a proportion of their debtors becoming insolvent, with a consequent risk of loss. Diversification is a strategy for increasing the probability that the creditor will be able to make a profit across a portfolio as a whole, by overcompensating for its losses from these failed loans through the profits it makes on other, successful loans in the portfolio. By contrast, bankruptcy-immune Creditor[1] would not anticipate having to share with nonimmune creditors in any of its debtors' insolvencies. It therefore anticipates being able to recoup itself against all of a failed debtor's relevant assets, without having to share any proportion of that value with nonimmune creditors. Creditor[1] is thus more likely to be relatively undiversified.[178] The problem is that if and when a significant debtor does become insolvent, Creditor[1] may still be exposed to nontrivial losses, for example, because asset value contagion erodes its loss-given-default calculations, or because it might have to compete against other immune creditors, etc. Given its relative lack of diversification, such losses, when they do occur, are likely to be more significant. When put together with the observation in the previous paragraph on how immunity would tend to weaken external checks on the debtor's excessive risk taking, the potential for significant losses to occur is greater still.

Fourth, the fact that Creditor[1] no longer fears entanglement with Debtor's bankruptcy is likely to induce it to lend more and at a lower cost. As noted, it can now afford to incur lower costs on pre-lending due diligence—except as to the sufficiency of collateral, on which costs are also

176. Lubben, *Safe Harbors*, *supra* note 4, at 126 n.17.

177. "Initial margining typically was very low at the start of the crisis and increased rapidly during the turmoil. This had a destabilizing effect on many market participants and sometimes caused or precipitated defaults." BASEL COMM. ON BANKING SUPERVISION, CONSULTATIVE DOCUMENT: STRENGTHENING THE RESILIENCE OF THE BANKING SECTOR 29 (2009), http://www.bis.org/publ/bcbs164.pdf. Such margining practices were an important channel for the procyclical destabilization of the system during the recent crisis. *Id.* at 7.

178. *See, e.g.*, PRESIDENT'S WORKING GRP. ON FIN. MKTS., HEDGE FUNDS, LEVERAGE, AND THE LESSONS OF LONG-TERM CAPITAL MANAGEMENT 8 (1999), http://www.treasury.gov/resource-center/fin-mkts/Documents/hedgfund.pdf (cited by Schwarcz, *Derivatives*, *supra* note 4, at 706 n.45). As shown *infra* Part V, bankruptcy immunity compounds the pro-concentration effect of netting. *See also* Bliss & Kaufman, *supra* note 4, at 60–62.

saved by obtaining it at a later point in the transaction than would be the case for bankruptcy nonimmune lenders—and extracting covenants and monitoring them. The reduced rate also reflects Creditor[1]'s anticipated greater share of Debtor's bankruptcy estate.

Fifth, some of the costs thereby saved can be passed on to Debtor, which here means its managers through higher salaries and bonuses, and equity-holders through dividends and higher equity values. This is frequently a strong inducement for solvent debtors and their managers to make use of bankruptcy-immune contracts in the first place. Another inducement is Debtor's continuing freedom of action, relatively unconstrained by creditor monitoring. As we have seen, the solvent Debtor values this freedom of action, precisely because it is thereby enabled to increase the riskiness of its projects—and thus the variance of its expected returns—and the pay-outs it can make to its shareholders and managers. Riskier projects definitionally involve a greater risk of loss, but the solvent Debtor's managers and shareholders anticipate externalizing much of this loss onto Creditor[2], Creditor[3], and so on. In effect, then, the decision to borrow from bankruptcy-immune Creditor[1] as opposed to nonimmune creditors is a manifestation of financial agency costs. Debtor's managers and shareholders collude with Creditor[1] to run greater risks. The upside is captured by Debtor's shareholders and managers, the downside is disproportionately loaded onto nonimmune Creditors, while the position of Creditor[1] is protected through the existence of the immunity.

Sixth, following from that, Creditor[2], Creditor[3], etc., no longer have a share of the financial collateral to the extent of Creditor[1]'s claim. Further, and for the reasons explained above, they are now exposed to increased levels of Debtor risk-taking. They may therefore have an incentive to lend less, to expend greater monitoring efforts, and/or to charge more on their loans. Not all Creditors would be able to do all or any of these things. Three types of Creditors are worth mentioning. First, certain categories of nonadjusting creditors were discussed in Part II. Second, bank depositors enjoy state guarantees of repayment for some or all of their exposure. Third and relatedly, in cases when Debtor is a systemically significant and/or politically salient firm, the state itself potentially and implicitly stands as the lender of last resort.[179] Leaving aside the bankruptcy law itself, the state

179. Roe, *supra* note 4, at 558. For post-crisis measures to reduce the need for state bailouts of financial institutions, see, for example, Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010); INDEP. COMM'N ON BANKING, FINAL REPORT: RECOMMENDATIONS (2011); ERKKI LIIKANEN ET AL., HIGH-LEVEL EXPERT GROUP ON REFORMING THE STRUCTURE OF THE EU BANKING SECTOR (2012), http://ec.europa.eu/internal_market/bank/docs/high-level_expert_group/report_en.pdf; Directive 2014/59, of the European Parliament and of the Council, of 15 May 2014 Establishing a Framework for the Recovery and Resolution of Credit Institutions and Investment Firms and Amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU, 2013/36/EU, and Regulations (EU) No.

has no, even implicit, contractual relationship with such firms, and may have little or no ex ante influence over the terms on which it might be forced to lend. Nor is it best placed to monitor the Debtor transaction-by-transaction, week-by-week.

Seventh, and to reiterate, not only would Creditor[1] be less likely to monitor Debtor and possess less of an incentive to mitigate its over-investment incentives, but the loss of these socially beneficial effects is brought about by giving Creditor[1] the power to withdraw collateral from Debtor's bankrupt state, thus reducing or destroying the potential for an effective reorganization or synergy-preserving sale.[180]

Eighth, and finally on this point, since the bankruptcy regime provides more favorable treatment for repos than for secured loans, potential lenders have a powerful pro tanto incentive to adopt the repo form for their transaction. Further, while loans are long-term banking book holdings with attendant capital requirements, repos are short-term trading book holdings regarded as being sold and repurchased according to their (mostly very short) maturity dates, with attendant diminution of capital requirements:

> Such distortions push counterparties toward designing complex products that can help shift assets from the banking to the trading book, which are then financed using short-term repos in the repo market, away from the monitoring of regulators and at substantially lower capital requirements. *The effective outcome is tremendous liquidity in repo markets for these products in good times, with systemic stress and fragility when the products are anticipated to experience losses*. The expansion of safe harbor to repo transactions with underlying mortgage-based assets in the Bankruptcy Act of 2005 has thus been cited as one of the reasons for the growth in mortgage-based derivatives over the period from 2005 to 2007.[181]

Here, then, is how you pro tanto prime a financial system for crisis. The system is left undercapitalized, overleveraged, and experiencing a bubble in net negative value transactions with short maturity periods (in the example just given, mortgage-backed structured assets). Too many of the system's constituents are mutually ignorant counterparties reliant upon fair-weather "liquidity," there in good times, but gone exactly when it is most needed.

A critical question is whether this "tremendous [fair-weather] liquidity" is actually froth. That would certainly explain the accompanying fragility. Froth, unlike liquidity, characteristically carries the seeds of its own

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1093/2010 and (EU) No. 648/2012, of the European Parliament and of the Council, 2014 O.J. (L 173) 190 [hereinafter EU Bank Recovery and Resolution Directive].

180. *See generally* Mark J. Roe & Stephen Adams, *Restructuring Failed Financial Firms in Bankruptcy: Selling Lehman's Derivatives Portfolio*, 32 YALE J. ON REG. (forthcoming 2015).

181. 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. CENT. BANKING 291, 307–08 (2013) (emphasis added).

destruction: the frothier a market in the upswing, the worse hit it is likely to be when the cycle turns. Let us consider this "liquidity."

V. NETTING, AND WHAT IT "EXPONENTIATES"

It has recently been suggested that an important—perhaps, the most important—rationale for financial contract immunities is that they "exponentiate" liquidity.[182] This rationale is said to have "never received the degree of prominence in the policy debate it would have deserved."[183] The immunities are said to possess "four novel effects . . . that represent a quantum step in terms of increasing liquidity, in particular if taken in combination with one another."[184]

A. EXPONENTIATION MECHANISMS

First, immunities are said to facilitate more efficient use of collateral. Parties need only collateralize net, rather than gross, exposures, which enable the collateral to be "stretched" to cover a greater volume of transactions.[185] Variation margining on an ongoing basis, unhindered by bankruptcy avoidance mechanisms, enables collateral to be adjusted in line with exposure. There are opportunity costs to depleting the pool of unused assets, but, it is implied, these are worth bearing in return for the benefits.[186]

Second, and relatedly, financial contract immunities are said to enable efficient use of regulatory capital, that is, the ratio between risk exposure and the capital raised by issuing its own shares. Since banks are able to calculate capital requirements on a net rather than gross basis,[187] they take on several times as much gross risk to their balance sheets, not just in repo and derivatives markets but across the board, including in ordinary lending.

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182. Paech, *supra* note 5, at 1 ("[T]he true argument for the existence of safe harbours is . . . liquidity in the financial market."). Paech defines liquidity as the ability to sell any asset for other assets or cash at will. *Id.* at 5 n.22 (drawing on Katharina Pistor, *A Legal Theory of Finance*, 41 J. COMP. ECONS. 315, 316 (2013)). While there is much to admire in Pistor's paper, her definition of liquidity is defective because, surely unintentionally, it assumes away market failures. It thus annihilates utterly indispensable distinctions between liquid and illiquid, and depressed and frothy markets, and between best use, forced, and fire sale values. This definition of liquidity discerns no difference between a market in which an asset with a fundamental or best use value of $1 million USD may be disposed at will for no more than $1 USD, and one in which a fundamentally worthless but highly rated subprime mortgage-backed security instrument trades at inflated prices. In order to ascertain whether she provides a satisfactory account of liquidity, see Pistor, *supra*, at 316–17 (discussing distressed markets and fire sales).

183. Paech, *supra* note 5, at 13–14 (noting that legal instruments and industry group advocacy documents emphasize the immunities' contribution to risk reduction and hardly ever mention their liquidity enhancing role).

184. *Id.* at 14.

185. *Id.* at 15–16 (calculating that up to 80% of derivatives exposures are covered by netting, leaving only 20% in need of collateralization).

186. *Id.* at 17–18.

187. Barbara C. Matthews, *Capital Adequacy, Netting, and Derivatives*, 2 STAN. J.L. BUS. & FIN. 167, 170–75 (1995) (providing context for the advent of this change initiated in 1994).

There is also a corresponding reduction in the relative cost of share capital.[188]

The third way in which financial contract immunities are said to enhance liquidity is that they allow "flexibility across legal categories and asset types."[189] They do so by blurring the "boundaries between claims, cash and securities," leaving positions "interchangeable" and allowing them to be treated "as a mere accounting position, the only parameter being current market value."[190] Further, there is a functional amalgamation of title transfer and security arrangements, with parties to the former remaining as well-protected as under traditional security interests, but given far greater power to use and alienate the collateral so long as they can return assets of the same kind. "This high degree of flexibility," defenders of the immunities enthuse, "is nothing less than revolutionary, overthrowing traditional legal restrictions on the use of assets with a view to obtaining cash and creating liquidity more generally."[191]

The fourth mechanism, the cross-border availability of assets facilitated by harmonization on the immunities, is described in Part VII.

B. NETTING, LEVERAGE, AND RISK

In considering these arguments, it helps to think separately about different elements of close-out netting. The real engine for exposure exponentiation is netting, which is said to have had "the greatest impact on the structure of the derivatives markets. Without netting the current large size, liquidity and concentration we see in the derivatives markets would be unlikely to exist."[192]

Netting enables an end-user with, say, a derivatives exposure, to hedge its risk by taking on an offsetting position, or multiple exposures to imperfectly correlated risks, with the same counterparty—characteristically, the same dealer—while using a dealer's obligations to it as a pro tanto substitute for collateral and/or higher spreads. In addition, dealers can manage their market risk exposures, maintaining a balanced portfolio book by taking offsetting positions with multiple counterparties, each using their obligations to the other to reduce both spreads and capital and collateral costs, which are calculated on net rather than gross bases. This "economizing" on capital and collateral enables the market to grow faster

188. Paech, *supra* note 5, at 17–18 (suggesting on the basis of the same derivatives exposure figures that banks are able to take on as much as six times more risk if proceeding net rather than gross).

189. *Id.* at 14–15.

190. *Id.* at 15.

191. *Id.* at 14.

192. Bliss & Kaufman, *supra* note 4, at 60. Bliss and Kaufman compare the relative contributions of netting, collateral, and close-out, generalizing beyond the derivatives markets. *Id.* at 56 n.2.

than the risk exposures of market participants.[193] In terms of the present discussion, this is how netting "exponentiates"—what the argument being considered refers to as—liquidity.

Pause and dig a bit deeper, however. Note, first, another way of looking at this pro-netting argument. Netting enables, even invites, greater leverage. This can be brought out by comparing its effect to that of offering collateral. Consider this simple scenario. If P owes Q $100, Q may expand its own indebtedness to P by the same amount, effectively offering a pro tanto discharge of P's liability as assurance for repayment by Q. But what if Q wishes to borrow more from P? One way to do so would be to allow P to expand *its* indebtedness to Q. If that indebtedness doubled to $200, so would Q's ability to borrow from P. This feature is symmetrical between P and Q. The more credit each allows the other in relation to it, the more leverage it itself is able to take. Contrast the position where, in order to borrow $100 from P, Q must offer collateral, and in order to increase its borrowing to $200, must correspondingly provide additional collateral. The (un)availability of collateral constrains Q's ability to take on additional debt, and thus additional risk. All else equal, the feature is symmetrical between P and Q. This shows that netting leans toward greater leverage in the system compared to collateral, and at least prima facie, leads to greater risk as well. Netting's admirers claim that the additional leverage does not result in additional risk, precisely because netting mitigates it.

