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THE HEDGE FUND REGULATION DILEMMA: DIRECT VS. INDIRECT REGULATION

HOSSEIN NABILOU^{*}
ALESSIO M. PACCES^{**}

ABSTRACT

This Article studies regulatory strategies to address the potential systemic risk of hedge fund operation in financial markets. Due to the implications of the choice of regulatory strategies and instruments in terms of mitigating systemic risk, the Article focuses on one critical aspect of hedge fund regulation, namely the choice between direct regulation and indirect regulation. This Article defines the distinction between direct and indirect regulation, maps this distinction's implications in terms of regulatory techniques and instruments, and analyzes the arguments for and against direct and indirect regulation of hedge funds. This Article argues that the indirect regulation of hedge funds through their counterparties and creditors is not only less costly but also can better address regulatory arbitrage by hedge funds and their potential contribution to systemic risk. The economic and organizational structure of hedge funds and their particular features in terms of the number and composition of their counterparties and creditors support this policy recommendation.

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INTRODUCTION

Carl J. Loomis first coined the term “hedge fund” in an article from 1966 discussing the structure and investment strategies of the investment vehicle that Alfred W. Jones originally created in 1949.¹ Prior to the regulatory reforms following the global financial crisis, there was no statutory definition of hedge funds.² Indeed, hedge funds were essentially the product of statutory and regulatory exemptions and negatively defined by reference to what they were not, rather than to what they were.³ Although searching for a definition that is adequately inclusive and sufficiently exclusive of all aspects of hedge funds seems to be a futile endeavor, a working definition is necessary to study them further. As a working definition, a hedge fund is an investment vehicle that is privately organized,⁴ with a specific fee structure,⁵

¹ Carol J. Loomis, *The Jones Nobody Keeps Up With*, FORTUNE MAG., Apr. 1966, at 237.

² However, the U.S. Private Fund Investment Advisers Registration Act of 2010 (the Private Fund Act) introduces the concept of “private fund,” which is defined in 15 U.S.C. § 80b-2(a)(29) (2012). A hedge fund is a subcategory of private funds that is defined in 12 U.S.C. § 1851(h)(2) (2012). The Private Fund Act follows the path of its predecessors and defines hedge funds by what they are not, rather than by what they are. Both this act and its counterpart in Europe, the Alternative Investment Fund Manager Directive (AIFMD), are criticized for failing to create a clear distinction between hedge funds and other similar funds such as private equity funds. See, e.g., Jennifer Payne, *Private Equity and Its Regulation in Europe*, 12 EUR. BUS. ORG. L. REV. 559, 584 (2011); see also Jacob Rothschild, *Europe Is Getting It Wrong on Financial Reform*, FIN. TIMES (Apr. 20, 2010), <http://www.ft.com/intl/cms/s/0/f51bdb9a-4caa-11df-9977-00144feab49a.html#axzz3C9rILAgI>. The SEC recently offered a more functional and substantive definition of hedge funds for the purposes of the Form PF. It defined hedge funds in terms of their performance fee, high leverage, and short selling. See Reporting by Investment Advisers to Private Funds and Certain Commodity Pool Operators and Commodity Trading Advisors on Form PF, Release No. IA-3308, 76 Fed. Reg. 71127 (Nov. 16, 2011). Since the complexity and dynamics of financial institutions do not lend themselves to a *per genus et differentiam* definition, searching for an all-encompassing definition which is adequately inclusive and sufficiently exclusive of each and every aspect of hedge funds seems to be a futile endeavor. See H.L.A. HART, THE CONCEPT OF LAW 13-16 (2d ed. 1994) (arguing that however precise a definition may be, there will be unavoidable borderline issues). McBarnet also argues that the laws resting upon definitions and criteria involving clear rules and thresholds are prone to legal engineering and regulatory arbitrage. Doreen McBarnet, *Financial Engineering or Legal Engineering? Legal Work, Legal Integrity and the Banking Crisis*, THE FUTURE OF FINANCIAL REGULATION 72–73 (Iain G. MacNeil & Justin O’Brien eds., 2010).

³ Goldstein v. SEC, 451 F.3d 873, 884 (D.C. Cir. 2006); see also GORDON DE BROUWER, HEDGE FUNDS IN EMERGING MARKETS 10 (2001).

⁴ Hedge funds’ legal structure mainly takes the form of a limited liability partnership (LLP) or a limited liability company (LLC). Dan Barufaldi, *Hedge Funds: Structures*, INVESTOPEDIA, <http://www.investopedia.com/university/hedge-fund/structures.asp> (last visited Nov. 19, 2014).

⁵ A typical hedge fund charges 2 percent of the net asset value under management as management fee and 20 percent of the profits as performance or incentive fee. Certain high-water marks and hurdle rates may also apply. *Id.*

not widely available to the public,⁶ aimed at generating absolute returns irrespective of the market movements (alpha)⁷ through active trading,⁸ that makes use of a variety of trading strategies.

Hedge funds provide several benefits to financial markets. They are sources of diversification⁹ and liquidity.¹⁰ Furthermore, by investing in “less liquid, more complex and hard-to-value” securities such as convertible bonds, distressed debt, and credit default swaps, hedge funds complete and deepen financial markets.¹¹ More importantly, hedge funds’ focus on generating alpha (the excess return of a hedge fund relative to a benchmark return) is rooted in exploiting market imperfections and discrepancies,¹² which

⁶ In the U.S., the recently enacted Jumpstart Our Business Startups (JOBS) Act directs the SEC to amend rule 506 of the Regulation D to remove the ban on hedge fund general solicitation. H.R. 3606, 112th Cong. (Jan. 3, 2012). However, the sale of hedge fund products is still restricted to accredited investors. See 15 U.S.C. § 77d-1(e)(B) (2012).

⁷ The excess return of a hedge fund relative to a benchmark index is called its alpha. See Arturo Neto, *Quantitative Analysis of Hedge Funds*, INVESTOPEDIA, <http://www.investopedia.com/articles/mutualfund/09/hedge-fundanalysis.asp> (last visited Nov. 19, 2014). Simply put, the alpha shows by how much a hedge fund outperforms the markets, which can serve as a measurement of managerial skill. See William A. Roach, Jr., *Hedge Fund Regulation: “What Side of the Hedges Are You on?”*, 40 U. MEM. L. REV. 165, 166–69, 208 (2009) (arguing that generation of alpha is one of the significant features of hedge funds).

⁸ J.S. AIKMAN, WHEN PRIME BROKERS FAIL: THE UNHEEDED RISK TO HEDGE FUNDS, BANKS, AND THE FINANCIAL INDUSTRY 90 (2010) (highlighting the fact that investment in hedge funds is often illiquid and may only be redeemed intermittently). Prior to the introduction of post-crisis financial regulation, the absence of a registration requirement and legal restraints on hedge funds’ investment strategies were among the defining features of hedge funds. See U.S. SEC. & EXCH. COMM’N, IMPLICATIONS OF THE GROWTH OF HEDGE FUNDS 13–14, 77 (2003) [hereinafter IMPLICATIONS OF THE GROWTH OF HEDGE FUNDS], available at <http://www.sec.gov/news/studies/hedgelfunds0903.pdf>; see also Houman B. Shadab, *The Law and Economics of Hedge Funds: Financial Innovation and Investor Protection*, 6 BERKELEY BUS. L.J. 240, 245 (2009) (viewing the unrestrained use of investment strategies as a defining feature of a hedge fund).

⁹ Wouter van Eechoud et al., *Future Regulation of Hedge Funds—A Systemic Risk Perspective*, 19 FIN. MARKETS, INSTS. & INSTRUMENTS 269, 275–78 (2010); see also William F. Sharpe, *Asset Allocation: Management Style and Performance Measurement*, 18 J. PORTFOLIO MGMT. 7, 7–19 (1992) (arguing that hedge funds provide diversification for professional and institutional investors); Thomas Schneeweis et al., *Alternative Investments in the Institutional Portfolio* 1, 2–3, 9–10 (Mar. 2002) (unpublished manuscript), available at <http://www.edge-fund.com/ScKG02.pdf>.

¹⁰ Robert J. Bianchi & Michael E. Drew, *Hedge Fund Regulation and Systemic Risk*, 19 GRIFFITH L. REV. 6, 13–15 (2010).

¹¹ Eechoud et al., *supra* note 9, at 275–78; Bianchi & Drew, *supra* note 10, at 13–15.

¹² In fact, the lack of legal restrictions on the use of financial instruments, strategies, and investment concentration of hedge funds enables them to use a wide range of techniques to exploit market imperfections. See Hossein Nabilou, *Global Governance of Financial Institutions and Regulatory Arbitrage: The Case of Hedge Funds* 6, n.7

facilitates the price discovery mechanism in financial markets by eroding arbitrage opportunities.¹³ In addition, hedge funds are considered contrarian position takers¹⁴ in financial markets.¹⁵ The mechanisms used to lock up capital in hedge funds (such as gates and side-pocket arrangements)¹⁶ enable them to further sustain their contrarian positions.¹⁷ Such a function can potentially smooth market volatility and reduce the number and magnitude of asset price bubbles.¹⁸ Partly because of all these benefits, some argue that markets have become more resilient in times of distress since the emergence of hedge funds as major market participants.¹⁹

(Ludwig-Maximilians-Universität München, Working Paper, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2323379.

¹³ Some hedge funds specialized in equity market neutral or statistical arbitrage focus on exploiting price differences between highly similar or identical securities listed on different exchanges. They might even attempt to exploit the price differences between individual stocks and their indices. In doing so, they not only make money for themselves, but also they increase the efficiency of the markets by eroding those price discrepancies. See AIKMAN, *supra* note 8, at 78; Andrew Crockett, *The Evolution and Regulation of Hedge Funds*, 10 FIN. STABILITY REV. 19, 22. (Apr. 2007), available at http://www.banque-france.fr/file_admin/user_upload/banque_de_france/publications/Revue_de_la_stabilite_financiere/etud2_0407.pdf; see also Roach, Jr., *supra* note 7, at 173.

¹⁴ Contrarian position taking means taking a position contrary to that of other mainstream financial institutions. *Definition of contrarian*, FIN. TIMES, <http://lexicon.ft.com/Term?term=contrarian> (last visited Nov. 19, 2014). For example, when some financial institutions are taking long positions on certain securities, the contrarians go short on them.

¹⁵ Andrew Ang et al., *Hedge Fund Leverage*, 102 J. FIN. ECON. 102, 103, 121 (2011).

¹⁶ To prevent a run on hedge funds, hedge fund managers usually use gates or gate provisions, which are restrictions on hedge fund investors' redemption rights that are intended to limit the amount of withdrawals from the fund during a redemption period. *Gate Provision*, INVESTOPEDIA, <http://www.investopedia.com/terms/g/gateprovision.asp> (last visited Nov. 19, 2014). Side pocket arrangements are mechanisms to segregate parts of a hedge fund's assets to be invested in illiquid and hard-to-value projects or investments. *Side Pocket*, INVESTOPEDIA, <http://www.investopedia.com/terms/s/sidepocket.asp> (last visited Nov. 19, 2014). The assets allocated to the side pockets cannot be redeemed unless the returns on the projects or investments are realized or they become liquid marketable securities again. *Id.*

¹⁷ Crockett, *supra* note 13, at 22.

¹⁸ Eechoud et al., *supra* note 9, at 275–78.

¹⁹ Roger T. Cole et al., *Hedge Funds, Credit Risk Transfer and Financial Stability*, 10 FIN. STABILITY REV. 7, 11–12 (Apr. 2007). Although the severity of the recent financial crisis and the collapse of several hedge funds during the crisis shed substantial doubts on these claims, evidence suggests that many other hedge funds were launched to profit from price dislocations in securitized markets during the crisis. See, e.g., LLOYD DIXON ET AL., *HEDGE FUNDS AND SYSTEMIC RISK* 47–49 (2012). Most commentators agree that hedge funds provide a significant stabilizing influence by providing liquidity and spreading risk across a broad range of investors. See, e.g., Jean-Pierre Mustier & Alain Dubois, *Risks and Return of Banking Activities Related to Hedge Funds*, 10 FIN. STABILITY REV. 85, 88–89 (2007).