This leads to the second observation, that netting redistributes risk rather than diminishing it, at least ex post. Upon counterparty P's default, netting results in the pro tanto diminution of an asset, viz., P's claim against Q, thus diminishing P's estate to the detriment of all of P's other creditors. Considered purely from this ex post perspective, netting in effect provides its beneficiary with bankruptcy payment priority just as a security interest does. It thereby redistributes bankruptcy loss from the favored party to the other claimants as a group.[194]

Third, from the ex ante perspective, netting weakens lending standards by exacerbating both financial agency and adverse selection effects. Recall from the discussion in the previous Part that, netting aside, lenders would respond to agency costs by raising interest rates and/or demanding security. In diminishing a lender's incentives to do either, netting correspondingly frees up a debtor to engage in riskier behavior. The increased financial agency costs are passed on, including to the other participants in the netting

193. *See, e.g.*, *id.* at 60–63.

194. William R. Emmons formally demonstrates that netting redistributes bank default risk from interbank claimants that are party to the netting arrangement to nonbank creditors who are not party to it. William R. Emmons, *Interbank Netting Agreements and the Distribution of Bank Default Risk* 14 (Fed. Reserve Bank of St. Louis, Working Paper No. 1995-016A, 1995), http://research.stlouisfed.org/wp/1995/95-016.pdf. *See also* Xavier Freixas & Bruno Parigi, *Contagion and Efficiency in Gross and Net Interbank Payment Systems*, 7 J. FIN. INTERMEDIATION 3 (1998).

arrangement.[195] Adverse selection may be modeled thus: banks with good assets, such as safer loans to good borrowers, have an incentive to sell those assets to informed buyers and use the resulting cash to settle their own interbank liabilities. In this informed market, banks with poorer assets are at a disadvantage in having to sell them at a larger discount. Such banks would prefer a less informed market. Alternatively, they would like to be able to use those assets themselves to settle their interbank liabilities, so long as the assets would bear a higher return in the interbank market than in the nonbank one. Interbank netting is analogical to this latter state. Where there is a choice between gross and net settlement, good banks can signal the quality of their assets by settling interbank obligations gross rather than net.[196] As a corollary, banks have incentives to take on good assets and to ensure a good flow of information about them to the market. Where net settlement is the norm, however, these incentives are weaker.[197] The average bank asset under a netting-based settlement system is thus likely to be of poorer quality than under a gross settlement system.[198] This shows that netting is like the bankruptcy immunities in that it tends to exacerbate both financial agency and adverse selection costs. Netting makes the financial system more vulnerable.

Fourth, netting increases market volatility.[199] Net exposures are susceptible to changes that are multiples of the movements in underlying

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195. Charles M. Kahn and William Roberds formally show that while reducing the costs of holding noninterest-bearing reserves, netting can cause banks to overinvest in risky assets by enabling a proportion of the resulting costs to be passed on to the other participants in the netting arrangement, as well as to their creditors and guarantors. Charles M. Kahn & William Roberds, *Payment System Settlement and Bank Incentives*, 11 REV. FIN. STUD. 845, 862 (1998).

196. Charles M. Kahn & William Roberds, *On the Efficiency of Cash Settlement* 14 (Fed. Reserve Bank of Atl., Working Paper No. 95-11, 1995).

197. It is possible that interbank monitoring might compensate. However, there is no direct evidence on the incentive effects for such monitoring of gross versus net settlement. General evidence on interbank monitoring is mixed. For those detecting evidence of interbank monitoring, see Craig Furfine, *The Interbank Market During a Crisis*, 46 EUR. ECON. REV. 809 (2002) [hereinafter Furfine, *Interbank*]; Craig H. Furfine, *Banks as Monitors of Other Banks: Evidence from the Overnight Federal Funds Market*, 74 J. BUS. 33 (2001); Valeriya Dinger & Jürgen von Hagen, *Does Interbank Borrowing Reduce Bank Risk?*, 41 J. MONEY, CREDIT & BANKING 491 (2009); Falk Bräuning & Falko Fecht, Relationship Lending and Peer Monitoring: Evidence from Interbank Payment Data (Feb. 1, 2012) (unpublished discussion paper), http://ssrn.com/abstract=2020171. For those finding weak or no evidence of interbank monitoring, see Paolo Angelini, Andrea Nobili & Maria Cristina Picillo, *The Interbank Market After August 2007: What Has Changed and Why?* (Banca d'Italia, Working Paper No. 731, 2009); F.R. Liedorp et al., *Peer Monitoring or Contagion? Interbank Market Exposure and Bank Risk* (De Nederlandsche Bank, Working Paper No. 248, 2010); Irina Andrievskaya & Maria Semenova, *Market Discipline in the Interbank Market: Evidence from Russia*, 53 E. EUR. ECONS. 69 (2015).

198. Consistently with this, Itai Agur observes that because of adverse selection in the bank wholesale funding market, all the banks as a group face higher average borrowing costs that penalize good banks yet fail to force poorer ones to internalize the costs of their risk-taking. Itai Agur, *Bank Risk Within and Across Equilibria*, 58 J. BANKING & FIN. 322, 322 (2014).

199. Bliss & Kaufman, *supra* note 4, at 64 ("Netted positions are inherently more volatile than their underlying gross positions, and require continuous monitoring and management.").

obligations. Consider A and B, who at time T^1 owe each other $5 and $10 respectively, leaving A with a net exposure of $5. At a later time T^2, A still owes B $5 but B's indebtedness to A rises to $15, increasing A's net exposure to $10. The 50% change in an underlying obligation has resulted in a 100% change in the net exposure. What is more, the larger the difference between gross and net exposures, the larger the resulting volatility. Take the 80% risk reduction that "can be taken for granted" on the basis of recent derivatives market data.[200] A owes B $100 million while B owes A $80 million. Suppose A's indebtedness to B increases to $105 million, with no other change. The 5% change in gross exposure is exponentiated to a 25% change in net exposure. Since A's exposure increases much faster than it would have if measured on a gross basis, so may A's need for capital and B's obligation to post a variation margin (i.e., collateral). This suggests that netting exponentiates "liquidity" when gross exposures move more or less in line with each other, and it sucks "liquidity" dry when gross exposures diverge. In other words, netting engenders fair-weather liquidity. Further, since higher volatility is associated with higher default probability,[201] netting makes both A and B more vulnerable to distress.

Fifth, and following from that, netting is a risk transmission channel, propagating the effect of shocks to the system. Bilateral gross exposures between A and B are most likely to diverge, and to the greatest degree, when A suffers distress. Netting exponentiates the divergence, potentially causing contagion by heightening B's capital and collateral needs. C, D, and E, A's other counterparties, would suffer symmetrical pressure. What starts off as A's crisis threatens to spread much wider. It is in recognition of at least the potential for these costs that netting is combined with close-out and collateral disposal immunities. In other words, it is the new channels for risk transmission created by netting immunities that supposedly give rise to the need for close-out and collateral disposal immunities. This creates significant risk of asset value contagion, however, so that the close-out/asset disposal cure may prove worse than the netting disease.[202]

C. THE "EFFICIENCIES" REVISITED

It is against this background that we should place a series of basic lessons that financial sector regulators have had to relearn. Take the "efficiencies" arising from the focus on net rather than gross exposure. There is at least some acknowledgement that this focus is misleading and causes regulatory authorities to take their eye off the ball:

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200. Paech, *supra* note 5, at 15.
201. *See, e.g.*, Borio, Furfine & Lowe, *supra* note 39, at 7.
202. *See supra* Part I and, in greater detail, *infra* Part VII.

> Before the crisis, market participants and regulators focused on net risk exposures of [major derivatives market players], which were judged to be comparatively modest. In contrast, less attention was given to the large size of their gross exposures. But the crisis has cast doubt on the apparent safety of firms that have small net exposures associated with large gross positions. As major market-makers suffered severe credit losses, their access to funding declined much faster than nearly anyone expected. As a result, it became increasingly difficult for them to fund market-making activities in OTC derivatives markets—and when that happened, it was the gross exposures that mattered.[203]

The phenomenon described here is easy to understand if we remember that the major derivatives market players were creating and operating in a hugely frothy market. The fair-weather "liquidity" that enabled them to access funding in the risk-accumulation phase of the cycle—resulting in part from the focus on net rather than gross exposures, as explained above—was inherently fragile and bound to disappear as soon as the cycle began to turn, to unsurprising procyclical effect.

In regard to capital, two key desiderata are that it should increase when risk increases, and that it should be raised when it is cheapest. As argued in Part I, risk accumulates as credit booms and asset prices bubble. This is also the time when capital is likely to be cheapest and easiest to raise. For both of these reasons:

> capital should be raised in booms to be drawn down as risk materialises. . . . By holding *additional* capital over and above that needed to achieve the target probability of default at a particular point in time, each individual bank can smooth its cost of capital over time and increase its survival prospects. This is a critical insurance function. From the perspective of the system as a whole, raising capital in good times to be drawn upon in bad times has the additional benefit of limiting the amplification of the financial and business cycle, especially the headwinds that accompany periods of widespread bank retrenchment. [204]

Exactly the opposite is achieved by the focus on net exposure, which, as shown above, is likely to remain small as the boom builds up and the bubble inflates, only to explode when one of the parties to the netting arrangement experiences difficulty. Netting's procyclical effect on regulatory capital, presented as "efficiency," weakens an individual institution's balance sheets and acts as a potent systemic risk amplifier.

The lesson here is subtle, and has not yet been learnt if you are tempted by something like the following proposition: "what is beneficial generally

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203. Stephen Cecchetti, Jacob Gyntelberg & Marc Hollanders, *Central Counterparties For Over-The-Counter Derivatives*, *in* BANK FOR INT'L SETTLEMENTS, BIS QUARTERLY REVIEW 45, 50 (Sept. 2009), http://www.bis.org/publ/qtrpdf/r_qt0909.pdf.

204. Borio, Furfine & Lowe, *supra* note 39, at 31–32. *See also* IMF, *Financial Stress*, *supra* note 57, at 125.

(collateral more easily available) may turn out to be dangerous in times of stress (no asset reserves)."[205] That is like saying that smoking is generally beneficial, but may turn out to be dangerous if one's lungs were to fill with disease. There are not two discontinuous states, "general," in which immunities are good, and "stressed," in which they suddenly turn out to be bad. The hard-won intellectual achievement underlying the macroprudential approach to systemic risk is precisely that crises are not exogenous to behavior during booms, but in fact result from it, and that the primary way of reducing the incidence and severity of crises is to mitigate boom-time negative net value risk-taking of the sort that the immunities incentivize. Such behavior emphatically includes false "economizing" on capital and collateral.

D. THE IMPORTANCE OF BOUNDARIES

Recall the argument that the immunities are in part justified because they enhance liquidity by scrubbing out legal boundaries and blurring the distinctions between claims, cash, and securities. As should already be clear, it is often inadvisable to treat as equivalent claims against counterparties, and other types of assets, particularly more *genuinely* liquid ones. A Gilt worth £100 (collateral) cannot be treated on par with a claim against a distressed debtor (netting) nominally worth the same amount, but not bearing anywhere near that value either fundamentally or in the market. This suggests that while netting and collateralization may be "interchangeable" when considered as "mere accounting position[s],"[206] their effects on counterparty credit and systemic risks are not.

Consider the important case of initial margining in the multi-trillion dollar, noncentrally cleared derivatives market. If parties agreed to a bilateral initial margin—which is not always the case—market practice has been to calculate it on a net basis. As we have seen, however, netting and collateral are not perfect substitutes. The Basel Committee on Banking Supervision and the Board of the International Organization of Securities Commissions recently pronounced that:

> when two parties to a derivatives transaction exchange initial margin on a net . . . basis, there can be little or no actual increase in the extent to which either firm is protected from the default of the other. Although one firm has received initial margin as collateral, the firm also now bears the risk of additional loss on the initial margin that it has provided to the counterparty if the counterparty defaults, which may offset some or all of the benefits of initial margin received.[207]

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205. Paech, *supra* note 5, at 29.
206. *Id.* at 15.
207. BCBS & IOSCO, MARGIN REQUIREMENTS, *supra* note 122, at 19.

Accordingly, and notwithstanding market resistance, guidance is now for practice to move to exchanging initial margins on a gross rather than net basis, with the attendant shrinkage in "liquidity" regarded, in relation to financial and systemically significant nonfinancial firms, as a price worth paying.[208]

Take another example. Proponents of the alchemizing effect of close-out netting privileges claim that a financial contract counterparty's ability to rehypothecate collateral is "remarkable . . . [in] that the rights of [the rehypothecating lender] . . . *appear* to grow whereas the risk borne by the [collateral-providing borrower] . . . remains unchanged."[209] That *would* be remarkable, but any such appearances are deceptive and the borrower's risk would usually increase. It ought to go without saying that there is a difference between the in rem right to reclaim liquid assets upon the pledgee's default, and a mere in personam claim in its bankruptcy proceedings because the collateral you provided has been alienated to a third party. What is *truly* remarkable is that regulators are only now announcing this truism, familiar to Gaius,[210] as a new and controversial discovery: "[t]he legal capacity in which initial margin is held or exchanged can have a significant influence on how effective margin is in protecting a firm from loss in the event of the default of a derivatives counterparty."[211] Acknowledgement of this truth allows regulators to think of suitable restrictions on rehypothecation (and indeed, reuse), and encourages them to keep such restrictions under review in case they require strengthening.[212] Accounting positions will not do; legal form matters when, as here, it makes a substantive economic difference.[213]

The point generalizes. Money and different types of claims and securities are not the same. They offer different risk/reward profiles, affect their holders' incentives in different ways, and have different effects on systemic stability. It may *sometimes* be useful, for *some* purposes, to treat *some* of these asset types as interchangeable in *some* respects. However, this has costs as well as benefits, and there is no reason to think that the latter always exceed the former. To acknowledge this fact is not to be crushed by "conceptual burdens."[214]

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208. *Id.* at 4–5, 8–9, 20.

209. Paech, *supra* note 5, at 15 (emphasis added).

210. *See* G. INST. 4.1–4.3.

211. BCBS & IOSCO, MARGIN REQUIREMENTS, *supra* note 122, at 19.

212. *Id.* at 20–22 (among other things, restricting rehypothecation and reuse "only for purposes of hedging the initial margin collector's derivatives position arising out of transactions with customers for which initial margin was collected," where "customers" refers only to nonfinancial firms and buy-side financial ones). Recall that, overall, these requirements only apply to financial and systemically important nonfinancial entities.

213. This should not be news to immunity apologists. After all, repos epitomize the triumph of difference-making legal form over economic substance.

214. Paech, *supra* note 5, at 15.

E. FROTH AND FAIR-WEATHER LIQUIDITY

Recall that asset liquidity is a function of the asset's fundamental value. We have not been able to identify any mechanism by which the immunities might increase liquidity for net *positive* value assets. The bankruptcy immunities, and netting in particular, do facilitate funding of net *negative* value assets by enabling the externalization of the downside risks of creating and holding such assets.[215] This causes the market values of such projects to exceed their fundamental values. If it did not, then, ex hypothesi and all else equal, the assets would not obtain funding. This is just another way of saying that the markets funding these assets are frothy.

Immunities do not enhance the liquidity of markets, (i) since, as noted, they contribute to the inflation of asset price bubbles, in which assets are distortedly overvalued *above* their fundamentals, and (ii) since the volatility of netting and the asset value contagion resulting from unimpeded close-out and collateral disposals[216] contributes to illiquid markets in which prices fall *below* fundamentals. Institutional liquidity also declines as balance sheets shift away from softer and longer-term liabilities, such as capital and unsecured or standard secured borrowing, and toward short-term, close-out-prone, repo-like bankruptcy immune funding. Capital becomes procyclical as netting encourages less of it to be raised in booms and demands more in busts.

It turns out after all, that liquidity has received about the right degree of prominence in attempts to justify the immunities. What has been lacking is a focus on their systemically harmful procyclical relationship with the types of liquidity described above.

Against this background, here is how to decode talk about immunities "exponentiating liquidity." Tobias Adrian and Hyun Song Shin set out to understand financial press and market commentary references to "excess liquidity" in financial markets, or to such markets being "awash" with it.[217] Their empirical detective work reveals that, in this discourse, "liquidity" should be understood as the rate of growth of aggregate financial sector balance sheets.[218] The market becomes "awash" with this "liquidity" when asset price bubbles, particularly when combined with marked-to-market valuations of financial intermediaries' assets, make financial institution balance sheets appear stronger, and all else equal, leave their leverage

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215. In perhaps the most remarkable part of his paper, Paech puts forward this contribution to what he calls liquidity as a justification for the immunities: "[t]he amount of liquidity created through safe harbours, which *mirrors the degree to which risk is shifted*, depends on the scope of safe harbours." *Id.* at 28 (emphasis added). Paech admits that the parties to whom risk is shifted include those unwilling and/or unable to respond to such risk-shifting. *Id.* at 20–21. In other words, then, Paech thinks that the immunities are justified *precisely to the extent that they facilitate the creation of negative externalities*.

216. *See infra* Part VII.

217. *See* Adrian & Song Shin, *Liquidity and Leverage*, *supra* note 60, at 419.

218. *See id.* at 436.

lower.[219] The institutions then have additional regulatory capital leeway. Since this is when risk is starting to accumulate, it would be systemically sensible to build up this capital. However, financial intermediary decision makers are afflicted with perverse incentives,[220] and are often rewarded for adding to the riskiness of their firms.[221] Such decision makers would tend to expand balance sheets by taking on more short-term debt on the liabilities side and by seeking to lend more on the assets side. Lender-driven searches for projects to fund, while asset prices bubble and credit booms, are *the* textbook recipe for the funding of riskier projects undertaken by poorer quality borrowers. This conflict of managerial interest and duty in relation to the quality of the employer's lending book, and the absence of any link between that duty and considerations of systemic risk—which would count in favor of accumulating capital in boom times—is a potent mechanism in the deterioration of lending standards and the creation of systemic vulnerability.[222]

It is the "liquidity" brought about through this boom-time inflation in the size of balance sheets to which immunities in general and netting, in particular, contribute. To reiterate, it is precisely this type of "liquidity" that paradigmatically generates systemic risk:

> The main channel [for increased systemic risk] is excessive credit and leverage. In fact, these variables show the strongest ex ante correlation with the incidence of financial crises as shown in the empirical literature analyzing large historical and cross-country episodes of systemic financial crises. Credit (debt and leverage) acceleration notably increases the likelihood of financial crises, and conditionally on a crisis occurring, it increases its systemic nature and the negative effects on the real economy associated with the crisis.[223]

The reference to "[c]redit (debt and leverage) acceleration"[224] is synonymous with "liquidity exponentiation." It is, unfortunately, all too easy to see why this harmful phenomenon should be attractive to perversely incentivized financial institution decision makers, and to those paid to

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219. *Id.*

220. *See, e.g.*, Raghuram G. Rajan, *Has Financial Development Made the World Riskier?*, *in* THE GREENSPAN ERA: LESSONS FOR THE FUTURE 313, 316, 334–39 (2005), https://www.kansascityfed.org/publicat/sympos/2005/pdf/rajan2005.pdf.

221. *See, e.g.*, Robert DeYoung, Emma Y. Peng & Meng Yan, *Executive Compensation and Business Policy Choices at U.S. Commercial Banks*, 48 J. FIN. & QUANTITATIVE ANALYSIS 165 (2013); Jens Hagendorff & Francesco Vallascas, *CEO Pay Incentives and Risk-Taking: Evidence from Bank Acquisitions*, 17 J. CORP. FIN. 1078 (2011); Marc Chesney, Jacob Stromberg & Alexander F. Wagner, *Managerial Incentives to Take Asset Risk* (Swiss Fin. Inst., Research Paper No. 10-18, 2012), http://ssrn.com/abstract=1595343.

222. Adrian & Song Shin, *supra* note 60, at 436 (referring, as an example, to the U.S. subprime sector).

223. de Bandt, Hartmann & Peydró, *supra* note 14, at 688.

224. *Id.*

advocate on their behalf. It is not easy to understand why anyone else should celebrate it.

VI. DOMINO RISK

We confront the core argument proffered in favor of financial contract bankruptcy immunities. The confrontation may feel anticlimactic: notwithstanding its near-universal acceptance by policymakers, the argument does not withstand serious scrutiny.

The Guide provides the canonical statement in the bankruptcy law context:

> Without the ability to close out, net and set off obligations . . . a debtor's failure to perform its contract . . . could lead the counterparty to be unable to perform its related financial contracts with other market participants. The insolvency of a significant market participant could result in a series of defaults in back-to-back transactions, potentially causing financial distress to other market participants and, in the worst case, resulting in the financial collapse of other counterparties, including regulated financial institutions. This domino effect is often referred to as systemic risk, and is cited as a significant policy reason for permitting participants to close out, net and set off obligations in a way that normally would not be permitted by insolvency law. [225]

This is the "domino risk" view of systemic contagion: the failure by one institution to meet its obligations triggers a similar failure by one or more of its counterparties. Though never vindicated, the domino risk view has been so frequently asserted, and with so little contradiction, that it has become a truism.[226] In reality, however, the domino risk view, which is a product of the unsatisfactory microprudential approach to systemic risk, is theoretically implausible and empirically false.[227] Five of its assumptions are worth considering. It will become apparent that financial contract immunities, rationalized as protecting the system against phantom domino risk, end up contributing to real systemic risk through the mechanisms discussed above.

First, for the domino risk view to accurately describe the onset of a systemic crisis, the initial failure—the first domino to fall—would need to be implausibly large. While contagion can occur more rapidly in the banking sector than in others, there is no evidence in real-world scenarios that banking sector contagion would result in the failure of solvent banks, or

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225. LEGISLATIVE GUIDE, *supra* note 76, at 157.

226. This is a close paraphrase of Bliss & Kaufman, *supra* note 4, at 67.

227. For recent surveys of evidence about domino risk, see Xavier Freixas & Bruno M. Parigi, *Lender of Last Resort and Bank Closure Policy: A Post-Crisis Perspective*, *in* THE OXFORD HANDBOOK OF BANKING 474, 483–85 (Allen N. Berger, Philip Molyneux & John O.S. Wilson eds., 2d ed. 2015); de Bandt, Hartmann & Peydró, *supra* note 14, at 684–91. Some of the evidence explored in this Part draws on these surveys.

that, in and of itself, it would spread to the real economy.[228] For example, Craig Furfine runs various stress simulations on bilateral credit exposures arising from U.S. federal fund transactions "to explore the likely contagious impact of a significant bank failure."[229] He finds that:

> multiple rounds of failures are unlikely, and that aggregate assets at subsequently failing banks would never be expected to exceed 1% of total commercial banking assets when loss rates are kept to historically observed levels. . . . Overall, the results suggest that contagion resulting from direct interbank linkages does not necessarily present a system-wide threat to the U.S. banking system.[230]

Similarly, "plausible but extreme" stress tests of the Canadian banking sector, simulating credit losses totaling a million loan loss scenarios with a loss-given-default of 50 percent each during a severe recession, still do not result in domino risk.[231] These results in the United States and Canada are consistent with evidence from the Austrian,[232] Belgian,[233] Italian,[234] and UK[235] interbank markets, among others. The result generalizes: "[t]he domino model of contagion has been examined in many simulation studies conducted at several central banks, but the universal conclusion has been that the impact of the domino model of contagion is very small. It is only with implausibly large shocks that the simulations generate any meaningful contagion."[236]

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228. George G. Kaufman, *Bank Contagion: A Review of the Theory and Evidence*, 8 J. FIN. SERV. RES. 123, 139–43 (1994) (finding that, even in the absence of deposit insurance, average losses to individual depositor creditors are smaller than to creditors in nonbank industries).

229. Craig H. Furfine, *Interbank Exposures: Quantifying the Risk of Contagion*, 35 J. MONEY, CREDIT & BANKING 111, 125 (2003) [hereinafter Furfine, *Quantifying*].

230. *Id.* Furfine also notes that the 1998 Russian sovereign default and Long-Term Capital Management near-default, discussed *infra* in Part VII, while conceivably exposing banks to significant losses, did not spark off contagion. *See* Furfine, *Interbank*, *supra* note 197, at 810.

231. Céline Gauthier, Alfred Lehar & Moez Souissi, *Macroprudential Capital Requirements and Systemic Risk* 18 n.20 (Working Paper, Oct. 2011) http://prism.ucalgary.ca/jspui/bitstream/1880/47851/1/Lehar_bocpaper15academic_2010.pdf. The phrase quoted in the text here does not appear in the abbreviated published version.

232. *See generally* Helmut Elsinger, Alfred Lehar & Martin Summer, *Risk Assessment for Banking Systems*, 52 MGMT. SCI. 1301 (2006).

233. *See generally* Hans Degryse & Grégory Nguyen, *Interbank Exposures: An Empirical Examination of Contagion Risk in the Belgian Banking System*, INT'L J. CENT. BANKING, June 2007, at 123.

234. *See generally* Paolo Emilio Mistrulli, *Assessing Financial Contagion in the Interbank Market: Maximum Entropy Versus Observed Interbank Lending Patterns*, 35 J. BANKING & FIN. 1114 (2011).

235. *See generally* Helmut Elsinger, Alfred Lehar & Martin Summer, *Using Market Information for Banking System Risk Assessment*, INT'L J. CENT. BANKING, Mar. 2006, at 137, 137.

236. Tobias Adrian & Hyun Song Shin, *Liquidity and Financial Contagion*, FIN. STABILITY REV., Feb. 2008, at 1, 2–3.

Indeed, domino risk only materializes in models assuming an initial failure so large,[237] or another state of affairs so implausible,[238] as to have "a probability of zero," which leaves these models "devoid of any practical relevance."[239]

Second, and relatedly, the domino risk view underplays the importance of the intrinsic weakness of the institutions likely to be worst affected by any contagion. It has already been noted that banking-sector contagion does not result in the failure of healthy, solvent banks.[240] Even during the Chicago banking panic of 1932, the only banks to fail were weak prior to the onset of the panic, and in any case, the failures resulted from common asset value shocks rather than domino contagion.[241] Individual institutions contribute to systemic risk, not through their exposure to each other, but by how well they have addressed such exposure as part of their broader approach to risk. Contagion is more likely to result when financial institutions have been hollowed out because of the "overstretching" of capital and/or collateral, for example.

Third, and again relatedly, the domino risk view underestimates the relative importance of procyclical channels and associated vulnerabilities. As Furfine and others have noted:

> experience indicates that widespread financial system stress rarely arises from contagion or domino effects associated with the failure of an individual institution owing to purely institution-specific factors. More often, financial system problems have their roots in financial institutions underestimating their exposure to a common factor, most notably the financial/business cycle in the economy as a whole.[242]

It is because financial market participants fail to understand and/or respond appropriately to credit booms, frothy markets, and asset price bubbles, and because they contribute to associated failures in lending standards, that systemic risk matures into crisis. This observation is consistent with banking panics in the United States and the United

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237. Such as the failure of the aggregated European banking system excluding that of the Netherlands. *See generally* Iman van Lelyvelda & Franka Liedorp, *Interbank Contagion in the Dutch Banking Sector: A Sensitivity Analysis*, INT'L J. CENT. BANKING, June 2006, at 99.