Despite their benefits, hedge funds can pose risks to financial systems and contribute to financial instability. Although their role in financial instability is highly contested,²⁰ hedge funds' size and leverage, their interconnectedness with Large Complex Financial Institutions (LCFIs), and the likelihood of hedge funds' herding can undermine financial stability. The data on hedge funds' size²¹ and leverage²² show that these features are far from being systemically important. Nevertheless, empirical evidence on hedge fund interconnectedness and herding²³ is mixed, and it remains a major concern for regulators.²⁴

Given the potential risks that hedge funds pose to the financial system, this Article aims to determine which regulatory strategies can best address these risks with the least impairment to the benefits hedge funds offer to financial markets. Direct and indirect regulations are two main regulatory

²⁰ Nicolas Papageorgiou & Florent Salmon, *The Role of Hedge Funds in the Banking Crisis: Victim Or Culprit*, in *THE BANKING CRISIS HANDBOOK* 183, 184, 199–200 (Greg N. Gregoriou ed., 2010).

²¹ Data on hedge funds demonstrate that they are relatively modest in size compared with mainstream financial institutions. An estimate of the hedge fund industry's size in March 2012 indicates that hedge fund industry's assets under management (AUM) amount to \$2.55 trillion. CITI PRIME FIN., *HEDGE FUND INDUSTRY SNAPSHOT* 3–4 (2012). Consistent with the industry's modest size, hedge fund liquidation had a very limited impact on financial markets overall. See Ben S. Bernanke, Chairman, Fed. Reserve, Remarks Delivered at the Federal Reserve Bank of Atlanta's 2006 Financial Markets Conference: Hedge Funds: Creators of Risk (May 16, 2006) (transcript available at <http://www.federalreserve.gov/newsevents/speech/bernanke20060516a.htm>).

²² Hedge fund leverage is significantly less than that of depository institutions, listed investment banks, and broker dealers. See Anurag Gupta & Bing Liang, *Do Hedge Funds Have Enough Capital? A Value-at-Risk Approach*, 77 *J. FIN. ECON.* 219, 236, 248 (2005). See also Ang et al., *supra* note 15, at 121.

²³ Herding happens when funds mimic other funds or financial institutions while their own private information or proprietary models suggest other behavior. See Christopher Avery & Peter Zemsky, *Multidimensional Uncertainty and Herd Behavior in Financial Markets*, 88 *AM. ECON. REV.* 724, 726, 740 (1998) (arguing that herd behavior occurs due to asymmetric information among traders or investors when trades are sequential. Although standard economic theory based on the efficient market hypothesis would claim that the price mechanism assures that the long-run choices are optimal and the herd behavior is impossible, the driving force behind herd behavior is that in an imperfect or asymmetric information setting, people may rationally take into account the information revealed or signals sent by others' action.).

²⁴ Nicole M. Boyson, Christof W. Stahel & René M. Stulz, *Hedge Fund Contagion and Liquidity Shocks*, 65 *J. FIN.* 1789, 1814 (2010). Fung and Hsieh also found evidence of hedge fund herding in the European Exchange Rate Mechanism (ERM) crisis and the Asian Crisis; however, they could find little evidence of a systematic causal relationship between hedge funds' behavior and deviation of market prices from economic fundamentals that could be attributed to the hedge fund industry. See William Fung & David A. Hsieh, *Measuring the Market Impact of Hedge Funds*, 7 *J. EMPIRICAL FIN.* 1, 34–35 (2000).

strategies to address such a problem and balance hedge funds' benefits and risks.²⁵

Differences of opinion about hedge fund regulation after the global financial crisis highlighted these two strategies. On the one hand, United States and United Kingdom regulators, along with the hedge fund industry itself, supported the indirect regulation of hedge funds through regulated banks.²⁶ On the other hand, regulators in continental Europe supported a more direct regulatory framework for hedge funds.²⁷ The ultimate outcome of the clash of these two opposing views was a compromise.²⁸ One of the catalysts for this compromise was the increasingly stringent attitude in the U.S. towards hedge fund regulation after the change of administration, that is, the replacement of Republicans by Democrats in 2008.²⁹ The change of regulatory policy in the U.S. paved the way for at least a partial realization of the European views on hedge fund regulation.³⁰ In the end, the efforts to rein in hedge funds culminated in the G20 London Summit in April 2009, at which all parties agreed that hedge funds and their advisers should be subject to mandatory registration and disclosure requirements.³¹

The remainder of this Article is structured as follows. First, we introduce the distinction between direct and indirect regulation. Second, we

²⁵ Direct regulation involves regulatory measures focusing on the regulation of the industry itself as a discrete activity, targeting hedge funds' structure, strategies, and operations. See PHOEBUS ATHANASSIOU, HEDGE FUND REGULATION IN THE EUROPEAN UNION: CURRENT TRENDS AND FUTURE PROSPECTS 227 (2009). It often employs registration, disclosure, capital requirements, and position limits as regulatory instruments. *Id.* In contrast, indirect regulation involves "market discipline-inspired regulatory measures targeting the creditors and counterparties of hedge funds." *Id.* The key element of indirect regulation is the regulator's reliance on market participants to harness market discipline. *Id.* Indirect regulation also employs incentive-compatible economic instruments in contrast to command-and-control regulatory instruments, which are mostly employed in direct regulation. *Id.*

²⁶ See Eric Helleiner & Stefano Pagliari, *The End of Self Regulation? Hedge Funds and Derivatives in Global Financial Governance*, in GLOBAL FINANCE IN CRISIS: THE POLITICS OF INTERNATIONAL REGULATORY CHANGE 74, 75–76 (Eric Helleiner, Stefano Pagliari, & Hubert Zimmerman eds., 2010).

²⁷ Accusations of abusive short selling by hedge funds in the time of crisis deepened this divergence of opinion. See Eilis Ferran, *After the Crisis: The Regulation of Hedge Funds and Private Equity in the EU*, 12 EUR. BUS. ORG. L. REV. 379, 389 (2011). On the other hand, the national elections in France and Germany, giving rise to the coalition of these two countries for regulating hedge funds, led to the expansion of regulatory turf of the EU institutions. See *UK Suffers Hedge Fund Blow*, FIN. TIMES (May 13, 2010), <http://www.ft.com/intl/cms/s/0/f583a770-5ed4-11df-af86-00144feab49a.html#axzz3Di2RGLQ5> (demonstrating the effectiveness of Franco-German cooperation).

²⁸ Ferran, *supra* note 27, at 390–93 (2011).

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

analyze the arguments for and against direct and indirect regulation of hedge funds. Finally, we highlight the advantages of indirect regulation in addressing and mitigating the potential contribution of hedge funds to systemic risk.

I. REGULATORY STRATEGIES AND TECHNIQUES FOR HEDGE FUND REGULATION

Hasty responses to financial crises often leave behind many unanswered, yet important, questions. Not surprisingly, this was the case in the post-crisis financial regulatory reforms.³² These reforms changed the overall landscape of the hedge fund industry and its relationship with the rest of the financial system, leaving many questions unanswered. One of these questions concerned the overarching issue of choosing the appropriate regulatory strategy to regulate hedge funds—that is, the choice between direct regulation and indirect regulation.

Using law to create behavioral change can be done directly or indirectly. Direct or entity regulation involves regulatory measures focusing immediately on the regulation of the target industry as a “discrete activity or as part of the broader, regulated investment services universe.”³³ In contrast, indirect regulation utilizes an intermediary to transmit the imperatives or commands to the (primarily intended) regulated entity or activity that is ultimately the target.³⁴ Direct regulation mainly relies on the threat of law by using command-and-control regulatory instruments,³⁵ whereas indirect

³² Stephen M. Bainbridge, *Dodd-Frank: Quack Federal Corporate Governance Round II*, 95 MINN. L. REV. 1779, 1782, 1785, 1815, 1821 (2011); see also Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 YALE L.J. 1521, 1524, 1526, 1602 (2005).

³³ ATHANASSIOU, *supra* note 25, at 227.

³⁴ *Id.* at 227–28, 234.

³⁵ Command-and-control instruments are the most traditional methods of effecting a behavioral change in the subjects of regulation. See JOHN AUSTIN, *THE PROVINCE OF JURISPRUDENCE DETERMINED* 18–37 (2001). A command is “an order backed by threats.” *Id.* Therefore, the non-compliance or violation of such an order triggers coercive sanctions on the part of the state. *Id.* In this method of regulation, the law uses traditional rules to further certain policy objectives. *Id.* Some literature classifies the distinction between command-and-control instruments and economic instruments as imperium and dominium. See T. Daintith, *The Techniques of Government*, in *THE CHANGING CONSTITUTION* 209, 213–18 (Jowell & Oliver eds., 1994). Daintith uses the term imperium when the government uses the command of law in pursuit of policy objectives such as setting a standard or rule for the behavior of intended entities and providing sanctions for non-compliance. He also uses the term dominium when government deploys its wealth for such purposes. *Id.* For an illustration of the distinction between imperium and dominium, see Spencer Zifcak, *Contractualism, Democracy and Ethics*, 60 AUSTL. J. PUB. ADMIN. 86, 93–96 (2001).

regulation mostly relies on economic instruments with the aim of harnessing market discipline.³⁶

II. DIRECT REGULATION OF HEDGE FUNDS AND ITS SHORTCOMINGS

Direct measures targeting the entity itself impose requirements on hedge funds' structure, strategies, and operations. Examples of mechanisms used to directly regulate hedge funds include, inter alia, mandatory registration, mandatory disclosure, limitations on the size or the leverage of the fund, and restrictions for leveraged funds (for example, capital adequacy requirements), remuneration restrictions, limits on liquidity management, restrictions on investment in securitization positions, and rules and requirements for valuation.³⁷

The primary question with respect to the indirect regulation of hedge funds is whether such a regulatory strategy is necessary. When regulatory measures such as those proposed above can be directly implemented and applied to the regulated entity without an intermediary, the need for indirect regulation of hedge funds by using regulatory intermediaries must be justified.³⁸ In order to justify such a far-fetched choice, the shortcomings of direct regulatory measures in addressing hedge funds' potential systemic risks should be identified and a case should be made for the capacity of indirect regulation to counterbalance the shortcomings of direct regulatory measures.

The most compelling argument against the direct regulation of hedge funds is that direct regulation focusing on these entities and imposing restrictions on their activities is likely to undermine hedge funds' benefits to

³⁶ The roots of the distinction between command-and-control and economic instruments can originally be found in the literature on legal origins. See, e.g., RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 25–31 (5th ed. 1998). La Porta et al. show that countries with civil and common law traditions demonstrate different regulatory styles. See Rafael La Porta, Florencio Lopez-de-Silanes & Andrei Shleifer, *The Economic Consequences of Legal Origins*, 46 *J. ECON. LITERATURE* 285, 285–86, 293, 305, 326 (2008). Looking through the same lens, Ogus identifies the tension between two systems of economic organization within the industrialized countries, the “market system” and “collectivist system.” See ANTHONY OGUS, *REGULATION: LEGAL FORM AND ECONOMIC THEORY* 15 (2004). Ogus mainly associates the market system with private, facilitative, and decentralized law, while in collectivist systems, the state encourages behavior, which would not occur in the absence of state intervention, to correct market failures and achieve collective goals. *Id.* See also Anthony Ogus, *Comparing Regulatory Systems: Institutions, Processes and Legal Forms in Industrialised Countries*, in *LEADING ISSUES IN COMPETITION, REGULATION AND DEVELOPMENT* 145–49 (Paul Cook et al. ed., 2004).

³⁷ See generally *IMPLICATIONS OF THE GROWTH OF HEDGE FUNDS*, *supra* note 8 (discussing a wide range of hedge fund regulations past and present).