238. Such as the absence of any financial safety net in Germany. *See generally* Christian Upper & Andreas Worms, *Estimating Bilateral Exposures in the German Interbank Market: Is There a Danger of Contagion?*, 48 EUR. ECON. REV. 827 (2004).

239. Christian Upper, *Simulation Methods to Assess the Danger of Contagion in Interbank Markets*, 7 J. FIN. STABILITY 111, 118 (2011).

240. Kaufman, *supra* note 228, at 139–43. Banks and other financial firms are generally sufficiently diversified to withstand the bankruptcy of any particular counterparty. *See, e.g.*, Jean Helwege, *Financial Firm Bankruptcy and Systemic Risk*, 20 J. INT'L FIN. MKTS. INSTITUTIONS & MONEY 1, 4–7 (2010).

241. Charles W. Calomiris & Joseph R. Mason, *Contagion and Bank Failures During the Great Depression: The June 1932 Chicago Banking Panic*, 87 AM. ECON. REV. 863, 881 (1997).

242. Borio, Furfine & Lowe, *supra* note 39, at 5.

Kingdom,[243] and from the U.S. subprime crisis in 2007.[244] The lesson for financial contract immunities seems clear: they are undesirable since they are strongly procyclical and conducive to many of the vulnerabilities just noted.

Fourth, the domino risk view ignores the effect of information contagion, which is associated with market opacity and excessive uncertainty. Furfine's work provides a useful example.[245] He identifies liquidity shocks arising from information contagion, which he models as a rumor about the largest lender in the market that leads all other banks to refrain from lending to it, and in turn to the largest lender lending to anyone else,[246] as a more important concern:

> Simulations of the sudden illiquidity of a major institution suggest that the potential for illiquidity contagion is greater than failure contagion. Although the simulations are likely to overstate the likely effects, the sudden illiquidity of the largest federal funds borrower was estimated to spread to banks holding up to 9% of industry assets.[247]

This counts against bankruptcy immunities, which increase uncertainty in the markets by dulling counterparties' incentives to gather information ex ante and to monitor and seek to moderate borrower behavior over the duration of the transaction.

Fifth, returning to the failure of very large institutions, the domino risk view ignores the role of asset value contagion. For the dominos to start falling, the initial failure would have to be very, indeed "implausibly," large.[248] The larger the distressed borrower, however, the more likely the amplifying effect of asset disposals, as the borrower itself bids for liquidity, and as its counterparties attempt to minimize losses. The implication for our purposes is that the larger the distressed entity, the *less* appropriate the bankruptcy immunities are in relation to it. It is not domino risk but asset value deterioration—from the bursting of bubbles, the melting away of froth, and/or asset value contagion—that precipitates a systemic crisis.[249]

> The financial crisis of 2008 onward has changed our view of how a systemic banking problem can emerge. Before the crisis, the conventional wisdom was that the main mechanism was the "domino effect", whereby

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243. *See generally* Gorton, *supra* note 47; R. H. INGLIS PALGRAVE, DICTIONARY OF POLITICAL ECONOMY (1894). Both are cited by Borio, Furfine & Lowe, *supra* note 39, at 5 n.11.

244. *See generally* Adrian & Song Shin, *supra* note 60.

245. For another example, see Eric Santor, *Banking Crises and Contagion: Empirical Evidence* (Bank of Can., Working Paper No. 2003-1, 2003), http://www.bankofcanada.ca/wp-content/uploads/2010/02/wp03-1.pdf.

246. Furfine, *Quantifying*, *supra* note 229, at 123.

247. *Id.* at 125.

248. Even the failure of the entire derivatives market would be unlikely to impair any critical financial system function. *See* Schwarcz, *Derivatives*, *supra* note 4, at 713–15.

249. For empirical evidence from the Canadian banking sector, see generally Gauthier, Lehar & Souissi, *supra* note 16.

> the default of one bank generated both a change in depositors' and investors' confidence in the banking system as well as losses and illiquidity for the banks that were the defaulting banks' creditors. The current crisis has shown that the decrease in the prices of the assets the banks were holding . . . was the main driving force.[250]

"The main conclusion of the literature," agrees another trio of economists, "is that contagion is usually not a serious risk provided there are not significant price movements in response to the turmoil. If there are, . . . then contagion effects can be significant."[251] This improved understanding of the nature of systemic risk has increasingly been acknowledged by regulators,[252] and has resulted in the new requirement for regimes designed to resolve major distressed financial institutions to incorporate moratoria on close-out netting and thus collateral disposals.[253] Even ISDA, the powerful financial market lobbying group that has played a critical and troubling role in legislative entrenchment of the immunities around the world,[254] has now performed something of a volte-face and acknowledges that cross-border recognition of moratoria on close-out netting reduces systemic risk.[255]

The conclusion is obvious. Financial contract immunities have been rationalized as protecting against domino risk. The evidence discussed in this Part shows that there is simply no basis on which they should be applied to most firms in the economy, which on any view are nowhere near large enough to set the dominos falling.[256] Any conceivable domino risk, while still fanciful, could only be associated with the failure of the largest firms. It is precisely in relation to these very large firms that the immunities

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250. Freixas & Parigi, *supra* note 227, at 483.

251. Franklin Allen, Elena Carletti & Xian Gu, *The Role of Banks in Financial Systems*, *in* THE OXFORD HANDBOOK OF BANKING 27, 38 (Allen N. Berger, Philip Molyneux & John O.S. Wilson eds., 2d ed. 2015).

252. The process began with the BANK FOR INT'L SETTLEMENTS, BASEL COMM. ON BANKING SUPERVISION, REPORT AND RECOMMENDATIONS OF THE CROSS-BORDER BANK RESOLUTION GROUP para. 115 (2010) [hereinafter BASEL REPORT], http://www.bis.org/publ/bcbs169.pdf.

253. FIN. STABILITY BD., KEY ATTRIBUTES OF EFFECTIVE RESOLUTION REGIMES FOR FINANCIAL INSTITUTIONS 10, 51, 64 (2014) [hereinafter FIN. STABILITY BD., KEY ATTRIBUTES], http://www.financialstabilityboard.org/wp-content/uploads/r_141015.pdf; FCD, *supra* note 136, art. 1(6); WORLD BANK PRINCIPLES, *supra* note 76, at 21.

254. *See infra* Part VII.

255. ISDA now promotes a "Resolution Stay Protocol" that effectively amends the ISDA Master Agreements, the industry standard, to incorporate recognition in one jurisdiction of moratoria on contractual termination rights imposed by a relevant resolution regime in a different jurisdiction. It describes this as "a major step in strengthening systemic stability and reducing the risk that banks are considered 'too big to fail.'" *See Major Banks Agree to Sign ISDA Resolution Stay Protocol*, ISDA (Oct. 11, 2014), http://www2.isda.org/news/major-banks-agree-to-sign-isda-resolution-stay-protocol. For a discussion of some of the limitations of the Protocol, see, for example, Mevorach, *supra* note 105.

256. For belated regulatory recognition of the obvious fact that the fate of most firms in the economy, considered in and of themselves, does not implicate systemic risk, see BCBS & IOSCO, MARGIN REQUIREMENTS, *supra* note 122, at 20–22.

must be curtailed to dampen asset value contagion, which is all too real. It follows that the domino risk-based rationalization of the immunities applies to a null set. While privately beneficial to individual financial institutions operating in generally stable markets that must respond to a counterparty's distress, they do not play any role in mitigating systemic risk.

VII. HOW THE IMMUNITIES DEVELOPED: AN INTERNATIONAL PATH-DEPENDENCE FRAMEWORK

We now have a puzzle to solve. Over the last many years, policymakers in some of the most sophisticated economies in the world have come to accept the financial contract immunities. The core justification offered for them, that they mitigate systemic domino risk, is without merit. This fact, while particularly obvious in the wake of the 2007–2009 crisis, has been known to the relevant policymakers all along.[257] Given these observations, the puzzle is to understand how regulators and policymakers were persuaded that bankruptcy regimes should be distorted to accord privileged treatment to dominant financial market players whose decision makers derive the greatest benefit from them.

Defenders of financial contract immunities tell a triumphalist tale. They argue that the immunities have facilitated cross-border harmonization and thus enabled market participants to access assets across boundaries. Measures, of which the FCD is most prominent, have "somehow silently overcom[e] statutory legal hurdles from which parties traditionally could not derogate," creating "a harmonised legal space in which financial institutions can source and use collateral quasi-globally," and thus, there has been a consequent reduction in "the importance of domestic policy towards insolvency," a reduction, indeed, in "the importance of legal considerations in risk management to a significant extent."[258] Since the observation about "silent" legal harmonization is proffered as part of a justificatory argument, it should presumably be understood as suggesting that the immunities' welfare-enhancing qualities have won over national decision makers.

A debunking explanation is more plausible. After all, it may be dispiriting, but is not very surprising, that some of the world's most well-resourced interest groups have managed to win "silent" expansions of unique legal privileges, which, it should be clear by now, are really just immunities exempting compliance with the rules applicable to everyone else. The U.S. process by which these immunities were won has been illuminatingly analyzed within a path-dependence framework.[259] This may

257. *See, e.g.*, Adrian & Song Shin, *supra* note 60, 2–3. Further evidence for this assertion is provided in the discussion in this Part.

258. Paech, *supra* note 5, at 16–17.

259. *See generally* Schwarcz & Sharon, *supra* note 4; *see also* Mark J. Roe, Commentary, *Chaos and Evolution in Law and Economics*, 109 HARV. L. REV. 641 (1996).

be adapted for and supplemented from an international perspective. Attention will also be drawn to the costs of this process, which characteristically do not receive any recognition from immunity apologists.

In this context, the basic path-dependence mechanisms are the following: financial innovation gains recognition through a liberalizing (i.e., deregulatory) change in the law, thus enhancing the power of particular interest groups. Being sufficiently concentrated and/or resourced, such groups then wield this power systematically to shape subsequent legal development, with each incremental unit of change further entrenching or enhancing their advantage. Each change gets locked in, and regarded thereafter as representing the uniquely correct "norm." Alternative paths for legal development are obscured and their discovery is subjected to increasing informational, political, and reputational costs. For financial contracts in particular, the obscuring of alternatives operates through emphasis on the complexity, sophistication, and esotericism of the instruments, and the sheer scale of the markets.[260] In the international context, national policymakers are pushed down the favored path through comparisons with sophisticated markets and through regional competitiveness considerations. In short, the path-dependency framework enables an understanding of legal change with no necessary reference either to social welfare or, indeed, to fairness considerations. The demonstration that things *have* turned out thus, may be cleaved apart from the claim that this is how they *ought* to have turned out.[261]

A. THE U.S. GENESIS AND THE DISMISSAL OF ASSET VALUE CONTAGION

The current status in U.S. law of financial contract immunities is aptly described as "an outcome of decades of sustained industry pressure on Congress to exempt the derivatives market from the reach of the Bankruptcy Code, with each exemption serving as a historical justification for subsequent broader exemptions."[262]

The process began in 1978 when Congress accepted untested assertions by industry representatives about systemic domino risks in the commodities futures market. As a result, the Bankruptcy Code included a relatively narrow exemption from the moratorium for set-off and another from

260. Financial contract immunities in the United States "were sought on the theory that certain relatively esoteric markets were so international in nature and so removed from ordinary commerce that they required bankruptcy exemption to function properly and would not interfere in the ordinary functioning of the bankruptcy laws." *Exemption of Financial Assets from Bankruptcy*, *Hearing Before the H. Subcomm. on Commercial & Admin. Law of the H. Comm. of the Judiciary*, 110th Cong. 67 (2008) (testimony of Jay L. Westbrook, Benno C. Schmidt Chair of Business Law, Univ. of Texas School of Law).

261. *See* Schwarcz & Sharon, *supra* note 4, at 1750.

262. *Id.* at 1724.

avoidance powers.[263] Congress, though, apparently envisaged that the bankruptcy court would have the power to stay a set-off on the basis that it would harm an estate.[264] In 1982, contractual termination immunities were made available to securities and derivatives contracts, with no court power to stay termination. Further, what in 1978 had been declared potential domino risks were promoted in importance, and were now described as threats of a market collapse.[265] In 1984, narrow repo immunities were added, giving lenders the additional power to liquidate collateral.[266] In 1990, ISDA endorsed netting immunities for swaps, citing prior Congressional recognition of the need for certainty and speed in financial contracts, and claiming that previous immunities had worked well.[267] ISDA has formally stated that it played a leading role in the drafting of these immunizing provisions.[268]

In the summer of 1998, the near collapse of the Long-Term Capital Management hedge fund (LTCM) and its bailout by its fourteen main creditors at the behest of the New York Federal Reserve (the Fed) proved particularly—and paradoxically—significant to this development. The circumstances of the bailout are worth recalling. The President of the Fed, testifying to Congress only a few weeks later, explained how LTCM's collapse would have "pose[d] unacceptable risks to the American economy."[269] The reasoning is directly pertinent, yet appears to have been lost in much subsequent debate:[270]

> Had Long-Term Capital been suddenly put into default, its counterparties would have immediately "closed-out" their positions. If counterparties would have been able to close-out their positions at existing market prices, losses, if any, would have been minimal. However, if many firms had rushed to close-out hundreds of billions of dollars in transactions simultaneously, they would have been unable to liquidate collateral or establish offsetting positions at the previously-existing prices. Markets would have moved sharply and losses would have been exaggerated. Several billion dollars of losses might have been experienced by some of Long-Term Capital's more than 75 counterparties. . . .