³⁸ In other words, in the presence of direct regulation, how can an additional layer of regulators, which, in and of itself, involves an additional level of agency costs, be justified?

financial markets while not being effective against the negative externalities that hedge funds can potentially impose on the financial system. Imposing a disclosure requirement on hedge funds is an example of how such regulations can be ineffective or even counterproductive. Although disclosure and transparency requirements seem necessary for harnessing market discipline,³⁹ their imposition on hedge funds may create several unintended consequences. First, these requirements can lead to a false sense of protection among hedge fund investors and counterparties⁴⁰ because those investors could assume that regulation has made hedge funds safer simply by imposing disclosure requirements on them.⁴¹ Second, the indiscriminate imposition of disclosure requirements on hedge funds can potentially increase strategy correlations and the risk of herd behavior by increasing the possibility that hedge funds and financial institutions will copy the strategies of other hedge funds.⁴² Third, imposing disclosure requirements may also expose hedge funds to certain market risks such as the risk of a short squeeze.⁴³

³⁹ For example, one of the sources of market discipline is banks. Before providing financing to hedge funds or engaging in derivative transactions with a hedge fund, banks have to perform a credit assessment. Cole et al., *supra* note 19, at 11–12. In doing so, banks employ a “scorecard approach” in which the bank rates the fund based on its “management, leverage, risk measurement, liquidity, and strategy.” *Id.* Because these assessments are based on the information disclosed by hedge funds, transparency can play a significant role in that process. *Id.* Without adequate transparency, it is almost impossible for a bank to perform such an assessment. *Id.* Although the evidence is mixed, it appears that there are some areas in which market discipline exerts itself. *Id.*

⁴⁰ Jón Danielsson & Jean-Pierre Zigrand, *Regulating Hedge Funds*, 10 FIN. STABILITY REV. 29, 30 (Apr. 2007).

⁴¹ This effect is best explained by the placebo effect of law. The placebo effect of a law “manipulates individuals’ expectations regarding a risk that the law addresses.” Amitai Aviram, *The Placebo Effect of Law: Law’s Role in Manipulating Perceptions*, 75 GEO. WASH. L. REV. 54, 57 (2006). We will return to the placebo effect of law later in this Article.

⁴² Informational cascades have long been identified as sources of volatility of mass behavior (herding). See Robert J. Shiller, *Conversation, Information, and Herd Behavior*, 85 AM. ECON. REV. 181, 181–82 (1995).

⁴³ FRANÇOIS-SERGE LHABITANT, HANDBOOK OF HEDGE FUNDS 33 (2006). In order to take a short position, the trader usually borrows securities from a dealer and sells them in the market with the expectation that price of the securities will be lower at certain point in the future, at which time the trader will buy them back and return them to the dealer. *Short (or Short Position)*, INVESTOPEDIA, <http://www.investopedia.com/terms/s/short.asp> (last visited Nov. 19, 2014). By doing so, the short seller pockets the difference between the higher sale price and the lower purchase price at which he has bought them back and returned them to the dealer. However, “short squeeze” occurs when, contrary to the expectations of the short sellers, the stock price of the security being shorted actually increases. *Short Squeeze*, INVESTOPEDIA, <http://www.investopedia.com/terms/s/shortsqueeze.asp> (last

Lastly, the contribution of hedge funds to market efficiency essentially depends on their ability to maintain the secrecy of proprietary information underlying their investment strategies. Imposing the disclosure of proprietary information can substantially reduce hedge funds' investment in acquiring proprietary information, which is the main venue through which they can exploit market imperfections and contribute to market efficiency.⁴⁴

Another instance of an unintended consequence of the direct regulation of hedge funds can be seen in the imposition of leverage restrictions or capital requirements on their balance sheets. The theoretically unlimited leverage capacity of hedge funds enables them to take contrarian positions in distressed markets, thereby smoothing the adverse effects of financial shocks. Due to the pro-cyclicality of capital requirements,⁴⁵ in times of market distress, most financial institutions facing leverage constraints are likely to deleverage and possibly cause fire sales and asset price downward spirals.⁴⁶ Hedge funds, however, can step in and buy the assets. This function can mitigate and smooth the effects of shocks to asset prices in distressed markets,⁴⁷ but leverage requirements would most likely undermine the beneficial contribution of hedge funds to the stability of financial markets.

visited Nov. 19, 2014). In that case, since short sellers are vulnerable to unlimited losses, they might rush to purchase the securities to be returned to the dealer. The very rush to purchase the securities also contributes to a further increase in their price. Imposing disclosure requirements on hedge fund positions will inform their competitors of their positions and make them strategically vulnerable to short squeeze, particularly if the short position is taken on securities with limited liquidity or on securities of a company with few outstanding securities.

⁴⁴ To address these problems, Luigi Zingales proposes delayed information disclosure by hedge funds. He further suggests that delayed disclosure can help reduce the competitive costs of disclosure which can be incurred due to the positive externalities of information disclosure. See Luigi Zingales, *The Future of Securities Regulation*, 47 J. ACCT. RES., 391, 393 (2009). However, the pace at which hedge funds' positions are adjusted would limit the usefulness of the delayed information disclosure, which renders it useless in the ex ante assessment of the systemic risk.

⁴⁵ Henrik Andersen, *Procyclical Implications of Basel II: Can the Cyclicity of Capital Requirements Be Contained?*, 7 J. FIN. STABILITY 138, 139, 147–48 (2011). Regulation can be procyclical if it amplifies financial market fluctuations. *Id.* For example, risk-based capital requirements are procyclical because they essentially require banks to increase their capital when their portfolio risk rises. *Id.* Raising the level of capital, especially in the downturn, can limit the supply of credit and aggravate a credit crunch, which can further contribute to financial instability. *Id.*

⁴⁶ Andrei Shleifer & Robert W. Vishny, *Liquidation Values and Debt Capacity: A Market Equilibrium Approach*, 47 J. FIN. 1343, 1345, 1355, 1364 (1992).

⁴⁷ In addition, one of the main benefits of hedge funds is the provision of liquidity in niche markets such as the market for exotic derivatives. Imposing leverage caps on hedge funds can dry up liquidity in such markets.

Overall, there are three primary reasons why the direct regulation of hedge funds may fail to achieve the intended goals: (1) direct regulation encourages regulatory arbitrage; (2) it creates legal placebo effects in hedge funds' counterparties and investors; and (3) the one-size-fits-all measures typical of direct regulation cannot adequately address the wide diversity and heterogeneity of hedge funds and their strategies.

A. Direct Regulation and Regulatory Arbitrage by Hedge Funds

Direct regulation, which primarily involves rules-based regulation resting upon statutory definitions, is typically exposed to regulatory arbitrage.⁴⁸ The degree to which a firm engages in regulatory arbitrage, however, is a function of the private costs and benefits of regulation and the existence of alternative regulatory regimes available to the firm. Assuming two alternative regulatory regimes and zero switching costs, a firm facing marginal costs of a regulatory regime "A" that exceed its marginal benefits will tend to locate its business in jurisdiction "B" where the marginal benefits of regulation exceed its marginal costs.⁴⁹

To reduce the likelihood of regulatory arbitrage, an incentive-compatible mechanism should contain countervailing benefits offsetting the costs of regulation incurred by financial institutions. The most important countervailing benefit for regulatory costs that can be offered to financial firms is enhanced reputation.⁵⁰ For example, the financial institutions regulated by the Undertakings for Collective Investment in Transferable Securities (UCITS) Directive in Europe can better market and sell their products if they show to their customers that they are UCITS-compliant. However, we will argue that the potential benefits from regulation are not evenly distributed across all types of financial institutions. Mainly because of the reputational effects of regulation, regulation-induced benefits are valued more by mainstream financial firms that deal with retail customers than by hedge funds. Therefore, hedge fund regulation is less likely to be effective in dissuading them from regulatory arbitrage.

We are going to discuss the costs and the benefits of regulatory arbitrage from the perspective of a typical hedge fund. We will start with definitional

⁴⁸ Regulatory arbitrage essentially "exploits the gap between the economic substance of a transaction and its legal or regulatory treatment." See Victor Fleischer, *Regulatory Arbitrage*, 89 TEX. L. REV. 227, 229 (2010). Such exploitation is possible due to the "legal system's intrinsically limited ability to attach formal labels that track the economics of transactions with sufficient precision." *Id.*

⁴⁹ *Id.* at 246–47, 275–76.

⁵⁰ *Id.* at 265–69.

problems in hedge fund regulation that make the costs of regulatory arbitrage relatively low. Then, we will emphasize the uneven and asymmetric distribution of reputational benefits for hedge funds as opposed to other mainstream financial firms. Finally, we will analyze the overall role of direct regulation in encouraging regulatory arbitrage by hedge funds.

1. Definitional Problems and Regulatory Arbitrage by Hedge Funds

For years, hedge fund regulation has been thwarted by definitional problems, the crux of which was the U.S. Circuit Court decision in *Goldstein v. SEC*.⁵¹ These definitional problems are one of the main reasons for legal engineering and regulatory arbitrage.⁵² Regulatory arbitrage essentially “exploits the gap between the economic substance of a transaction and its legal or regulatory treatment.”⁵³ Such exploitation is made possible due to the “legal system’s intrinsically limited ability to attach formal labels that track the economics of transactions with sufficient precision.”⁵⁴

In addition to the inherent indeterminacy in language,⁵⁵ the prospective generalizations, which are necessary features of law,⁵⁶ are another source of indeterminacy and vagueness in statutory definitions and subsequent interpretations. Regardless of how precise and determinate a rule is, the limits of human foresight imply that even the least vague terms may become vague upon their application to a particular situation that was not predictable when the rule was made.⁵⁷ Therefore, “a rule ... is only as good as its interpretation.”⁵⁸ In this sense, the choice of a particular method of interpretation in financial regulation, enforcement, and adjudication can significantly affect the problems arising from boundaries set out by statutory definitions in financial markets.

This limited linguistic ability coupled with problems of interpretation breed opportunities in which the technical compliance with rules and regulations can be achieved while undermining the underlying justifications on which the entire regulatory system or a specific law is predicated. Compliance of this sort, dubbed “creative compliance,” which essentially involves

⁵¹ See 451 F.3d 873, 884 (D.C. Cir. 2006).

⁵² McBarnet, *supra* note 2, at 72.

⁵³ Fleischer, *supra* note 48, at 229.

⁵⁴ *Id.*

⁵⁵ HART, *supra* note 2, at 126.

⁵⁶ JOSEPH RAZ, THE AUTHORITY OF LAW: ESSAYS ON LAW AND MORALITY 214–18 (2d ed. 2009).

⁵⁷ JULIA BLACK, RULES AND REGULATORS 12–13 (1997).

⁵⁸ *Id.* at 13.

“using the law to escape legal control without actually violating legal rules,”⁵⁹ is well documented in the regulation literature.⁶⁰

Aside from the intrinsic limited ability of legal systems to capture the substance and the economics of transactions, another source of regulatory arbitrage is associated with “legal formalism.”⁶¹ Legal formalism, not recognizing the “necessity of choice in penumbral areas of rules,”⁶² follows the letter of a rule, even if this fails to serve its purpose.⁶³ The emphasis on literal interpretation and legal formalism highlights the role of definitions in legislation, rule-making and adjudication. Needless to say, contrary to the principles-based regulation the focus of which is on “goals” rather than “means” of achieving the goals, rules-based regulation creates vast opportunities for regulatory arbitrage.⁶⁴ Likewise, rules-based direct regulation of hedge funds along with the appeal to the literal meaning of words in adjudication and legal interpretation can be used to undermine the very purpose of regulation designed to address hedge funds’ externalities.

Accordingly, the necessity for interpretation implies that regulators’ reliance on definitions is not necessarily helpful, and in fact can be counterproductive. In the words of Judge Randolph, in *Goldstein v. SEC*, “[t]he lack of statutory definition of a word does not necessarily render the meaning of a word ambiguous, just as the presence of a definition does not necessarily make the meaning clear. A definition only pushes the problem back to the meaning of the defining terms.”⁶⁵ Therefore, the direct regulation of hedge funds that cannot avoid using statutory definitions is unlikely to cope with regulatory arbitrage by hedge funds.