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263. *Id.* at 1724–26.
264. *Id.* at 1726.
265. *Id.* at 1727–28.
266. *Id.* at 1728–29.
267. *Id.* at 1729–31.
268. *See id.* at 1729–31, 1741 n.154.
269. *Private-Sector Refinancing of the Large Hedge Fund, Long-Term Capital Management, Hearing Before the H. Comm. on Banking and Financial Services*, 105th Cong. 30 (1998) (statement of William J. McDonough, President, Federal Reserve Bank of New York) [hereinafter *Refinancing Hearing*]. The statement as a whole is worth reading, and strongly underlines the driving real-time motivation to avoid systemic fallout from widespread close-out netting.
270. It is reproduced by Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 201 (2008) [hereinafter Schwarcz, *Systemic Risk*].

> [T]hese direct effects on Long-Term Capital's counterparties were not our principal concern. While these losses would have been considerable, and would certainly have adversely affected the firms experiencing them, this was not, in itself, a sufficient reason for us to become involved.
>
> Two factors influenced our involvement. First, in the rush of Long-Term Capital's counterparties to close-out their positions, other market participants, investors who had no dealings with Long-Term Capital, would have been affected as well.
>
> Second, as losses spread to other market participants and Long-Term Capital's counterparties, this would lead to tremendous uncertainty about how far prices would move. Under these circumstances, there was a likelihood that a number of credit and interest rate markets would experience extreme price moves and possibly cease to function for a period of one or more days and maybe longer. This would have caused a vicious cycle: a loss of investor confidence, leading to a rush out of private credits, leading to a further widening of credit spreads, leading to further liquidations of positions, and so on. Most importantly, this would have led to further increases in the cost of capital to American businesses.[271]

This textbook statement of the risk of asset value contagion clearly underlines how *then existing immunities served as amplifiers*, nearly precipitating a systemic crisis and forcing the Fed's hand. In normal times, when markets are stable, close-out and asset realization immunities are privately beneficial for individual counterparties who can liquidate the collateral they hold in a value-preserving manner. By contrast, simultaneous liquidation of significant quantities of collateral triggers a collective action problem as collateral values collapse. While such disorderly simultaneous liquidation would have inflicted massive losses on the seventy-five LTCM counterparties, these *private* losses to consenting trading partners did not in themselves justify the Fed's intervention. The primary justification was the prevention of *social* losses, including for those market participants who had not chosen to deal with LTCM and, more broadly, the loss of market confidence that would trigger further liquidations, thus setting up a vicious feedback loop. As a result, the real economy would have suffered a general increase in the cost of credit. Therefore, it was the risk of these social costs that justified the Fed's involvement.

LTCM's fate showed that close-out and attendant collateral disposal immunities can generate significant externalities, reducing market liquidity precisely at the point when it is most needed, and thus amplifying systemic risk. Nor was LTCM unique in driving this point home. Referring to the near-collapse under similar circumstances of a Japanese bank, the Long-Term Credit Bank of Japan, Ltd. (LTCB), a 2001 Group of Ten (G-10) report recognized close-out netting immunities as an amplifier of systemic

271. *See Refinancing Hearing*, *supra* note 269, at 33–34.

risk, stating that "although arrangements like close-out netting would contribute to reducing credit risks, actual execution may result in higher volatility and thus greater market risk, despite the fact that risk management efforts at individual institutions are completely rational."[272] There is unintended comedy in the observation that close-out netting arrangements reduce risk except if and when they are *actually implemented*, presumably together with collateral disposals. However, the observation should charitably be understood as referencing the collective action problem: close-out may be *individually* rational, yet prove *systemically* disastrous.

Against this background, one might naively think that the U.S. regulatory response to LTCM would be to shrink bankruptcy immunities as a bulwark against asset value contagion. In fact, the President's Working Group on Financial Markets turned the Fed's understanding of the systemic crisis precipitant on its head. It ignored the dynamic value-depressing role of mass collateral liquidation, particularly in falling markets, and focused exclusively on the static benefit of close-out netting to individuals operating in stable markets. On that basis, it simply asserted that the "ability to terminate most financial market contracts upon an event of default is central to the effective management of market risk by financial market participants."[273] This is the fallacy of composition writ large: the President's Working Group tells us that since it may be useful for a seated spectator whose view of the game is obscured to stand up, it follows that all of the spectators at the event would improve their view by simultaneously rising from their seats. *Even if* close-out netting were individually risk reducing, it does not follow, and is not the case, that it is systemically risk reducing. That this fallacy makes an appearance in this context is doubly remarkable. The extent, if any, to which industry lobbying played a role in standing on its head the Fed's understanding of the effects of close-out netting and resulting collateral disposals, is a matter for historians of financial regulation.[274]

Be that as it may, the recommendations of the President's Working Group were reflected in the Bankruptcy Abuse Prevention and Consumer Act of 2005 (BAPCA). Around the time that some of the lessons from the LTCM crisis were being rehearsed by no less a figure than Alan Greenspan,

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272. Report on Consolidation, *supra* note 18, at 167.

273. PRESIDENT'S WORKING GRP. ON FIN. MKTS., *supra* note 178, at 19 (cited by Schwarcz & Sharon, *supra* note 4, at 1732 n.93). The reader is referred to the Working Group's three-paragraph hand-waving acknowledgement of, and nonresponse to, what this Article refers to as the dynamic value-depressing role of mass collateral liquidation. *Id.* at 20–21.

274. As part of its international lobbying efforts, ISDA has stated that it "assisted" the President's Working Group. *See, e.g.*, Letter from Jacqueline Low, Co-Chair of ISDA's Asia-Pacific Legal & Regulatory Comm., Int'l Swaps & Derivatives Ass'n, & Angela Papesch, Dir. of Policy & Head of ISDA's Asia-Pacific Office, Int'l Swaps & Derivatives Ass'n, respectively, to Legal Affairs Senior Pub. Prosecutor, Ministry of Justice (Jan. 30, 2006).

then Chairman of the Federal Reserve Board,[275] the BAPCA wrought five notable changes in the opposite direction.[276] First, bankruptcy immunities were extended to cover virtually the complete range of financial contracts, and in addition, also included catch-all clauses for contracts "similar to any agreement or transaction referred to" or "any other similar agreement."[277] Second, repos and reverse repos were explicitly covered, thus excluding them from the risk of recharacterization as standard secured loans.[278] Third, margin loans were accorded immunity so long as they involved the extension of credit for the purchase, sale, carrying, or trading of securities.[279] Fourth, cross-product netting was allowed if covered by a single master agreement.[280] Fifth, and relatedly, the full range of these broadened immunities extended beyond financial institutions to "financial participants" and "master netting agreement participants."[281] The cumulative effect, rationalized by reference to now-familiar systemic risk considerations, was to provide virtually complete bankruptcy immunity to close-out netting arrangements.[282] ISDA once again proposed language and provided other drafting support.[283]

The U.S. legislature was not yet done. In 2006, the systemic risk rationale received one more outing, when the Financial Netting Improvements Act further strengthened close-out netting immunities.[284]

At each stage of this process, interest groups persuaded legislatures and some regulators to accept unjustified assertions about the necessity to systemic stability of close-out netting immunities—some, as in the LTCM and LTCB cases, flying directly in the face of reasoned regulatory judgments acknowledged at national and international levels. At each step,

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275. *See* Alan Greenspan, Chairman, Fed. Reserve Bd., Address at the Forty-first Annual Conference on Bank Structure (May 5, 2005).

> [W]hen counterparties hold very large net positions in illiquid markets, as the hedge fund Long-Term Capital Management (LTCM) did in 1998, the effectiveness of collateral as a risk mitigant may be reduced significantly. In such circumstances, when the nondefaulting counterparties seek to close out their positions with a defaulting counterparty, those actions can cause market prices to move rapidly in directions that may amplify losses to levels significantly exceeding even very conservative collateral requirements.

Id. Remarkably, Greenspan had been a member of the President's Working Group.

276. *See generally* Michael Krimminger, *The Evolution of U.S. Insolvency Law for Financial Market Contracts* 15–18 (June 13, 2006), http://ssrn.com/abstract=916345.

277. *Id.* at 16; 11 U.S.C. § 1821(e)(8)(D)(ii)(I)–(II) (2012).

278. 11 U.S.C. § 1821(e)(8)(D)(ii)(I).

279. Krimminger, *supra* note 276, at 17; 11 U.S.C. § 1821(e)(8)(D)(ii)(V).

280. Krimminger, *supra* note 276, at 18; 11 U.S.C. § 1821(e)(8)(D)(vii).

281. Krimminger, *supra* note 276, at 18; 11 U.S.C. § 553(o).

282. Schwarcz & Sharon, *supra* note 4, at 1735.

283. *Id.* at 1741.

284. *See id.* at 1736.

the purported rationale was increasingly enlarged in scope and shorn of qualification.

B. CROSS-BORDER CONTAGION

The international process by which the immunities expanded is similar. Three further points should be noted here, using examples of ISDA lobbying in Asia and from the process of formulation of "best practice" guidance: (i) the use of the U.S. developments outlined above;[285] (ii) international competitiveness considerations; and (iii) the raising of informational and reputational costs.

Industry advocacy groups have repeatedly cited developments in the United States in lobbying other governments for privileged treatment. In terms of the path-dependence framework, the intention is to lock in the advantages internationally that have been secured in one influential jurisdiction. Often coupled with this is the reminder that regional competitors are embarking to establish financial contract immunities, so that failure to follow suit would harm the local economy. The result can be seen as a deregulatory race to the bottom.

The first example is from Malaysia, where Bank Negara, the central bank, had been proposing implementation of a moratorium on close-out netting upon the appointment of a "special administrator" or "conservator" for a distressed financial contract counterparty.[286] Under the general law, the moratorium could extend to twelve months.[287] Over a protracted exchange between 2006 and 2010, ISDA sought to persuade the Malaysian authorities away from this course.[288] A July 2006 letter provides a taster: citing the BAPCA amendments as a model and enclosing three pages of legislative wording "purely for purposes of discussion," ISDA sought a complete immunity for the full range—twenty-one categories both specific and general—of financial contracts.[289]

Malaysian authorities seemed persuaded that the U.S. experience provided a model for them to consider. They turned not to the BAPCA, however, but to the Federal Deposit Insurance Act (FDI).[290] Seeking to adapt the FDI tools to local circumstances, the Malaysian Deposit Insurance Corporation (the Corporation) proposed to reserve to itself the power to

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285. *See supra* Part VII.A.

286. Letter from Jacqueline Low, Co-Chair of ISDA's Asia-Pacific Legal & Regulatory Comm., Int'l Swaps & Derivatives Ass'n, & Angela Papesch, Dir. of Policy & Head of ISDA's Asia-Pacific Office, Int'l Swaps & Derivatives Ass'n, to Gopal Sundaram, Bank Negara Malay. (July 13, 2006).

287. *See id.*

288. *See id.*

289. *Id.*

290. Letter from David Geen, European Gen. Counsel, Int'l Swaps & Derivatives Ass'n, & Bay Way Yee, Asia Pacific Dir. of Policy, Int'l Swaps & Derivatives Ass'n, to Lim Yam Poh, Gen. Counsel, Perbadanan Insurans Deposit Malay. (Sept. 10, 2007).

enforce or repudiate financial contracts within a reasonable time.[291] The proposal was to reserve this power in resolution or bankruptcy proceedings in relation both to depository institutions and to their nonbank, financial institution counterparties. In a September 2007 letter to the Corporation, ISDA objected to the latter on the basis that it was not justified by reference to the protection of the deposit insurance scheme.[292] ISDA also objected that whereas the FDI process had come to be well understood and respected in the U.S. market, the introduction of the proposed process "into a new, untested, statutory regime [could] . . . foreseeably and understandably give rise to concerns among ISDA members about how it is to be implemented."[293] ISDA also warned that imposition of a reasonable time requirement on close-out "might dissuade foreign counterparties from entering into transactions."[294] The Malaysian authorities would have been left in no doubt that new and untested regimes imported from foreign jurisdictions are not all alike. Their resistance was progressively whittled down over subsequent years.[295]

The Republic of Korea provides another example. Addressing the Ministry of Justice in 2006, ISDA officeholders commended the country's forthcoming Debtor Rehabilitation and Bankruptcy Law, which proposed to implement certain immunities.[296] They pointed out that ISDA had assisted not only the U.S. Presidential Working Group, but also the central banks of Malaysia, India, and China, in designing netting-protective legislative provisions.[297] With its credentials thus established and regional trade competitors referenced, ISDA cited the 2005 BAPCA expansions to request similar all-inclusive coverage of similar types of contracts and counterparties.[298] Otherwise, the letter noted that the Korean law would soon be out of date, thus demanding legislative attention all over again.[299] A