Regardless of the subjects of rules and regulations, all types of regulation necessarily involve definitions and, to a certain degree, are subject to regulatory arbitrage. In other words, a direct regulation relying on precise rules and definitions spurs regulatory arbitrage by hedge funds as much as it encourages regulatory arbitrage by hedge funds’ counterparties and creditors. As we will argue in the next two Sections, however, the costs of regulatory arbitrage for hedge funds are substantially lower compared to

⁵⁹ Doreen McBarnet & Christopher Whelan, *The Elusive Spirit of the Law: Formalism and the Struggle for Legal Control*, 54 MOD. L. REV. 848 (1991).

⁶⁰ See KAREN YEUNG, SECURING COMPLIANCE: A PRINCIPLED APPROACH 3–4 (2004).

⁶¹ HART, *supra* note 2, at 129.

⁶² *Id.* at 124–30.

⁶³ McBarnet and Whelan define formalism as “a narrow approach to legal control—the use of clearly defined, highly administrable rules, an emphasis on uniformity, consistency and predictability, on the legal form of transactions and relationships and on literal interpretation.” See McBarnet & Whelan, *supra* note 59, at 848–49.

⁶⁴ McBarnet, *supra* note 2, at 72.

⁶⁵ See *Goldstein v. SEC*, 451 F.3d 873, 878 (D.C. Cir. 2006).

the costs for banks and mutual funds. Therefore, regulating hedge funds through, for instance, the banks they deal with is less likely to encourage regulatory arbitrage.

Taking all the above-mentioned problems with definitions into account, it is not surprising to observe a consistent tendency of regulators to avoid engaging in definitional issues in hedge fund regulation, especially those concerning a hedge fund as an entity.⁶⁶ The hassles in defining dynamic and heterogeneous entities such as hedge funds give rise to problems that make direct regulation difficult, if not impossible, to implement. Indeed, regulatory arbitrage is the main obstacle for a rules-based direct regulation of hedge funds. Such problems can be better addressed by using principles-based regulation or even indirect regulation, which, as discussed above, focuses on financial entities other than hedge funds themselves.

2. Hedge Funds' Closure Rate and Reputational Costs of Regulatory Arbitrage

There are limits to regulatory arbitrage, and market forces can, to some extent, mitigate the effects of the regulatory race-to-the-bottom that may stem from such a practice.⁶⁷ Indeed, a firm's ability to arbitrage between

⁶⁶ Entity-based approach to regulation or institutional regulation has its own proponents because the problem of definition is ubiquitous in the regulation of economic activities and is not limited to institution-based financial regulation. See Willa E. Gibson, *Are Swap Agreements Securities or Futures?: The Inadequacies of Applying the Traditional Regulatory Approach to OTC Derivatives Transactions*, 24 J. CORP. L. 379 (1999). In other words, definitional problems also pose almost the same challenges to the "product-based approach" to regulation. *Id.* at 416 (showing how regulation of swap agreements can escape regulation because there is uncertainty and complexities in defining financial products such as securities and futures. She concludes that, concerning swap markets, the regulatory problems such as definitional and jurisdictional problems can best be addressed by focusing on the "market participant-based regulation" rather than the classification of swap agreements as futures or securities.). However, with respect to hedge fund regulation, most regulations opted for an institutional one-size-fits-all regulation for "alternative investment funds" or "private funds."

⁶⁷ Race-to-the-bottom occurs when there are competing regulatory jurisdictions, and as a result of competitive pressures, the competitors subscribe to the lowest standards, perhaps to lower compliance costs and attract more businesses to increase its tax base. See Stephen J. Choi & Andrew T. Guzman, *Portable Reciprocity: Rethinking the International Reach of Securities Regulation*, 71 S. CAL. L. REV. 903, 906 (1998). Such a phenomenon can best be explained by strategic non-cooperative interactions forming a prisoners' dilemma in which every jurisdiction has a greater incentive to defect. However, as suggested above, competitive pressures do not necessarily result in a race-to-the-bottom. *Id.* at 916–17. Indeed, empirical evidence confirms the theory that regulatory competition will result in a separation between countries based on their securities regulatory system. *Id.* Some jurisdictions will cater to managers seeking opportunistic behavior and some others will attract

regulatory regimes is constrained by its willingness to be subject to the least credible regulatory regime. Financial institutions' willingness to choose a less credible regulatory regime is, among other things, a function of their investors' and counterparties' willingness to engage in transactions with financial institutions supported by a stable and reliable financial infrastructure.⁶⁸ Therefore, if because of reputational concerns the quality of regulation matters for financial institutions, regulatory arbitrage will occur only to a limited extent.

Recent empirical studies on banks' regulatory arbitrage find strong evidence of transfer of funds by banks to less regulated markets.⁶⁹ Meanwhile, these studies confirm that in the absence of a strong institutional infrastructure and of a legal environment supporting strong property and creditor's rights, the lax regulation by itself is not sufficient to give rise to massive capital flows from more regulated to less regulated jurisdictions, because a strong banking regulation may serve as a "signal of quality and stability."⁷⁰ These studies conclude that the relevance of the quality of financial regulation mitigates the concerns for regulatory arbitrage.⁷¹ Thus, the quality of regulation is of crucial importance because reputation-enhancing regulation is less prone to regulatory arbitrage than regulation that is anti-competitive, such as regulation imposing interest rate ceilings on loans.⁷²

In addition, the importance of regulation-induced reputation for different financial firms is asymmetric. In other words, the arguments for regulation as a signal of quality may matter more to some firms, such as banks, than to others, such as hedge funds. There are two reasons for such a differential impact of regulation-induced reputation on firms' regulatory arbitrage behavior. The first reason lies in hedge funds' idiosyncratic nature and special attributes. The second reason is the relative opaqueness of hedge funds.

Reputational concerns constitute the most important consideration discouraging firms from taking refuge in less credible financial jurisdictions

managers/issuers seeking to signal credibility and quality. *Id.* at 950–51. Investors and companies will identify themselves accordingly by registering with those regulators. *Id.* In turn, a rational investor will discount for investing in bad quality issuers offsetting the risk of opportunistic behavior. *Id.* See also RICHARD J. HERRING & ROBERT E. LITAN, FINANCIAL REGULATION IN THE GLOBAL ECONOMY 5, 131 (1995) (arguing that the competitive threat to the U.S. banking system from offshore financial centers in the US dollar deposit market is limited by reputational considerations).

⁶⁸ KERN ALEXANDER ET AL., GLOBAL GOVERNANCE OF FINANCIAL SYSTEMS: THE INTERNATIONAL REGULATION OF SYSTEMIC RISK 10–12 (2006).

⁶⁹ Joel F. Houston, Chen Lin & Yue Ma, *Regulatory Arbitrage and International Bank Flows*, 67 J. FIN. 1845, 1847 (2012).

⁷⁰ *Id.* at 1848.

⁷¹ *Id.*

⁷² ALEXANDER ET AL., *supra* note 68, at 12.

or shifting their businesses to less regulated financial sectors within one jurisdiction.⁷³ Repeated interactions are a prerequisite for the emergence of evolutionary cooperation based on trust and reputation.⁷⁴ Limited future interactions, however, breed opportunistic behavior.⁷⁵ In the hedge fund industry, limited transparency and the transient nature of hedge funds that arises from extraordinarily higher closure rate among them⁷⁶ undermine the importance of regulation-induced reputation. In contrast, commercial and investment banks, mutual funds, and other mainstream financial institutions with lower closure rates often have multi-dimensional financial relationships with other market participants and regulators.⁷⁷ The prospect of long-term interactions creates much stronger reputational effects for these institutions, reducing their incentives to engage in opportunistic behavior.

Unlike other financial institutions, hedge funds often have a one-dimensional business prospect focused on the maximization of returns from trading.⁷⁸ Therefore, they are much less constrained by long-term business interests. In addition, while other mainstream financial institutions have limits on their portfolio concentration and should comply with certain portfolio diversification policies, there is no limit to hedge funds' portfolio concentration.⁷⁹ In the absence of such limits, hedge funds can take large positions in certain individual markets or even individual assets. Because hedge funds are active traders, they can also change these positions very quickly. The risk that they act opportunistically stems precisely from these circumstances.⁸⁰

In conclusion, it seems that hedge funds are less concerned about reputation than their counterparties. More precisely, the importance of regulation-induced reputation in the decision to engage in regulatory arbitrage is of less

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ It is estimated that the average life span of a hedge fund is forty months. Sixty percent of hedge funds disappear within three years and fewer than fifteen percent of hedge funds last longer than six years. See Michael R. King & Philip Maier, *Hedge Funds and Financial Stability: Regulating Prime Brokers Will Mitigate Systemic Risks*, 5 J. FIN. STABILITY 283, 286 (2009); see also Stephen J. Brown, William N. Goetzmann & Roger G. Ibbotson, *Offshore Hedge Funds: Survival and Performance, 1989–95*, 72 J. BUS. 91, 91–93 (1999); Burton G. Malkiel & Atanu Saha, *Hedge Funds: Risk and Return*, 61 FIN. ANALYSTS J. 80, 82–84 (2005).

⁷⁷ House of Representatives of Australia, *Hedge Funds, Financial Stability and Market Integrity* 5 (June, 1999) (unpublished manuscript), available at www.rba.gov.au/publications/submissions/hdge-fnds-mkt-stab/pdf/hdge-fnds-mkt-stab.pdf.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

concern for hedge funds than for more established and reputation-sensitive mainstream financial institutions, such as commercial and investment banks, mutual funds, and pension funds. This circumstance undermines the effectiveness of the direct regulation of hedge funds.

3. Transparency, Reputational Costs, and Regulatory Arbitrage by Hedge Funds

The second difference between hedge funds and other mainstream financial institutions with respect to regulatory arbitrage is that the mainstream firms are subject to mandatory disclosure to investors and regulators. Until recently, hedge funds operated under a voluntary disclosure system. Under a voluntary system of disclosure, regulation cannot enhance reputation and therefore cannot inhibit regulatory arbitrage.

It is argued that even in unregulated markets, high performing firms have incentive to disclose in order to signal quality and differentiate themselves from poorly performing firms.⁸¹ However, the main obstacle to the voluntary provision of the optimal level of information is the problem of externalities.⁸² The law and economics literature has shown that disclosure, even when socially optimal, may not be privately optimal.⁸³ Similar to the problem of commons or “impure public goods” nature of information,⁸⁴ this problem exists due to the externalities arising from non-excludability of information when it is disclosed to the market. In this context, such externalities cause a divergence between privately and socially optimal levels of disclosure.

As an example, Admati and Pfleiderer show that in a model of voluntary disclosure by firms in financial markets, externalities arise when the firms’ values are correlated.⁸⁵ In such a setting, the costly disclosure of one firm can be used for the valuation of other firms, which results in a free rider problem. The free rider problem refers to a situation in a public goods game in which some players do not pay for what they consume.⁸⁶ As applied to the hedge fund context, the competitors of a disclosing hedge fund will have free access to the data disclosed by the hedge fund. This will help the

⁸¹ George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 499–500 (1970).

⁸² Christian Leuz & Peter Wysocki, *Economic Consequences of Financial Reporting and Disclosure Regulation: A Review and Suggestions for Future Research* 16 (Mar. 13, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1105398>.

⁸³ *Id.*

⁸⁴ OGUS, *supra* note 36, at 34.

⁸⁵ Anat R. Admati & Paul Pfleiderer, *Forcing Firms to Talk: Financial Disclosure Regulation and Externalities*, 13 REV. FIN. STUD. 479, 512 (2000).

⁸⁶ *Id.* at 500–01.

disclosing firm's competitors, while the cost of disclosure is entirely borne by the disclosing firm.⁸⁷ Free riding undermines the incentives to produce information in the first place.