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291. *See id.*
292. *See id.*
293. *Id.*
294. *Id.*
295. For a taste of the process, see, for example, Letter from Angela Papesch, Dir. of Policy & Head of Sing. Office, Int'l Swaps & Derivatives Ass'n, & Jacqueline Low, Senior Counsel Asia, Int'l Swaps & Derivatives Ass'n, to Lim Yam Poh, Gen. Counsel, Perbadanan Insurans Deposit Malay. (Aug. 7, 2008); Letter from Angela Papesch, Dir. of Policy & Head of Sing. Office, Int'l Swaps & Derivatives Ass'n, & Jacqueline Low, Senior Counsel Asia, Int'l Swaps & Derivatives Ass'n, respectively, to Mohd Isa Hussain, Deputy Under Sec'y, Ministry of Fin. Malay. (Sept. 12, 2008); Letter from Keith Noyes, Reg'l Dir., Asia Pacific, Int'l Swaps & Derivatives Ass'n, & Jacqueline Low, Senior Counsel Asia, Int'l Swaps & Derivatives Ass'n, respectively, to Lim Lee Na & Lim Tai Ching, Perpadanan Insurans Deposit Malay. (July 30, 2010).
296. Letter from Jacqueline Low, Co-Chair of ISDA's Asia-Pacific Legal & Regulatory Comm., Int'l Swaps & Derivatives Ass'n, & Angela Papesch, Dir. of Policy & Head of ISDA's Asia-Pacific Office, Int'l Swaps & Derivatives Ass'n, to Legal Affairs Senior Public Prosecutor, Ministry of Justice, S. Kor. (Jan. 30, 2006).
297. *Id.*
298. *Id.*
299. *Id.*

schedule attached to the letter marked up ISDA's suggested wording on the relevant provisions of the draft law.[300] In September of the same year, ISDA addressed the country's bank supervision authority, noting that Singapore and Hong Kong had provided capital relief following recognition of close-out netting, as had the United States, United Kingdom, and Japan, and offering assistance in designing similar treatment in Korea.[301]

These instances[302] exhibit the same process of inciting this deregulatory race to the bottom. Immunities are "silently" entrenched by global reach, unremitting persistence, loudly proclaimed repeat-player status, claimed technical expertise—including, least plausibly, in the determinants of systemic risk—and encompassing this all, brute financial power:

> ISDA is a powerful association which represents the largest financial institutions and their clients engaged in the derivatives market. . . . As well as the lobbying power which it can exercise alongside its individual members, ISDA uses its own expert power and that of the law firms which it employs in different parts of the world. . . . It pressurizes governments to establish a legislative basis for derivatives trading along the lines of the ISDA Master Agreement and the Model Netting Act. Further it is concerned that this should be put in place even if it is at the expense of other actors in the system, as is most obvious in terms of bankruptcy rules and regulations and the use of netting procedures. Other concerns about derivatives such as their proximity to gambling, their contribution to speculation and financial instability, their centrality to increasing levels of inequality and reward between top earners in the financial sector and the rest of the population, are swept aside as irrelevant to the basic technical problem of how to ensure that the market works properly for its participants. The agenda is set and potentially discomforting debates placed at the margins of public discourse.[303]

Sub-Parts C and D directly examine the mechanisms by which these socially critical, but for dominant financial market players, "potentially discomforting" debates are marginalized.

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300. *Id.*

301. Letter from Tricia Bowden, Chair of ISDA's Asia-Pacific Legal & Regulatory Comm., Int'l Swaps & Derivatives Ass'n, & Angela Papesch, Dir. of Policy & Head of ISDA's Asia-Pacific Office, Int'l Swaps & Derivatives Ass'n, to Kim Jong Min, Mgmt. Guidance Team, Bank Supervision Dep't of Fin. Supervisory Serv., S. Kor. (Sept. 15, 2006).

302. There have been several other such instances. *See, e.g.*, Hong Kong and Israel. Letter from Keith Notes, Reg'l Dir. Asia Pacific, Int'l Swaps & Derivatives Ass'n, & Jing Gu, Assistant Gen. Counsel Asia, Int'l Swaps & Derivatives Ass'n, to The Hong Kong Fin. Servs. & Treasury Bureau (Jan. 27, 2010); Letter from Peter M. Werner, Policy Dir., Int'l Swaps & Derivatives Ass'n, to Davida Lachman-Messer, Deputy Attorney-Gen., Ministry of Justice, Isr. (July 28, 2005).

303. Glenn Morgan, *Market Formation and Governance in International Financial Markets: The Case of OTC Derivatives*, 61 HUMAN RELATIONS 637, 656 (2008).

C. INFORMATIONAL BURDENS

We have noted that the U.S. President's Working Group, which reported on the lessons from the LTCM crisis, overturned the actual basis on which the Fed felt compelled to intervene. The report also failed to address views challenging bankruptcy immunities, including those from the National Bankruptcy Conference. [304] Indeed, there was not even acknowledgement of the existence of such views. This pattern of exclusion of alternative views repeats in the formulation of international best practice standards. Consider two relevant instruments: UNCITRAL's Guide and the UNIDROIT Netting Principles.

UNCITRAL's Guide provides detailed guidance on the creation of a domestic bankruptcy regime. Its "Commentary" sections list the varying approaches to each issue that legislators must resolve. The Guide engages in a painstaking analysis of these approaches, weighing up the pros and cons. Then, in its "Recommendations" sections, the Guide identifies the approach supported by the weightiest reasons, all things considered. This is true even in relation to such paradigmatic bankruptcy institutions as the moratorium and the avoidance mechanisms.[305] The sole exception to this reasoned approach in its hundreds of pages is the section on "Financial contracts and netting."[306] In four brief pages, the Guide lists, without analysis, the alleged systemic risk-reduction justifications routinely proffered on behalf of bankruptcy immunities before proceeding to recommend the most widely conceived immunities reminiscent of those introduced by the BAPCA.[307] While the Guide mentions a couple of minor variants for entrenching immunities, no alternatives to the immunities themselves are considered, and there is no identification of any costs associated with them. The reader is left with the impression that, uniquely amongst all of the myriad issues requiring resolution in the design of a bankruptcy regime, there is no downside to implementing the widest financial contract immunities. It is also here that we encounter the sole Recommendation in the Guide lacking any explanation whatsoever in the preceding Commentary.[308] This neatly symbolizes the tendency of the immunities to outstrip whatever justifications are proffered for them.

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304. Schwarcz & Sharon, *supra* note 4, at 1735–36, 1740.

305. *See* LEGISLATIVE GUIDE, *supra* note 76, at 83–103 (carefully charting the nuances of various aspects of the moratorium, on its application in liquidation and reorganization, on the extent to which it should apply to unsecured and secured creditors, and on how it might be lifted). Mutatis mutandis on avoidance. *Id.* at 135. Similarly, the discussion on avoidance provisions highlights the potential costs for contractual predictability and certainty, as well as the need to strike a balance between the interests of the estate and those of counterparties. *Id.* at 135–55.

306. *Id.* at 156–59.

307. *See id.*

308. Recommendation 103 requires the solvent counterparty, in the wake of close-out netting, to be given the power to liquidate its collateral. *See id.* at 159 and accompanying commentary at 156–58. I owe this point to Monica Marcucci.

While UNCITRAL drafted the Guide prior to the 2007–2009 crisis, UNIDROIT's Netting Principles appeared well after it. By this time, regulators were allowing themselves to rediscover that, in distress scenarios, the risk of asset value contagion means close-out netting and collateral disposal can do more systemic harm than good.[309] Accordingly, the FSB, while requiring respect for close-out netting rights, recommended that they be subject to a brief stay to facilitate orderly resolution of distressed systemically important financial institutions.[310] UNIDROIT's Netting Principles delicately note this "emerging international regulatory consensus" about asset value contagion[311] and make space for the sort of brief stay the FSB requires.[312] This, however, is the sole concession to the possibility that close-out netting might have any costs whatsoever, and even here, the document appears oblivious to the actual mechanics of asset value contagion as identified by Fisher,[313] the Fed,[314] Greenspan,[315] and the G-10.[316] It states that "[i]n deteriorating market conditions, the ability to terminate contracts and thus to limit exposures is important in guarding against the situation where the failure by one of the parties to perform its obligations causes its counterparty likewise to become unable to perform its obligations vis-à-vis third parties."[317] If the objective is to reduce systemic risk, "deteriorating market conditions" present just about the worst circumstances in which to allow unimpeded close-out netting and consequent asset disposals. The positions taken in the document closely resemble the derivatives industry's perspective, and it is difficult to distinguish most of them substantively from those championed in that industry's advocacy documents.[318] That immunities mitigate systemic risk is asserted or assumed no fewer than twelve times on ten of the document's sixty-seven pages.[319] The document stipulates a level of what it calls "minimum harmonization," under which close-out netting provisions in a very wide range of contract types are exempted from the normal operation

309. *See* BASEL REPORT, *supra* note 252, para 115.

310. FIN. STABILITY BD., KEY ATTRIBUTES, *supra* note 253, 3.2(xi), 4.1–4.4, I-Annex 5.

311. The document refers to "some concern" amongst regulators about the costs of close-out netting and claim that "regulatory authorities have contemplated the need for a brief stay . . . in certain situations." UNIDROIT NETTING PRINCIPLES, *supra* note 7, at 3–5. In fact, as noted, the regulators' rediscovery of the asset value contagion mechanism goes beyond an abstract "concern," and accordingly, the FSB Key Attributes do a little bit more than merely "contemplating" a brief stay on close-out netting. *Id.*

312. *Id.* princ. 8, at 63.

313. Fisher, *supra* note 36, at 341–42, 344.

314. *Refinancing Hearing*, *supra* note 269, at 33–34.

315. *See generally* Greenspan, *supra* note 275.

316. Report on Consolidation, *supra* note 18, at 167.

317. UNIDROIT NETTING PRINCIPLES, *supra* note 7, at 28.

318. *See, e.g.*, Memorandum from the Int'l Swaps & Derivatives Ass'n on the Implementation of Netting Legislation: A Guide for Legislators and Other Policy-Makers (Mar. 2006), https://www2.isda.org/attachment/MjM4NQ==/Memo-Model-Netting-Act.pdf.

319. UNIDROIT NETTING PRINCIPLES, *supra* note 7, at 3, 9, 20, 22–24, 28, 30, 37–38, 52.

of bankruptcy and bank resolution laws, so long as one of the parties is an authorized financial market participant or a public authority, and the other is not a natural person acting primarily for personal, family, or household purposes.[320] The document emphasizes that there is no "maximum scope of harmonisation," and national authorities are repeatedly reminded—no fewer than fourteen times—of their right to extend the scope of the immunities even further.[321] Again, and apart from the FSB-mandated exception, a reader of the document would likely conclude that, uniquely amongst legal phenomena, unhindered close-out netting has no costs, just benefits. The impression is of an advertisement telling you to buy stocks if you want to get rich, and repeatedly reminding you that you can always buy even more stocks, presumably in case you wished to get even richer.

The reader must not think that those drafting the UNIDROIT Netting Principles were simply unaware of the extensive regulatory and scholarly literature on the costs of close-out netting. It appears that members of the study group who undertook the groundwork and prepared the first iterations of the document drew attention to material exploring those costs, but were unable to surmount the informational barriers to bringing these critical considerations to bear on the drafting process. The chairman of the UNIDROIT study group has lamented that "preparatory studies, and the final explanatory memorandum accompanying the UNIDROIT Draft Principles . . . submitted to Member States did not contain a single reference to critical legal and economic studies of netting superpriorities, despite specific requests made during the works of the Study Group."[322]

This is consistent with the "Select Bibliography" made available on UNIDROIT's website in relation to its netting document.[323] Only six items are listed from just five authors, one of whom is an ISDA officeholder explicitly providing "ISDA's perspective."[324] The criteria for the selection of these particular items are as mysterious as those for all of the exclusions.

D. REPUTATIONAL COSTS

Reputational costs arise when those seeking to highlight the downsides of existing trends and/or to chart alternative possibilities are stigmatized as naive, isolated, out of touch, or simply outnumbered. This results in a "remarkably one sided" debate,[325] which fails to draw policymakers' attention to the downside of the path-dependent process. Here are two

320. *Id.* princs. 3–4.

321. *Id.* at 6, 9–10, 21, 22, 23, 25–26, 28, 33–37.

322. Stanisław Sołtysiński, *The Importance of the Principles of Equality of the EU Member States and Economic Actors in EU Law*, 1 ELTE L.J. 73, 95–96 n.86 (2014).

323. *Netting: Select Bibliography*, INT'L INST. FOR THE UNIFICATION OF PRIVATE LAW, http://www.unidroit.org/netting-select-bibliography-e (last updated Oct. 14, 2014).

324. *See id.*

325. Bliss & Kaufman, *supra* note 4, at 57.

examples. First, *The Importance of Close-Out Netting*, published on behalf of ISDA, is a modern classic of the reputational cost imposition genre. It refers to a "handful of academics and bankruptcy lawyers in the United States," none of whom it names or cites.[326] This mere handful of unnamed antagonists is painted as making excessive demands such as that the financial contract immunities should be abolished[327]—so that counterparties would play by the rules applicable to everyone else. In doing so, this minute group is doing no less than threatening to put its country in conflict with the "cross-border convergence of the treatment of derivatives in insolvency."[328] The document portrays advocates of alternative ways of treating financial contracts as out of line with regulatory recommendations and at odds with "widespread acknowledgement by policy makers of the contribution of netting to financial stability."[329]

The second example of reputational costs takes us back to the UNIDROIT Netting Principles' drafting process. The Chairman of the UNIDROIT netting study group records that he eventually prevailed upon UNIDROIT's Governing Council to recommend "that [his] critical observations be included in the material submitted to UNIDROIT Member States."[330] This Article has drawn attention to some of the extensive finance, economics, and legal literature that has amassed over decades, as well as to regulatory pronouncement, such as those from the Fed responding to LTCM or from the central bankers and finance ministry mandarins of the G-10 surveying international systemic risk. Material such as this would have cast a more balanced light on financial contract immunities. Evidently, none of it made the grade. Instead, all that member governments apparently received from the study group were seemingly dissenting remarks from one—albeit important—member. Busy national policymakers looking at the official document alongside these remarks may be forgiven for wrongly regarding the latter as one lonely, aberrant view.[331]

This is—no doubt a minute fraction of—the background against which we should seek to understand "silent" expansions of financial contract immunities.