In such a scenario, Admati and Pfleiderer demonstrate that the amount of disclosure is often suboptimal and there is room for disclosure regulation to improve social welfare.⁸⁸ In addition, Fishman and Hagerty argue that *mandatory* disclosure is necessary in markets in which information about the product is relatively difficult to understand.⁸⁹ Since financial products and services are credence goods,⁹⁰ a mandatory disclosure system seems necessary.

In the absence of a mandatory disclosure system for hedge funds, the free rider problem prevents hedge funds from signaling quality by voluntarily registering with a credible regulator. In such a setting, information in financial markets is under-provided. Consequently, the signaling effects of registering with reputable regulators are reduced. Since registration (and disclosure) involves costs that do not provide substantial benefits to hedge funds due to reduced signaling effects, there will be no incentive to register with credible regulators. Therefore, in the absence of a general system of mandatory disclosure, the direct regulation of hedge funds will arguably be short-circuited by regulatory arbitrage.

B. Placebo Effects of Direct Regulation

In the hedge fund industry, hedge funds' counterparties and their investors provide most market discipline. Institutional investors have a fiduciary duty to their investors to carry out due diligence when investing in hedge funds.⁹¹ Due diligence requires performing an initial review as well as ongoing monitoring and assessment of hedge funds' risks and their adherence to certain strategies, risk management policies, and internal operating controls disclosed in their private placement memoranda and other related documents.⁹² In addition, the fiduciary duties of the managers of the

⁸⁷ Merritt B. Fox, *Retaining Mandatory Securities Disclosure: Why Issuer Choice Is Not Investor Empowerment*, 85 VA. L. REV. 1335, 1345–46 (1999).

⁸⁸ Admati & Pfleiderer, *supra* note 85, at 512–13.

⁸⁹ Michael J. Fishman & Kathleen M. Hagerty, *Mandatory Versus Voluntary Disclosure in Markets with Informed and Uninformed Customers*, 19 J.L. ECON. & ORG. 45, 47 (2003).

⁹⁰ Alessio M. Paces & Roger J. Van den Bergh, *An Introduction to the Law and Economics of Regulation*, in "Regulation and Economics," ENCYCLOPEDIA OF LAW AND ECONOMICS 8–9 (Alessio M. Paces & Roger J. Van den Bergh eds., 2d ed. 2012). For more details about the concept of credence goods, see Philip Nelson, *Information and Consumer Behavior*, 78 J. POL. ECON. 311, 311–12 (1970).

⁹¹ Cole et al., *supra* note 19, at 11.

⁹² *Id.*

institutional investors towards their own investors require institutional investors to monitor hedge funds' leverage. In other words, managers of the investment funds should protect their funds against any counterparty risk to their own investment funds posed by excessive leverage taking by hedge funds.⁹³ These institutions can also require hedge funds to abide by certain industry standards regarding valuation, reporting, ethics, and risk management set by self-regulatory organizations.⁹⁴

Nevertheless, it is argued that government regulation can negatively affect the market discipline induced by the effective performance of the duty to conduct due diligence by institutional investors, because regulation can generate a false impression of safety for financial institutions. In other words, the very introduction of supposedly stability-enhancing mechanisms by governments may create a sense of comfort in financial institutions engaging in risky financial activities with the directly regulated firm. Although in the literature on the direct regulation of hedge funds the change in the risk perception and the false impression of safety stemming from the regulation of hedge funds is referred to as "moral hazard,"⁹⁵ such a regulation-induced illusion of safety can hardly be characterized as such in the absence of effective risk shifting to governments and their taxpayers.⁹⁶ This behavioral

⁹³ *Id.*

⁹⁴ *Id.* at 11–12.

⁹⁵ See Crockett, *supra* note 13, at 25; see also Barry Eichengreen & Donald Mathieson, *Hedge Funds: What Do We Really Know?*, 19 INT'L MONETARY FUND, ECON. ISSUES (1999), available at <http://www.imf.org/external/pubs/ft/issues/issues19/>; King & Maier, *supra* note 76, at 293–94; Danièle Nouy, *Indirect Supervision of Hedge Funds*, 10 FIN. STABILITY REV. 95, 97 (2007). Some scholars argue that even creating an international clearinghouse or credit registry containing information about hedge fund leverage can result in a moral hazard problem for lenders. See Eichengreen & Mathieson, *supra* note 95. Some commentators suggest that direct regulation that increases the transparency of counterparty exposures or trading positions is not feasible, and that it may create a moral hazard problem reducing overall market efficiency. See Michael R. King & Philipp Maier, *Hedge Funds and Financial Stability: The State of the Debate* 16 (Bank of Can. Discussion Paper, No. 2007-9, 2007), available at <http://www.bankofcanada.ca/2007/09/discussion-paper-2007-9/>. King and Maier argue that increased regulation may lead individual hedge funds to take on more risks or to invest less effort on risk management. See King & Maier, *supra* note 76, at 293–94. In their view, moral hazard of this type can increase systemic risk. *Id.*

⁹⁶ Moral hazard occurs in situations in which the costs of risk taking are borne by a party other than the risk taker herself, or in a situation in which the risk taker believes that the costs of such risks can be shifted to parties other than herself. *Moral Hazard*, INVESTOPEDIA, <http://www.investopedia.com/terms/m/moralhazard.asp> (last visited Nov. 19, 2014). Precisely defined, moral hazard is an opportunistic behavior characterized by the exploitation of the less informed party by an informed party through an unobserved action. *Id.* Therefore, moral hazard does not involve changes in the risk perception of hedge funds by direct regulation.

effect of hedge fund regulation is therefore best described as a “placebo effect of law.”⁹⁷

Like medical placebo effects, laws also have placebo effects. The placebo effect of a law “manipulates individuals’ expectations regarding a risk that the law addresses.”⁹⁸ Therefore, the introduction of new laws and regulations can change the risk perception of the individuals regarding the regulated activity or entity, whereas the effective impact of the laws in question on risk-taking is much lower and could be nil.⁹⁹ The placebo effect, however, alters the welfare of the regulated individuals and firms independently of the real effects of law.¹⁰⁰ Legal placebo effect can cause a convergence or divergence of the individuals’ perception of the probability and magnitude of risks with regard to the objective risk.¹⁰¹ “Positive placebo effect” of a law occurs when prior to the implementation of a law, individuals overestimate a risk and perceive the legislation as mitigating that risk.¹⁰² In other words, the law’s effect is to reduce the level of perceived risks in individuals who overestimate the risks had no legislation been passed. The most prominent example of such an effect was documented in the aviation industry after the 9/11 attacks to the World Trade Center.¹⁰³

With respect to hedge fund direct regulation, the mere existence of a (direct) regulatory regime may reduce the vigilance of hedge funds’ counterparties who are the primary source of market discipline.¹⁰⁴ Furthermore, the

⁹⁷ Aviram, *The Placebo Effect of Law*, *supra* note 41, at 54. See also Amitai Aviram, *Allocating Regulatory Resources*, 37 J. CORP. L. 739, 739–42 (2012).

⁹⁸ Aviram, *The Placebo Effect of Law*, *supra* note 41, at 57.

⁹⁹ Aviram, *Allocating Regulatory Resources*, *supra* note 97, at 760.

¹⁰⁰ Aviram, *The Placebo Effect of Law*, *supra* note 41, at 56–57. The placebo effect of law can also provide an explanation for the demand for regulation. Indeed, such an effect might be a reason why even the firms that in normal times oppose regulations may, in distressed times, demand regulation to enhance trust in the system. Examples of such demand for regulation abound: the rise in demand for regulation after the publication of Upton Sinclair’s novel *The Jungle*, and rise in demand for new regulations after the Enron scandal (culminating in the passage of the Sarbanes-Oxley Act) are the most prominent. See Joseph E. Stiglitz, *Government Failure vs. Market Failure: Principles of Regulation*, in GOVERNMENT AND MARKETS: TOWARD A NEW THEORY OF REGULATION 13–15 (Edward J. Balleisen & David A. Moss eds., 2010).

¹⁰¹ Aviram, *The Placebo Effect of Law*, *supra* note 41, at 57.

¹⁰² See *id.* at 60–61 (discussing details about positive placebo effect, negative placebo effect, positive anti-placebo effect, and the negative anti-placebo effect of law).

¹⁰³ Immediately after the attacks, the number of flight passengers significantly plummeted. *Id.* at 55–56. On November 19, the U.S. government enacted the Aviation and Transportation Security Act (“ATSA”) to improve aviation security. *Id.* The ATSA was followed by a surge in the number of passengers. *Id.*

¹⁰⁴ See Crockett, *supra* note 13, at 25; Eichengreen & Mathieson, *supra* note 95; King & Maier, *The State of the Debate*, *supra* note 95, at 16; L’HABITANT, *supra* note 43, at 37–38;

introduction of such a direct regulation may induce hedge funds to think that if strategies become crowded or hazardous the supervisors will alert them.¹⁰⁵ Such a false impression may result in a suboptimal investment of hedge funds in risk management.¹⁰⁶ In short, the regulatory agency's supervision and oversight of hedge funds may create a legal placebo effect by giving hedge funds' counterparties and investors the false impression that these institutions are safe to invest and do business with.¹⁰⁷

Indirect regulation of hedge funds is less prone to creating a false illusion of safety or legal placebo effect. It can mitigate the negative implications of the positive placebo effects that direct regulation creates in hedge funds' counterparties. The key reason is that indirect regulation works by delegating the supervisory functions to hedge funds' counterparties and investors.¹⁰⁸ By doing so, indirect regulation credibly signals to hedge funds' counterparties that no regulatory agency other than the counterparties themselves will discipline hedge funds.¹⁰⁹ Therefore, the indirect regulation will involve no risk misperceptions arising from placebo effects of the law.

C. Heterogeneity of Hedge Funds and One-Size-Fits-All Direct Regulation

To avoid the costs of regulation, the responsive strategies of financial firms to regulation have induced every "otherwise non-hedge fund investment pool" to circumvent the restrictions of regulation by complying with the statutory exceptions to become a "hedge fund." Such a move to acquire hedge fund status and make use of statutory exemptions increased the heterogeneity of funds bearing the hedge fund brand name.¹¹⁰ Therefore,

THE GRP. OF THIRTY, WORKING GRP. ON FIN. REFORM, FINANCIAL REFORM: A FRAMEWORK FOR FINANCIAL STABILITY 60 (2009).

¹⁰⁵ King & Maier, *supra* note 76, at 293.

¹⁰⁶ *Id.* at 293–94.

¹⁰⁷ On the other hand, McVea argues that given that moral hazard problems impairing market discipline are "an inevitable part of any responsible regulatory regime," concerns about moral hazard should not stifle all regulatory attempts to address the negative (systemic) externalities. Harry McVea, *Hedge Funds and the New Regulatory Agenda*, 27 LEGAL STUD. 709, 737 (2007). Nevertheless, this approach implies that a necessary step in the introduction of every regulatory measure for hedge funds should be to take account its unintended consequences and provide safeguards against it.

¹⁰⁸ King & Maier, *The State of the Debate*, *supra* note 95, at 11.

¹⁰⁹ This occurs while the banks themselves are being watched by the regulators.

¹¹⁰ For example, Payne criticizes the Alternative Investment Fund Managers Directive (AIFMD) for failing to adequately differentiate between hedge funds and private equity funds in regulating these two different types of alternative investment funds. *See* Payne, *supra* note 2, at 584; *see also* Rothschild, *supra* note 2. Rothschild argues that the AIFMD casts its regulatory net so wide that it captures other firms such as investment trusts in Britain. *Id.*

today the term “hedge fund” applies to many different funds with vastly heterogeneous investment strategies sharing only the formal compliance with the letter of the law.