E. THE COSTS OF CROSS-BORDER INTEGRATION

Increasing international financial integration has often brought with it financial deepening, opportunities for risk sharing, competition, and wealth. It has also created new channels for the transmission of systemic risk. The most extensive study to date of systemic crises charts the dramatic rise in

326. *See* Mengle, *supra* note 131, at 5.
327. *Id.*
328. *Id.*
329. *Id.*
330. Sołtysiński, *supra* note 322, at 96 n.86.
331. Notwithstanding the view's merits or the learning in which it was rooted. *See id.*

the number of banking crises associated with higher cross-border capital mobility and notes that "[p]eriods of high international capital mobility have repeatedly produced international banking crises, not only famously, as they did in the 1990s, but historically."[332] The 2007–2009 crisis provides a vivid illustration of new vulnerabilities and cross-border risk transmission channels enabled by financial integration.

Consider the new vulnerabilities. Financial innovation opens up new possibilities for risk sharing, but the way risk is shared is not always desirable. This became particularly salient as the crisis broke, prompting a distinguished commentator to observe that "[t]he proposition that sophisticated modern finance was able to transfer risk to those best able to manage it has failed. The paradigm is, instead, that risk has been transferred to those least able to understand it."[333] A particularly acidulous example relates to regional German banks, West LB and Industriekreditbank, whose much-mocked gullibility about AAA-rated U.S. mortgage-backed securities brought them to the brink of ruin and cost European taxpayers billions.[334]

Consider also new cross-border risk transmission channels. The crisis spilt over so rapidly from the United States because foreign institutions held U.S.-originated mortgage-backed securities and similar instruments. In the first phase of the crisis, which started in the first quarter of 2007 with a sharp rise in subprime mortgage delinquency, a collapse in the market for such securities spread losses across borders by directly hitting the balance sheets of non-U.S., particularly European, holders. Housing markets, particularly in Western Europe, started to feel the wake-up call effect, as investors generalized from the U.S. subprime crisis. The crisis's second phase, in the third quarter of 2007, began to hit non-U.S. markets through asset value contagion, and through common lender effects as financial institutions starting to take account of U.S. losses began to retrench elsewhere. Uncertainty intensified about the viability of financial institutions principally active in the higher-risk derivatives markets. The third phase, which commenced with the Lehman Brothers collapse in September 2008, gave rise to concerns about banks' excessive leverages. Another wave of asset value contagion spread and several of the other channels and amplifiers discussed above became active.[335]

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332. REINHART & ROGOFF, *supra* note 22, at 155 (emphasis omitted).

333. Martin Wolf, *Seeds of its Own Destruction*, FIN. TIMES (Mar. 8, 2009), http://www.ft.com/cms/s/0/c6c5bd36-0c0c-11de-b87d-0000779fd2ac.html#axzz3rzyJAOD1.

334. "Whenever we'd ask . . . who was buying this crap," relates a protagonist in Michael Lewis's excellent account of the run-up to the 2007–2009 crisis, "the answer was always, Düsseldorf . . . Stupid Germans. They take rating agencies seriously. They believe in the rules." MICHAEL LEWIS, THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE 67, 93 (2011). *See also* ANAT ADMATI & MARTIN HELLWIG, THE BANKERS' NEW CLOTHES: WHAT'S WRONG WITH BANKING AND WHAT TO DO ABOUT IT 259 n.29 (2013).

335. This discussion draws on two works co-authored by Stijn Claessens. *See* Claessens et al., *Lessons*, *supra* note 18, at 8–9, 11–13; Claessens et al., *Cross-Country*, *supra* note 22, at 287.

Note also the observation that "[e]merging markets—especially those who had heavily relied on external financing, and paradoxically those *with more liquid markets*—were affected through capital account and bank funding pressures."[336] When international regulatory borders are lowered, froth is amongst the systemic crisis contributories to travel across.

The point, to reiterate, is that cross-border financial integration has considerable costs, in this case represented by a global financial crisis whose "spread was unprecedented in scope and ferocity,"[337] and the fallout from which dogs the world economy to date. It is important to acknowledge these costs alongside the benefits.[338] What is more, the harmonization toward financial contract immunities is a particularly troubling component of global financial integration because, as argued in this Article, while the immunities have numerous social costs, they are unlike several other aspects of the integration process in having fairly limited compensating *social* benefits.

VIII. THE BANKRUPTCY TREATMENT OF FINANCIAL CONTRACTS

We should not conclude that all financial contracts should always receive treatment identical to that accorded to other types of transactions. It is not unfair to other stakeholders and may sometimes be welfare-enhancing if bankruptcy law recognizes the peculiarities of financial contracts. The literature has started to explore how bankruptcy laws could be designed to preserve the socially valuable features of the operation of financial contracts while mitigating some of the costs associated with expansive bankruptcy immunities.[339] The basic contours of such a fine-tuned legislative response may now be regarded as reasonably clear, and the following draws on and develops it. First, though, two bits of ground-clearing are called for.

A. SHOULD BANKRUPTCY "LAW" SEEK TO "REGULATE" SYSTEMIC RISK?

Immunity enthusiasts often suggest that bankruptcy law is too blunt an instrument to deploy in relation to financial contracts, whose treatment should instead be left to regulation. While the justification for this position

336. Claessens et al., *Lessons*, *supra* note 18, at 8 (emphasis added).

337. *Id.* at 11.

338. Two good explorations of such costs are undertaken by Viral Acharya and Philipp Schnabl, and Nicola Cetorelli and Linda Goldberg. *See generally* 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); Nicola Cetorelli & Linda S. Goldberg, *Global Banks and International Shock Transmission: Evidence from the Crisis*, 59 IMF ECON. REV. 41 (2011). For a regulatory perspective, see Cœuré, *supra* note 11.

339. For illuminating contributions, see Lubben, *Safe Harbors*, *supra* note 4; Roe, *supra* note 4; Edward J. Janger & John A.E. Pottow, *Implementing Symmetric Treatment of Financial Contracts in Bankruptcy and Bank Resolution*, 10 BROOK. J. CORP. FIN. & COM. L. 155 (2015).

is difficult to discern, it may be gathered as lying in the special nature of systemic risk mitigation, of financial market participants, and/or of financial instruments:

> Insolvency law should not be concerned with attempting to mitigate systemic risk in the market: despite its obvious influence on managerial decisions it is too bold a concept and not suitable for controlling the behaviour of financial institutions. . . . It would not be possible to achieve . . . well-calibrated solutions . . . by abolishing or restricting safe harbour regimes—such an approach would be too bold and the resulting legal uncertainty would paralyse the market as nobody could rely on enforceability of contractual risk mitigation.[340]

This position is untenable. First, importantly, recall that systemic risk does not arise from the failure of most firms, which means no immunities are justified in relation to them; and systemic risk is associated with the failure of large firms in ways that require *curtailment* of the immunities.[341] The argument just quoted thus does not even get off the ground.

Second, assuming for the sake of argument that bankruptcy law should not attempt to *mitigate* systemic risk, it does not follow that it should be designed to furiously *add* to it in the countless ways that it does with the immunities in place. Immunities encourage systemic opacity, frothy markets, declining lending standards, the funding of negative value projects, exponentiation of leverage, and procyclical reductions in capital buffers and collateral.[342] This is hugely corrosive to systemic stability. The disapplication of standard bankruptcy moratoria and avoidance or claw-back mechanisms enable an asset seizure and disposal frenzy by immune creditors. This is harmful not merely to the bankruptcy estate and its stakeholders, but also amplifies systemic stress through asset value contagion.[343] It is unclear why "law" should be deformed in ways that demonstrably worsen systemic risk, making the task of "regulation" that much harder.

Consider, thirdly, the division assumed in this argument between "law," which should not address systemic risk, and "regulation," which should.[344]

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340. Paech, *supra* note 5, at 6, 25.

341. *See supra* Part VI.

342. *See supra* Parts I, IV, V.

343. *See supra* Parts I, II, VI, VII.

344. Paech, whose version of this argument is explored here, correctly notes that the distinction between financial "law" and financial "regulation" is "not very clear and in parts nonsensical." Paech, *supra* note 5, at 4 n.18. Unfortunately, he adopts the distinction nevertheless, explaining that, in this context, "law" addresses "horizontal rights between, in particular, creditors and debtors or owners and non-owners," whereas "regulation" addresses "the state-to-market relationship, mainly working on the basis of orders, prohibitions and sanctions for non-compliance." *Id.* He then quickly proceeds to demonstrate the incoherence of the distinction by giving as examples of financial *regulation* derivatives clearing (which, for example, at least appears to concern horizontal rights and obligations between buyers, intermediaries, and sellers), bank compensation practices (which govern horizontal employer/employee relationships), bank

Take the example—central to many discussions of systemic risk—of "too-big-to-fail" financial institutions, which add to such risk in part because they lack market discipline and are able to wallow in moral hazard.[345] The panoply of legislative and regulatory responses includes requiring systemically significant institutions to plan their own orderly demise through "living wills," and by providing for effective recovery and resolution processes.[346] It would be a curious classification system that labeled enterprise bankruptcy law as "law" and bank bankruptcy law—deploying many of the same tools, including enforcement moratoria, with a view to achieving, inter alia, the same proximate objectives of value preservation and distribution—as "regulation." It would be a curious theory that condoned the latter as a finely honed response to systemic risk while condemning the former as excessively bold, broad, brash, or brazen.

Fourth, systemic risk is not a unitary whole, to be dealt with once and for all with either one unit of state response—labeled "regulation"—or multiple units of the same type of response. Instead, as explored in Parts I and IV to VII, systemic risk emerges as a result of the interaction of a multitude of factors and mechanisms of various levels of interdependence. Addressing it requires a similarly multifactorial response. To the extent that systemic vulnerability results from procyclical marked-to-market accounting approaches, the response lies in re-examining accounting principles. Where the source is perverse remuneration incentives of financial sector decision makers, it is the various determinants of remuneration policies, including freedom of contract within the employment context, and corporate governance in financial institutions that come under the microscope.[347] The lender of last resort and deposit guarantee schemes may need sharpening in the face of various types of information contagion. Where the problem is destabilizing cross-border capital flows, capital controls may be contemplated. Where bubbles are getting to dangerous levels, there might be roles, sometimes controversial, for monetary or fiscal policy or both.

Of course, if declining lending standards are a concern, or if inter-party information flows ought to be stimulated, or if asset value contagion is accepted as a key amplifier, etc., then bankruptcy law has critical roles to play. Bankruptcy law's preservation mechanisms, notably the moratorium on close-out and asset disposals, and the ability to avoid eve-of-bankruptcy

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resolution (considered in the text), and bank capital requirements (which particularly obviously collapse the vertical/horizontal distinction in having the State "vertically" (re)constitute the "horizontal" bank/residual owner relationship). *Id.* at 5 n.19.

345. *See generally* Richard J. Herring & Jacopo Carmassi, *Complexity and Systemic Risk: What's Changed Since the Crisis?*, *in* THE OXFORD HANDBOOK OF BANKING 77 (Allen N. Berger, Philip Molyneux & John O.S. Wilson eds., 2d ed. 2015).

346. *See id.*

347. *See generally* Lucian A. Bebchuk & Holger Spamann, *Regulating Bankers' Pay*, 98 GEO. L.J. 247 (2009).

asset disposals, have no easy substitute. This is a fortiori in relation to distributive (i.e., fairness-based) concerns about the normatively defensible allocation of bankruptcy loss, where the various priorities regimes are the primary, and often the only, game in town.

This leads to the fifth, somewhat related point about the calibration of the response to systemic risk. Ideally, the response would be perfectly state-contingent, targeting precisely the right behavior of the right addressees to the right degree at the right point in time. In general, regulations such as liquidity and capital requirements have been both relatively blunt since they are less sensitive to the party's activities and, often, even procyclical and hence counterproductive.[348] By contrast, bankruptcy nonimmunity is state-contingent, in principle (though, of course, imperfectly) responsive to the level of counterparty risk involved in each of the projects undertaken by each market participant. Its effects are thus likely to be better calibrated compared to many blunter regulatory tools.[349]

B. IS SPECIAL TREATMENT MERITED BECAUSE OF VOLATILITY OR UNCERTAINTY?

Derivatives contracts can present either, or both, of two types of risk not commonly found in other transactions. Take these in turn.

First, any secured creditor is subject to the risk both that its debtor will default and that its collateral will not have sufficient value to repay it. Derivative transactions have an additional element of risk: movements in the value of the reference asset. Consider a GBP/YEN currency rate swap between G and Y in which G is currently in the money. G holds collateral intended to cover its exposure to Y. G is subject to counterparty credit and collateral value risks, just like any other secured creditor. However, G is also at risk in the case that YEN loses ground against GBP, thus increasing G's exposure to Y. This third risk is conceptually distinct[350] from the previous two, and G must manage it on an ongoing basis.

Second, consider S, a solvent fully hedged entity whose counterparty B is now bankrupt. Absent immunity to close out its position, whether S remained hedged would become uncertain. S remains exposed to this uncertainty while B's bankruptcy administrator considers whether to affirm or reject the hedge. Additionally, depending on market movements, S might be exposed to loss whether the contract is eventually adopted or disclaimed. Were S to buy a rehedge with another solvent counterparty, it would

348. *See, e.g.*, Krishnamurthy, *supra* note 49, at 13–14.

349. However, note that ongoing regulatory efforts seek to make capital and margining requirements, among others, less procyclical.