Given the heterogeneity of hedge fund types and their unrestricted investment strategies, one-size-fits-all solutions for such financial entities are not a viable option. For some hedge funds, proprietary information is more crucial than for others. The value of such information for hedge funds depends on what strategies they specialize in. Some hedge funds are not willing to disclose information even at the expense of foregoing more investments or receiving better credit terms.¹¹¹ They cannot disclose information for fear that their information disclosure may strategically be used against them. For example, a hedge fund holding a large number of short positions may put itself at risk of a short squeeze¹¹² by disclosing its positions.¹¹³ In addition, due to the economies of scale in information production, information disclosure is less costly for larger hedge funds than for smaller ones. Therefore, the costs of information disclosure and reporting will be borne disproportionately. Put differently, smaller hedge funds will incur costs disproportionate to their size.

Given all the above factors undermining the direct regulation of hedge funds, there are arguments in favor of indirect regulation, which can simply achieve goals that direct regulation cannot achieve. We will argue that indirect regulation is more appropriate in the context of hedge fund regulation. The reasons for this are based on the existence of suitable surrogate regulators, on the resistance of the indirect regulation to regulatory arbitrage, and finally on the positive implications of enhanced regulatory competition among “surrogate regulators” in terms of efficiency and resistance to regulatory capture.

III. INDIRECT REGULATION OF HEDGE FUNDS

In contrast to direct regulation, which is applied directly to the hedge fund entity itself or to the activities immediately performed by hedge funds, indirect regulation includes “market discipline-inspired regulatory measures targeting the creditors and counterparties of hedge funds (mainly, but not

¹¹¹ Cole et al., *supra* note 19, at 12.

¹¹² See LHABITANT *supra* note 46, at 33.

¹¹³ *Id.* (detailing historical examples of short squeezes). Nevertheless, these arguments half reveal and half conceal the underlying facts about hedge funds and other regulated financial institutions. For example, if the short squeeze argument applies to hedge funds, it can also be applicable to other financial institutions engaging in options contracts. Although some financial institutions are prohibited from taking short positions through short sales, they can establish the same positions by purchasing put-options on the underlying securities.

exclusively, their prime brokers and securities brokers).”¹¹⁴ In other words, indirect regulation is based on the regulation of financial institutions that either provide financial services to hedge funds or are their counterparties. These institutions, in turn, are given the incentives to oversee hedge funds.¹¹⁵ Therefore, a key element in the indirect approach is regulator’s reliance on market participants—namely investors, creditors, and counterparties—to reward well-managed hedge funds and to punish poorly managed ones.¹¹⁶

Such an approach to indirect regulation can be seen as a form of delegation of regulatory functions from regulatory agencies to the stakeholders of a given activity.¹¹⁷ These stakeholders play the role of surrogate regulators. As a consequence of such devolution, the entity assuming the regulatory functions, under certain conditions, takes on those regulatory functions and applies them to the target entity.¹¹⁸ Regulatory functions can be delegated to public interest groups (PIGs), to the firms themselves, to their industry associations, or to the firms’ competitors.¹¹⁹ One example is the delegation of regulatory functions to Self-Regulatory Organizations (SROs)¹²⁰ such as stock exchanges, industry associations, and credit rating agencies.¹²¹ After

¹¹⁴ ATHANASSIOU, *supra* note 25, at 227. He further adds that:

[t]he aim of such measures would be to enhance the counterparty risk management practices that financial institutions apply in their dealings with hedge funds and/or to impose disclosure duties on prime brokers and other crucial hedge fund counterparties in respect of their hedge fund exposures. An indirect approach could be complemented by the obligatory ‘registration’ of managers of hedge funds in conjunction with the (voluntary) improvement, by the hedge fund industry itself, of its transparency, risk management and asset valuations standards and practices.

Id.

¹¹⁵ DIXON ET AL., *supra* note 19, at 34, 86.

¹¹⁶ Cole et al., *supra* note 19, at 11–12.

¹¹⁷ *Id.* at 11.

¹¹⁸ Cole et al., *supra* note 19, at 11.

¹¹⁹ IAN AYRES & JOHN BRAITHWAITE, *RESPONSIVE REGULATION: TRANSCENDING THE REGULATION DEBATE* 158 (1992).

¹²⁰ Alternatively, government regulators can delegate their regulatory functions to the firm’s competitors. This type of regulatory delegation provides the markets with horizontal accountability (or market accountability).

¹²¹ In this sense, SROs act as surrogate regulators. The examples of SROs in financial markets are, inter alia, the Financial Industry Regulatory Authority (FINRA), the National Securities Exchanges including the New York Stock Exchange (NYSE), and the National Association of Securities Dealers Automated Quotations (NASDAQ). Managed Funds Association (MFA) is an industry association and self-regulatory agency for hedge funds. Nevertheless, a government regulator sometimes maintains some residual rights or regulatory functions to monitor and take action on the activities of SROs. AYRES & BRAITHWAITE, *supra* note 119, at 102–08. This type of self-regulation is often referred to as “enforced-self regulation.” *Id.* The notion of enforced-self regulation lies somewhere between voluntary

the recent global financial crisis and introduction of numerous heavy-handed regulation, some hedge fund SROs are being formed “to head off further regulatory scrutiny by drafting self-regulatory codes of best practice.”¹²²

Furthermore, indirect regulation can be conceived as “intermediated regulation,” or regulation that is primarily applied to an intermediary through whom the effects are channeled into the primary target of the regulation. With respect to hedge fund regulation, this approach implies the indirect regulation of hedge funds through the direct regulation of *other* market participants.¹²³ For example, putting a cap on the leverage ratio or increasing the counterparty risk management standards for prime brokers, which are the main counterparties of hedge funds, will have the effect of reducing lending to hedge funds or requiring more diligence on the part of prime brokers dealing with their hedge fund clients.¹²⁴ The introduction of Section 619 of the Dodd-Frank Act¹²⁵ (also known as the Volcker Rule), prohibiting proprietary trading by banking entities and restricting their investment in hedge funds and private equity funds, is an example of such a regulatory strategy.¹²⁶

self-regulation and direct regulation. *Id.* Although it is less intrusive than direct regulation, it is more interventionist and intrusive than the voluntary self-regulation. *Id.* In such a system, firms or their industry associations are required to make their own rules. *Id.* The government agencies afterwards ratify those rules. *Id.* From that point on, if there is non-compliance with those privately-laid and publicly ratified rules, the rules will be publicly enforced against the firms or their associations. *Id.*

¹²² Harry McVea, *Hedge Fund Regulation, Market Discipline and the Hedge Fund Working Group*, 4 CAP. MKT. L.J. 63, 83 (2009). Crafting self-regulation by the industry to shield against and probably divert the coming tides of regulation by the state seems to be a recursive pattern in the history of financial regulation. *See* ALAN D. MORRISON & WILLIAM WILHELM, JR., *INVESTMENT BANKING: INSTITUTIONS, POLITICS, AND LAW* 81–82 (2007). Such a practice can indeed blunt the edge of the regulatory sword and forestall aggressive government intervention. *See* Andreas Engert, *Transnational Hedge Fund Regulation*, 11 EUR. BUS. ORG. L. REV. 329, 333–35 (2010). In addition, since without government’s active role in the enforcement of the SROs’ rules they remain deficient, it is argued that self-regulation can only complement government regulation and cannot substitute it. *See id.*

¹²³ *See* Paul M. Jonna, *In Search of Market Discipline: The Case for Indirect Hedge Fund Regulation*, 45 SAN DIEGO L. REV. 989, 1009–10 (2008).

¹²⁴ *See generally* Jon Danielsson et al., *Highwaymen or Heroes: Should Hedge Funds Be Regulated?* 1 J. FIN. STABILITY 522 (2005).

¹²⁵ 12 U.S.C. § 1851 (2012).

¹²⁶ The Volcker Rule is part of the post-financial crisis regulatory reforms aimed at addressing problems associated with hedge and private equity funds’ interconnectedness with Large Complex Financial Institutions (LCFIs). *Volcker Rule*, INVESTOPEDIA, <http://www.investopedia.com/terms/v/volcker-rule.asp> (last visited Nov. 19, 2014). The Volcker Rule accomplishes its goals by prohibiting proprietary trading and banking entities’ investments in and sponsorship of hedge funds and private equity funds. *Id.* These prohibitions

Crafting appropriate indirect regulatory mechanisms for hedge funds requires identifying the financial institutions that have the most consistent, continuous, and day-to-day relationships with hedge funds. Identifying these institutions means identifying those equipped with sufficient knowledge and understanding of hedge funds and their activities in financial markets.¹²⁷ These institutions can potentially be used as “surrogate regulators” with regulatory functions delegated from government agencies.¹²⁸

To fully understand the indirect regulation of hedge funds through the most appropriate surrogate regulators, a brief overview of the prime brokerage industry is in order. The most significant hedge fund counterparties are the financial institutions providing prime finance or prime brokerage services to hedge funds.¹²⁹ Prime brokerage is best defined in the SEC No-Action Letter of 1994 as

a system developed by full-service firms to facilitate the clearance and settlement of securities trades for substantial retail and institutional investors who are active market participants. Prime brokerage involves three distinct parties: the prime broker, the executing broker, and the customer. The prime broker is a registered broker-dealer that clears and finances the customer trades executed by one or more other registered broker-dealers (“executing broker”) at the behest of the customer.¹³⁰

pursue three major objectives: (1) addressing problems arising from hedge fund interconnectedness with LCFIs, (2) preventing cross-subsidization of private funds by depository institutions having access to government explicit and implicit guarantees, and (3) regulating conflicts of interest between banks, their customers, and hedge funds. *See* Hossein Nabilou, *Addressing Interconnectedness of Hedge Funds with Large Complex Financial Institutions: Is the Volcker Rule Panacea?* (Ludwig-Maximilians-Universität München, Working Paper, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2329335.

¹²⁷ In this sense, indirect regulation becomes very similar to regulation by standards, because it relies on decentralized knowledge. For more information about how standards involves utilizing such knowledge, see Hans-Bernd Schaefer, *Legal Rules and Standards*, in *THE ENCYCLOPEDIA OF PUBLIC CHOICE*, Volume II 347, 349 (Charles K. Rowley & Friedrich Schneider eds., 2004).

¹²⁸ Prime brokers offer a range of services to hedge funds. Key functions include collateralized financing of hedge fund exposures and execution of over-the-counter (OTC) derivatives transactions, partly through prime brokers interposing themselves between hedge fund transactions with third parties. This role of prime brokers puts them on the top of the list of candidates who can take on the indirect regulation of hedge funds. *See* Axel A. Weber, *Hedge Funds: A Central Bank Perspective*, 10 *FIN. STABILITY REV.* 161, 166–67 (2007).

¹²⁹ Giorgio Tosetti Dardanelli, *Direct or Indirect Regulation of Hedge Funds: A European Dilemma*, 2011 *EURO. J. RISK REG.* 463 (2011).

¹³⁰ Prime Broker Committee Request, SEC No-Action Letter, 1994 WL 808441 (Jan. 25, 1994); *see also* PRESIDENT’S WORKING GRP. ON FIN. MKTS., *HEDGE FUNDS, LEVERAGE, AND THE LESSONS OF LONG-TERM CAPITAL MANAGEMENT* p. B-4 (1999), available at <http://www.treasury.gov/resource-center/fin-mkts/documents/hedgfund.pdf>.

In other words, prime brokerage services are the services offered by prime brokers, who are part of major investment banks and securities firms, to their prime clients, such as hedge funds and other professional investors. These services include securities lending, repo financing, acting as custodian of customers' securities, clearing customers' transactions, capital raising for customers, and providing seed investment for prime clients.¹³¹ Prime brokers also offer execution brokerage services, such as services related to trade execution, transition management, commission sharing arrangements, direct market access (DMA), and research.¹³²

There are three main categories of prime brokers: elite prime brokers, leading prime brokers (the leading prime brokers include Bank of America, Merrill Lynch, Credit Suisse, BNP Paribas, UBS, Deutsche Bank, Citigroup, and others), and tertiary regional and smaller niche prime brokers.¹³³ The prime finance market was historically an oligopoly with major dominant U.S. investment banks such as Goldman Sachs, Morgan Stanley, and Bear Stearns (now JPMorgan Chase) dominating the market.¹³⁴ Although the prime brokers' primary clients are hedge funds, hedge funds are not alone in using prime brokerage services.¹³⁵ A number of other financial market players including private equity funds, pension funds, investment companies, sovereign wealth funds, and other national and multinational corporations constitute the broad range of prime brokers' clients.¹³⁶

Hedge funds have at least three main relationships with Large Complex Financial Institutions (LCFIs), which are engaged in offering prime brokerage services. An LCFI can be a hedge fund's prime broker, its trading counterparty, or the owner or manager of a hedge fund.¹³⁷ These three main roles are not mutually exclusive, and one LCFI can simultaneously undertake all three tasks.¹³⁸ As mentioned above, in the prime brokerage function, LCFIs offer a range of services including financial, administrative, and operational services.¹³⁹

¹³¹ See AIKMAN, *supra* note 8, at 125–26.

¹³² *Id.*

¹³³ *Id.* at 32.

¹³⁴ Jenny Anderson, *U.S. Regulators Grow Alarmed Over 'Hedge Fund Hotels'—Business—International Herald Tribune*, N.Y. TIMES (Jan. 1, 2007), <http://www.nytimes.com/2007/01/01/business/worldbusiness/01iht-Hedge.4071677.html?pagewanted=all>.

¹³⁵ See AIKMAN, *supra* note 8, at 57.

¹³⁶ *Id.*

¹³⁷ The Dodd-Frank Act in the U.S. imposed major limitations on the relationships between hedge funds and banking entities. See generally *Volcker Rule*, *supra* note 126.

¹³⁸ King & Maier, *The State of the Debate*, *supra* note 95, at 290.

¹³⁹ Their main financial service is secured lending. The range of services that prime brokers offer to their hedge fund clients arms them with vast knowledge of the hedge fund

Hedge funds are also trading counterparties of LCFIs across a full range of financial instruments. They participate in the primary and secondary markets for securities underwritten by LCFIs, which means that hedge funds and LCFIs are often exposed to similar risks arising from similar underlying financial instruments.¹⁴⁰ These common risk exposures were highlighted in the recent financial crisis. For example, a default by a prime broker might transmit the problem to hedge funds. This occurred in the collateralized debt obligation (CDO) markets after the bankruptcy of Lehman Brothers, a prime broker.¹⁴¹ The global financial crisis particularly highlighted the risks for hedge funds originating from the exposure to one prime broker, Lehman.¹⁴² Last, LCFIs can also be hedge fund owners and managers. Needless to say, the greatest concern arises when the three roles overlap and concentrate in one LCFI.

Given the above institutional setting and the relationship between hedge funds and their prime brokers, indirect measures for regulating hedge funds primarily focus on the regulation of their counterparties, creditors, and investors, the most important of which are prime brokers. Therefore, indirect regulation requires that regulations be imposed on hedge fund prime brokers as counterparties, rather than on the hedge funds themselves. Such measures include:

- Mandatory registration, regulation and supervision of prime brokers and banks which provide loans to hedge funds;¹⁴³
- Prohibiting banks from managing, controlling, or sponsoring hedge funds (the Volcker Rule);¹⁴⁴
- Limitations on the qualifications of depositaries¹⁴⁵ and prime brokers;
- Oversight of trading relations;
- Capital adequacy requirements for prime brokers;
- Robust internal risk management systems for prime brokers;

business. Again, these constant interactions with hedge funds make them the most suitable institution to perform the indirect regulation of hedge funds.

¹⁴⁰ King & Maier, *supra* note 76, at 291.

¹⁴¹ *Id.*

¹⁴² *Id.* at 290.

¹⁴³ TECHNICAL COMM. OF THE INT'L ORG. OF SEC. COMM'NS, HEDGE FUNDS OVERSIGHT: FINAL REPORT 8–16 (2009).

¹⁴⁴ Eechoud et al., *supra* note 9, at 270–71.

¹⁴⁵ In contrast to an institution holding the assets pursuant to a security arrangement, a depositary is an institution that holds assets of a hedge fund in custody for safekeeping purposes. See Angus Duncan, Edmond Curtin & Marco Crosignani, *Alternative Regulation: The Directive on Alternative Investment Fund Managers*, 6 CAP. MKT. L.J. 326, 360–61 (2011). Therefore, a hedge fund's depositary acts as a custodian of its assets. *Id.*

- Improving the information available in the market in which hedge funds operate by transforming over-the-counter (OTC) markets¹⁴⁶ into centrally cleared exchanges;¹⁴⁷
- Devising processes to obtain relevant information for crisis management;
- Wealth and sophistication requirements for hedge fund investors.¹⁴⁸

The most compelling argument for the indirect regulation of hedge funds is rooted in the fact that hedge funds' herding behavior and counterparty risks (giving rise to interconnectedness externalities)¹⁴⁹ are the major transmission channels of systemic risk.¹⁵⁰ And because indirect regulation requires focusing on the relationships of hedge funds with LCFIs, it is the most appropriate policy instrument to tackle the problems arising from the interconnectedness of hedge funds with LCFIs. The top prime brokers are almost all LCFIs that have exposure to hedge funds and to each other. This interconnectedness makes them a key channel of systemic risk contagion stemming from hedge funds.¹⁵¹

¹⁴⁶ OTC financial products are non-standardized or customized products traded directly between two counterparties and without any exchange facilities involved in the trade. *Over-The-Counter—OTC*, INVESTOPEDIA, <http://www.investopedia.com/terms/o/otc.asp> (last visited Nov. 19, 2014). OTC products are contrasted with exchange-traded financial instruments or products, which are standardized instruments cleared through exchanges. *Id.*

¹⁴⁷ Christian Noyer, *Hedge Funds: What are the Main Issues?*, 10 FIN. STABILITY REV. 105, 109–11 (2007).

¹⁴⁸ There are proposals for indirect hedge fund regulation already in place. *See, e.g.*, Dale A. Oesterle, *Regulating Hedge Funds*, 1 ENTREPRENEURIAL BUS. L.J. 1, 37–38 (2006) (stating that direct regulation might be harmful). Oesterle supports indirect regulation through capital adequacy requirements for bank lending to hedge fund counterparties and the introduction of mandatory disclosure requirements with respect to banks' direct material exposure to hedge funds. *Id.* Eichengreen and Mathieson propose the idea of a "clearinghouse or credit registry that would assemble information from national sources." Eichengreen & Mathieson, *supra* note 95. Cole et al. also propose that the "[b]anks should see both quantitative and qualitative indicators of a hedge fund's net asset value, risk exposures, and liquidity. Where this information is not forthcoming from a particular hedge fund, counterparties should tighten margin collateral and other credit terms." Cole et al., *supra* note 19, at 11–12.

¹⁴⁹ Interconnectedness externalities originate from the failure of one firm and can impose costs on other financial firms not directly related to the failing firm.

¹⁵⁰ King & Maier, *supra* note 76, at 286–87.

¹⁵¹ Direct exposure of hedge funds to LCFIs can arise from several types of transactions that can be divided into two main categories: (1) transactions where banks act as counterparties to hedge funds, such as unsecured lending, secured financing (including repo markets), prime brokerage and OTC derivatives; and (2) transactions where banks act as investors in hedge funds, either in their proprietary trading or in order to offer to their customers

The next Section argues in support of the indirect regulation of hedge funds. The main argument is that since the most important channels of propagation of systemic risk from hedge funds is through their relationships with LCFIs, the indirect regulation of hedge funds through their counterparties is the best method to cope with this problem. Therefore, the most prominent advantage of the indirect regulation of hedge funds over direct regulation is that it focuses precisely on the financial institutions and channels through which hedge funds' systemic externalities tend to propagate.¹⁵² Whether crafted as a form of delegated regulatory functions or as intermediated regulation, the indirect regulation of hedge funds has the following advantages over the direct regulation.

A. Existence of Suitable "Surrogate Regulators"

Before introducing new regulation for hedge funds, it is important for regulators to ask why regulation of hedge funds should be different from that of other financial institutions such as commercial and investment banks, mutual funds, insurance companies, and pension funds. The main differences between the hedge fund industry and other mainstream financial institutions, which justify differential regulatory treatment of the hedge fund industry, are in the number and composition of hedge funds' financiers,¹⁵³ hedge funds' capital structure, and the investor liquidity in the hedge fund industry.

First, banks have a large number of creditors (depositors) mostly with low amounts of deposits in the bank. Because of their number and dispersion, depositors lack the incentive to monitor the bank's financial standing.¹⁵⁴ The pervasiveness of free riding eliminates the incentives for dispersed depositors to provide monitoring, because there is hardly any way in which small depositors can fully reap the benefits of their activities. The economic literature shows that in a repeated, cooperative public good game with a small number of players and the presence of an effective threat of punishment, cooperation for the provision of public goods (monitoring mechanism) is likely to emerge.¹⁵⁵ As the number of players increases, however, this cooperation will likely fail, because "as the number of participants becomes critically large, the individual will more and more come to treat the behavior

traditional or structured products indexed to hedge funds' returns. See Nouy, *supra* note 95, at 101–03.

¹⁵² BANK OF ENG., FINANCIAL STABILITY REPORT 37 (Apr. 2007), <http://www.bankofengland.co.uk/publications/Documents/fsr/2007/fsrfull0704.pdf>.

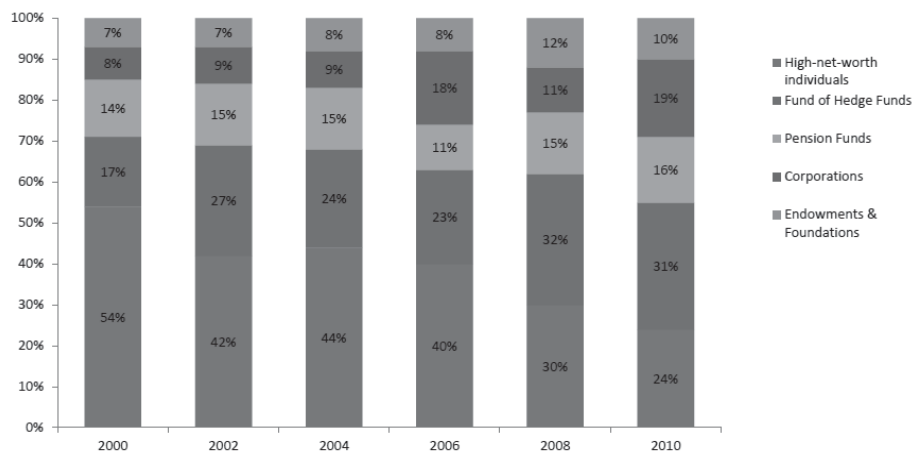
¹⁵³ Danielsson et al., *supra* note 124, at 5–6. See also Cole et al. *supra* note 19, 11.

¹⁵⁴ In other words, this occurs because the depositors are rationally apathetic.

¹⁵⁵ See, e.g. Ernst Fehr & Simon Gächter, *Cooperation and Punishment in Public Goods Experiments*, 90 AM. ECON. REV. 980 (2000).

of ‘all others’ as beyond his own possible range of influence.”¹⁵⁶ This chilling effect can result in the failure of cooperation and hence under-provision of monitoring functions in the financial markets by a large number of depositors. Therefore, in the normal course of free and unregulated financial markets, depositors will not provide such a monitoring mechanism. As a result, governments assume this monitoring function, hence the so-called “efficient centralization of monitoring” function in financial regulation.¹⁵⁷

Nonetheless, the financing schemes and conditions are entirely different in the case of hedge funds. Hedge fund counterparties and creditors are strong, well-empowered and sophisticated prime brokers, and their investors are mainly institutional investors. Recent data suggest a rise in institutional investors along with a simultaneous decline in the high-net-worth individuals (HNWIs), who used to be the main investors in hedge funds.¹⁵⁸



Share of high-net-worth individuals has fallen.

See David Stowell, *INVESTMENT BANKS, HEDGE FUNDS, AND PRIVATE EQUITY* 226 (2nd ed. 2013).