350. Bliss & Kaufman, *supra* note 4, at 64–65, 65 n.26. If netting arrangements are in play between G and Y, the risk and volatility are likely to be heightened. *See* discussion *supra* Part V.B.

become exposed to an unhedged risk under its contract with B, which would materialize if the market moved in B's favor.[351]

These peculiar features of financial contracts, considered in and of themselves, do not justify according them special bankruptcy treatment.[352] The examples of G and S simply highlight the peculiar costs of the particular structures of the G/Y and S/B transactions. The mere existence of these costs provides no reason for shifting them through bankruptcy immunities to Y/B's other creditors,[353] nor in the process for destroying any going-concern surplus in Y/B's estates.[354]

This simple point addresses such a widespread fallacy that it may be worth hammering home. While Y and B are solvent, their decision makers—acting on their equity-holders', or frequently, predominantly their own behalves—have perverse incentives to enter into too many such contracts, since the upside benefits from doing so accrue fully to them while the downside costs are shared with the entities' creditors and other stakeholders. This is another way of saying that Y/B's decision makers have incentives to create negative externalities. As with any such externality, presumptively, the legal and regulatory environment should seek to force internalization by the solvent entities and their decision makers of the full costs of the transactions.[355] These high-reward/high-cost transactions should be entered into only if and to the extent that they are viable *without loading significant costs* (i.e., harms) on those unable to respond. The response certainly must not be bankruptcy immunities for such transactions, since these would only further facilitate the shifting of costs away from the decision makers and their firm's equity-holders, and thus, incentivize ever-greater volumes of such negative net value transactions.

The analysis might have been different if such transactions could be shown to create social benefits (i.e., positive externalities). Social benefits might justify proportionate socialization of costs. Externalization might also have been justified if not permitting so would itself create even greater negative externalities. The argument that financial contract immunities exponentiate liquidity can be understood as suggesting social benefits from flourishing financial markets, whereas the argument that not immunizing

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351. Bliss & Kaufman, *supra* note 4, at 65.

352. The UNIDROIT Netting Principles offer this as one of three justifications for the immunities. UNIDROIT NETTING PRINCIPLES, *supra* note 7, at 27.

353. "Derivatives counterparties to a failed hedge . . . may not be paid if the derivatives settle in their favor, but this is no different than a company defaulting on its obligations to derivatives counterparties, which again is addressed as a regulatory matter through bankruptcy law." Schwarcz, *Systemic Risk*, *supra* note 270, at 203.

354. The immunities "prefer one set of creditors over others, and they reduce the debtor's available cash, thereby limiting or eliminating the possibility for successful reorganization or going concern sale." Janger, Mokal & Phelan, *supra* note 105, at 3. *See also supra* Part I.A.

355. The recent expansion of initial margining requirements, explained *supra*, are an example of the regulatory bid to force internalization of negative externalities.

financial contracts creates systemic risk gestures at negative externalities. Both of these arguments were considered above and found wanting.

Let us now turn to those peculiarities of financial contracts which bankruptcy law ought to respect.

C. VALIDITY OF VARIATION MARGINING

As noted in Part III, the out-of-money party in a derivatives transaction characteristically has an obligation to post additional collateral to reflect additional losses resulting from market movements. This "represents the settlement of the running profit/loss of a derivative,"[356] and should be conceptualized as analogous to an increase in a standard secured obligation that thus bites deeper into the value of the collateral. Variation margining reduces systemic risk compared to bare netting by countering the latter's exposure exponentiation tendencies.[357] That consideration apart, it is neutral in regard to systemic risk, since permitting the asset transfer merely shifts risk from the transferee to the transferor without reducing it.

Contrast this situation with one in which parties agree to post variation margin triggered by the circumstances, particularly the creditworthiness, of the obligated counterparty. Analytically, this requirement to post collateral is an attempt to improve the position of the beneficiary-counterparty compared to what it would have been in the absence of the additional collateral. The improvement comes in relation to all other creditors who suffer at least as badly from the deterioration in their contracting party's creditworthiness as does the financial contract counterparty. This is a classic case of avoidable preference and there is little reason to require bankruptcy law to accord better treatment to the financial contract counterparty than to all other types of creditors.[358]

D. ASSUMPTION, ASSIGNMENT, OR DISCLAIMER

A preliminary consideration here relates to whether retention of the benefit of financial contracts is essential to the ability of the distressed firm to successfully reorganize, or to maximize the value of the distressed business upon sale.[359] Financial contracts are neither like essential bits of machinery that the distressed firm needs in order to continue operating, nor like the expertise of skilled employees uniquely proficient in the firm's business activities. It may be thought that they do not need to be retained as part of the bankruptcy estate in order to maximize the estate's value. This argument requires qualification. For nonfinancial firms, financial contracts may be critical. Consider a fuel hedge held by an airline undergoing

356. BCBS & IOSCO, MARGIN REQUIREMENTS, *supra* note 122, at 9.
357. *See supra* Part V.
358. *See* Roe, *supra* note 4, at 573–75.
359. See, for example, Bliss & Kaufman, *supra* note 4, at 60, for the suggestion that it is not.

bankruptcy proceedings.[360] Under plausible assumptions, the hedge would have significant firm-specific value, might create considerable synergetic value in the bankrupt estate, and might indeed be decisive in determining the success or failure of the restructuring effort. For nonfinancial end users of such hedges and similar financial contracts, the argument for firm nonspecificity clearly does not hold. Turning to financial firms, the argument is again dubious in its generality. The going concern value of financial firms might well be constituted in significant part by financial contracts. Whether financial contracts are part of a distressed firm's going concern depends on the facts. The same is true of most other categories of assets.

International best practice entitles the bankrupt to require performance from standard contractual counterparties, notwithstanding any ipso facto clauses in the relevant agreement. Recall that the solvent counterparty is not obligated to perform so long as it is able and willing to pay the usual expectation measure of damages. What it cannot do is rely on an ipso facto clause to deprive the bankrupt both of performance and appropriate damages. The bankrupt is symmetrically bound. It can either affirm an executory contract and perform it in full, or disclaim it and be bound to pay expectation damages. The asymmetry, economic rather than legal, is that the solvent counterparty must pay up in full if it breaches the contract, but is only restricted to a bankruptcy dividend if it is the bankrupt who breaches.[361] There does not seem to be much justification for privileging financial contract counterparties in this regard.

What financial counterparties may legitimately require is that the bankrupt counterparty's decision as to affirmation or disclaimer be made in a reasonably short period of time, so as not to expose the solvent counterparty either to inappropriate uncertainty or excessive loss. By way of analogy, the U.S. Bankruptcy Court requires the bankrupt to decide within 120 days whether to affirm or disclaim a commercial lease.[362] In the context of the resolution of financial institutions, as noted, international best practice has moved toward according the resolution authority one or two trading days to make the decision, or in the event of the failure to do so, to entitle the counterparty to terminate.[363] Scholarly analyses of value-preserving resolution of systemically important financial institutions' financial contract portfolios suggest that a somewhat longer period, of ten

360. *See* Lubben, *Safe Harbors*, *supra* note 4.

361. *Id.* at 130. Lubben provides a comprehensive and cogent response to the "cherry picking" argument invoked almost ritualistically by immunity enthusiasts. The argument is found, for example, in UNIDROIT NETTING PRINCIPLES, *supra* note 7, princ. 7(1)(b); Mengle, *supra* note 131, at 5; Paech, *supra* note 5, at 9, 26.

362. 11 U.S.C. § 365(d)(4) (2012). *See generally* Skeel & Jackson, *supra* note 4.

363. *See, e.g.*, FIN. STABILITY BD., KEY ATTRIBUTES, *supra* note 253, at 10, 51; EU Bank Recovery and Resolution Directive, *supra* note 179, art. 71; WORLD BANK PRINCIPLES, *supra* note 76, at 21.

to twenty days, may be necessary.[364] If the bankrupt's decision makers conclude that some of the portfolio of contracts should be assigned, they should be permitted to split the contracts along product lines (i.e., by grouping together interest rate or foreign exchange swaps, respectively).[365]

Consider distressed nonfinancial debtors, and any financial ones who are outwith the ambit of special resolution regimes. Three factors are worth bearing in mind. First, subjecting the financial contract counterparties of such entities to a stay simply cannot precipitate a systemic domino-like crisis.[366] It follows that there is no systemic justification for financial contract special treatment. Second, the debtor and its stakeholders as a group have legitimate interests, based in both welfare and fairness considerations, in seeking a value-maximizing treatment of the estate,[367] which may require retention of some financial contracts. Third, financial contract counterparties also have legitimate interests in limiting their exposure to the peculiar volatility and uncertainty of such contracts. Together, these considerations justify a reasonably brief moratorium on close-out netting and associated asset disposals. A period of ten to twenty days seems an appropriate starting point for consideration. The solvent counterparty should also be entitled to expect a cure of any substantive default on the contract, and to reasonable assurances in the case of either assignment or assumption.[368]

E. RECHARACTERIZATION

Recall, finally, the problem created by the harmful arbitrage opportunities from differential bankruptcy treatment of secured and repo claims and the ability of parties to disguise what are in fact secured transactions as repos.[369] This is particularly problematic when, as discussed, the result is to weaken, in a systemically harmful way, the monitoring and exposure-reduction incentives of lenders, and the credit structure-strengthening incentives of borrowers. One way of discouraging such disguised transactions is for bankruptcy law to treat as repos only those transactions that extend to a fairly short period of time, say, no longer than thirty or perhaps sixty days.[370] A "repo" that de facto extended beyond such a period through being rolled over would carry the risk of being recharacterized as a "standard" secured loan in bankruptcy proceedings,[371] including as to the requirement for public recordation, as well as the length

364. Mark J. Roe and Stephen Adams suggest a ten-day period, with a possible extension for another ten days by court order. *See* Roe & Adams, *supra* note 180.
365. *Id.*
366. *See supra* Part VI.
367. *See supra* Part II.
368. For a sophisticated working out of the details, see Janger & Pottow, *supra* note 339.
369. *See supra* Part IV.
370. Lubben, *Safe Harbors*, *supra* note 4, at 143.
371. *See id.* at 142–43.

of time available to the estate to decide what to do with the collateral. The real bite of this proposal, however, lies in the way the exposure under a recharacterized transaction would affect the party's regulatory capital requirements, which is beyond the scope of bankruptcy law.

CONCLUSION

Close-out netting lies at the heart of the financial contract bankruptcy immunities, and the special treatment it enjoys is the epitome of the defective microprudential understanding of systemic risk. The regulatory emphasis on it as a risk mitigant is premised on four assumptions in particular. These are that market participants' behavior is not adversely affected by close-out netting immunities; that their behavior in turn does not adversely affect systemic risk; that systemic crises occur when the default of one market participant causes similar defaults by its counterparties; and that incipient systemic crises are stemmed by enabling solvent counterparties to seal themselves off from the insolvent entity.

This Article has drawn attention to the manifest invalidity of each of these assumptions. Bankruptcy immune counterparties tend to lean toward excessive leverage, excessively concentrated exposures to each other, ignorance of each other's fundamentals, and involvement in negative net value projects funded only because some of the downside costs can be passed on to others unable to respond. In the economic upswing, immunities contribute to credit booms, asset price bubbles, intensified correlations, capital buffer shrinkages, and collateral underutilization. These behaviors constitute significant systemic vulnerabilities, adding to the system's fragility. When the economic cycle turns, bubbles burst, credit dries up, and the volatility resulting from netting suddenly causes capital and collateral requirements to explode. Contagion occurs not because of the falling of dominos—evidence unambiguously shows that not even the largest financial institution is significant enough in itself to set that off—but as undercapitalized and overleveraged financial institutions engage, unimpeded by bankruptcy moratoria, in deleveraging through close-out and fire sales. Asset value contagion spreads. Mutually ignorant counterparties find themselves holding too little collateral that in any case is falling in value. No longer able to rely on ever-expanding mutual exposures as the alternative, netting-based risk "mitigant," they suddenly become resensitized to each other's fundamentals. Not possessing sufficient information about each other, their rational strategy is to stop lending while they gather that information. Liquidity evaporates and markets freeze. Financial contract immunities, introduced to stem phantom domino risk, end up contributing to systemically corrosive behavior and to real contagion.

The excessive credit and leverage resulting in boom times from the immunities do not constitute liquidity, contrary to recent assertions in the

literature, but rather froth. By enabling the downside costs of negative net value projects to be passed on to others, bankruptcy immunity contributes to soaring divergences between market prices and fundamental values. This is a primary mechanism for the inflation of bubbles, which in turn is a primary mechanism for worsening correlations as lenders rush in for a piece of the action. Froth, however, is inherently fragile. It is there in upswings, but gone as soon as the economy begins to deteriorate. What goes up in a bubble is doomed to come down with a crash. This fair-weather "liquidity," which both results from and causes the hollowing out of institutions and systems alike, is no defense for the immunities.

Regulatory authorities have rediscovered some of these truths. They have found that their focus on net rather than gross exposures has left them under-informed about the true vulnerabilities of institutions and markets. They have responded by withdrawing some of their indulgence toward netting, such as in relation to the provision of margins to cover OTC derivatives positions. To stave off asset value contagion, they have required brief moratoria on close-out netting and asset disposals. On this front, however, policymakers still have not taken in the full implications of the global financial crisis of 2007–2009. They have not yet acknowledged that while close-out netting immunities are counterproductive in relation to large financial institutions, they are utterly ungrounded when applied to most financial and nonfinancial firms whose failure could not conceivably spark off domino contagion. More generally, close-out netting continues to enjoy some regulatory support as a risk mitigant, not least because of intense interest-group lobbying.[372] This is indefensible and harmful. We can only hope that it does not take another global crisis to drive the point home.

372. Looking beyond the ambit of bankruptcy law, regulatory authorities in several sophisticated markets proposed reducing the extent to which derivatives exposure could be reported on a net rather than gross basis, but appear to have been defeated. The official ISDA view is provided by ANTONIO CORBI, INT'L SWAPS & DERIVATIVES ASS'N, NETTING AND OFFSETTING: REPORTING DERIVATIVES UNDER U.S. GAAP AND UNDER IFRS (2012). Some of the resulting damage to market transparency and counterparty incentives is explored in ADMATI & HELLWIG, *supra* note 334, at 82–86, 190, 266–67 nn.11–17.