By definition, these investors are in a position to impose conditions on loans to hedge funds (by demanding fully secured loans and even higher standards) and to prevent them from pursuing risky strategies with borrowed money. Indeed, the constraints imposed by strong counterparties on

¹⁵⁶ James M. Buchanan, *Cooperation and Conflict in Public-Goods Interaction*, 5 *ECON. INQUIRY* 109, 116 (1967). According to Aristotle, “what is held in common by the largest number of people receives the least care.” See ARISTOTLE, *POLITICS* 28 (C.D.C. Reeve trans., 1998). This shows the commons or public goods feature of market discipline in this setting.

¹⁵⁷ Engert, *supra* note 122, at 344.

¹⁵⁸ DAVID STOWELL, *INVESTMENT BANKS, HEDGE FUNDS, AND PRIVATE EQUITY* 226 (2nd ed. 2013).

hedge funds might very well explain the lower levels of leverage in the hedge fund industry compared with depository institutions.¹⁵⁹

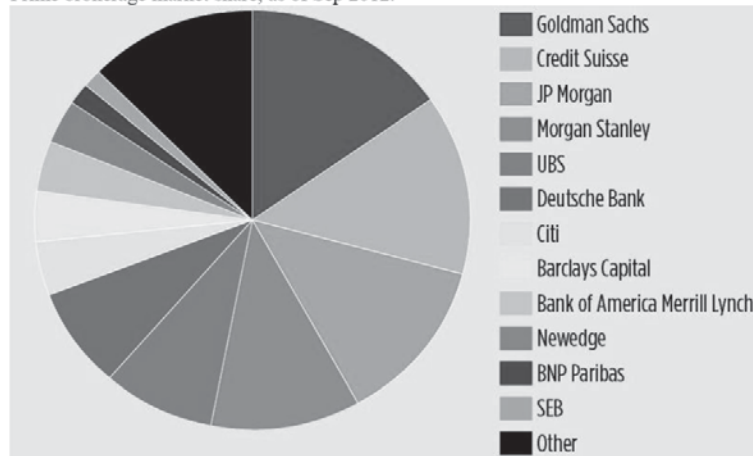
In addition, the prime brokerage industry tends to be heavily concentrated. At the end of the year 2006, the top three dealers performing prime brokerage functions serviced fifty-eight percent of the assets under management (AUM) by hedge funds.¹⁶⁰ At the same time, the top ten dealers serviced eighty-four percent of hedge funds' AUM.¹⁶¹ The pie chart below shows that the concentration in the prime brokerage industry has remained almost intact after the global financial crisis. The fewer number of major prime brokers acting as hedge fund counterparties facilitates the mutual monitoring of hedge fund compliance with the standards set by prime brokers.¹⁶²

Prime Brokerage Market Share (As of the year-end 2006)

Rank	Prime Broker	Total Client Assets (%)
1	Morgan Stanley	22
2	Bear Stearns	19
3	Goldman Sachs	17
4	UBS	7
5	Credit Suisse	5
	Market share of top 3 (top 10)	58% (84%)

See Michael R. King & Philip Maier, *Hedge Funds and Financial Stability: Regulating Prime Brokers Will Mitigate Systemic Risks*, 5 JOURNAL OF FINANCIAL STABILITY 283, 290 (2009).

Prime brokerage market share, as of Sep 2012.



Hedge fund intelligence, *Goldman tops fast-changing prime brokerage market*, (2012), <http://www.hedgefundintelligence.com/Article/3098543/Goldman-tops-fast-changing-prime-brokerage-market.html>

¹⁵⁹ Hedge fund investors are mostly institutional investors and HNWI's who are supposed to be able to " fend for themselves" and are capable of monitoring hedge funds. *Id.*

¹⁶⁰ King & Maier, *supra* note 76, at 290–91.

¹⁶¹ *Id.*

¹⁶² Engert, *supra* note 122, at 351–54.

The second difference is related to the moral hazard problem. Deposit insurance schemes protecting banks' depositors from losses reduce their incentives to monitor the financial safety and soundness of their banks. Furthermore, the depositors' trust in their banks rests partially upon the government's prudential regulation. Because of the deposit insurance scheme and prudential regulation, the solvency of the banking system is not a concern for ordinary depositors.¹⁶³ This substantially reduces the risk of banking crises in the form of traditional bank runs.¹⁶⁴ Unlike depositors in a bank who are generally insured by governments, hedge fund investors are equity holders and the entire amount of their investment is exposed to loss if the hedge fund goes bankrupt. Given their exposure to risk, hedge fund investors have a strong incentive to monitor the activities, strategies, and positions of hedge funds. Therefore, the capital structure of hedge funds ensures stronger incentives for private monitoring than that of banks.¹⁶⁵

The third significant difference between hedge funds and banks concerns investor liquidity. Banks are traditionally engaged in maturity transformation and the provision of liquidity.¹⁶⁶ In contrast, hedge funds are not major maturity transformers.¹⁶⁷ Unlike banks that take demand deposits, hedge funds only redeem investors' money intermittently.¹⁶⁸ Moreover, they often impose further restrictions on the investor redemptions using gates and side-pocket arrangements.¹⁶⁹ Restrictions on investor redemptions enhance investors' loyalty to a firm and give investors more incentives to raise their voices (in terms of monitoring and management) instead of just threatening to exit.¹⁷⁰ Obviously, the restriction on investment redemptions limits

¹⁶³ *Id.* at 344.

¹⁶⁴ Indeed, what induced banking regulation was the inefficient monitoring mechanism by small, indifferent, diffuse, and unsophisticated depositors, themselves in need of protection.

¹⁶⁵ Engert, *supra* note 122, at 351–54.

¹⁶⁶ Eechoud, *supra* note 9, at 277.

¹⁶⁷ *Id.*

¹⁶⁸ Nouy, *supra* note 95, at 103.

¹⁶⁹ These mechanisms for restricting hedge funds' investor liquidity are often used *ex ante*. See Adam Aiken, Christopher Clifford & Jesse Ellis, Discretionary Liquidity: Hedge Funds, Side Pockets, and Gates 1 (Nov. 2012) (unpublished manuscript), available at <http://www.financialrisksforum.com/risk2013/work/6024018.pdf>. There are other discretionary methods of liquidity restrictions in hedge funds. Discretionary liquidity restrictions (DLRs) are classified as gates and side pockets. *Id.* Aiken, Clifford and Ellis show that imposition of such restrictions by hedge fund managers to limit the fees voting in the hedge fund industry, and allegedly to protect hedge fund investors from themselves (by preventing fire-sales in distressed markets), not only did not contribute to well-functioning hedge funds, but were also followed by continued underperformance. See *id.* They show that such restrictions further raised the costs of capital for such firms. See *id.*

¹⁷⁰ ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES 30–35 (1970). Exit, or voting with feet, is known as

the ability of investors to exit¹⁷¹ (at least in the short run), this commits them to playing a more active role in monitoring the fund.¹⁷² Such redemption restrictions force hedge fund investors and partners to be actively involved in the monitoring of hedge funds, while the easy exit in banks, mutual funds, and similar investment vehicles reduces the depositors' and investors' incentives to engage in monitoring.

In the presence of such strong, well-incentivized counterparties taking part in the private monitoring of hedge funds, it is easier to plug in new regulatory measures aimed at enhancing and harnessing the existing mechanisms that already discipline hedge funds. In this sense, indirect regulation is also practical from a regulatory perspective, because it relies on the existing institutional settings and focuses on financial institutions most of which are already under the supervision of banking regulators.¹⁷³

Overall, the institutional settings of the market in which hedge funds operate support the case for indirect regulation making use of counterparties as surrogate regulators. In addition, because the major risks of hedge funds for society lie in their interconnectedness with LCFIs—that is, the channels for risk transmission are through their counterparties and creditors—hedge funds' investors, counterparties, and creditors are best placed to monitor the propagation of systemic externalities.¹⁷⁴

B. Indirect Regulation Is Less Likely to Result in Regulatory Capture

Since the inception of the debate on regulation, policymakers have grappled with the problems of who monitors the monitor or, more specifically, who regulates the regulators.¹⁷⁵ When an agency regulates a small

the “Wall Street rule” in the financial industry. *Wall Street Rule*, AMEX.COM, <http://www.amex.com/servlet/AmexFnDictionary?pageid=display&titleid=6373> (last visited Nov. 19, 2014).

¹⁷¹ Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416 (1956).

¹⁷² HIRSCHMAN, *supra* note 170, at 30–35.

¹⁷³ King & Maier, *supra* note 76, at 293–94.

¹⁷⁴ Jean-Pierre Roth, *Highly Leveraged Institutions and Financial Stability: A Case for Regulation?* 108 (Univ. of St. Gallen Law Sch., Law and Econ. Research Paper Series, Working Paper No. 2008-18, 2007), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1138204.

¹⁷⁵ “*Quis custodiet ipsos custodes?*” or “who’s going to chaperone the chaperones themselves?”, sometimes paraphrased as: “who will guard the guardians themselves?” is a phrase attributed to Juvenal, the Roman poet of the late 1st and early 2nd centuries AD. See Holt N. Parker, *Manuscripts of Juvenal and Persius*, in *A COMPANION TO PERSIUS AND JUVENAL* 137 (Susanna Braund & Josiah Osgood eds., 2012). See also NOURIEL ROUBINI & STEPHEN MIHM, *CRISIS ECONOMICS: A CRASH COURSE IN THE FUTURE OF FINANCE* 211–19 (2010) (discussing the issue in the context of economic and financial regulation in chapter 9).

number of firms in a single industry, the likelihood of repeated interactions is greater than when it regulates many firms in heterogeneous economic sectors.¹⁷⁶ Although repeated interactions breed cooperation, the problem with regulatory cooperation is that the “features of regulatory encounters that foster the evolution of cooperation also encourage the evolution of capture and corruption.”¹⁷⁷ Moreover, “[s]olutions to the problems of capture and corruption—limiting discretion, multiple-industry rather than single-industry agency jurisdiction, and rotating personnel—inhibit the evolution of cooperation.”¹⁷⁸

In the context of hedge funds, assigning a large number of prime brokers with regulatory tasks may create a less friendly environment for cooperation between the surrogate regulator and “regulatee”; but this will also imply less room for corruption. In contrast to the unitary regulatory systems or regulatory monopolies in which the demand for regulation is inelastic, regulatory arbitrage provides substitutes for regulated firms, thereby making the demand for regulation elastic. Such a dramatic change in the elasticity of demand means that if regulators cannot provide good quality regulations at competitive prices, their regulatees will desert them. The increased elasticity of demand brings about more accountability of regulators towards their regulatees. Such a market or “downward accountability”¹⁷⁹ will impose constraints on regulators and can guard against corruption in regulatory systems. That is why regulatory competition is proposed as a safeguard against regulatory capture.¹⁸⁰

However, the elasticity of demand for regulatory services from the regulated firms is a function of the availability of alternative regulators.¹⁸¹ In a harmonized regulatory system, the demand for regulatory services will be

¹⁷⁶ AYRES & BRAITHWAITE, *supra* note 119, at 54–56. Findings by Grabosky and Braithwaite show that regulatory agencies that regulate “(1) smaller numbers of client companies; (2) a single industry rather than diverse industries; (3) where the same inspectors were in regular contact with the same client companies; and (4) where the proportion of inspectors with a background in the regulated industry was high” are more likely to have a cooperative rather than prosecutorial regulatory practice. *Id.* at 55. The empirical findings in that regard confirm the theory that “the evolution of cooperation should occur only when regulator and the regulated firm are in a multi-period prisoner’s dilemma game. Repeated encounters are required for cooperation to evolve.” *Id.*

¹⁷⁷ *Id.* at 54.

¹⁷⁸ *Id.* (proposing tripartism as a model of a regulatory process involving public interest groups (PIGs) to address the problem of capture and corruption in regulatory environment, the study of which is beyond the scope of this Article).

¹⁷⁹ Colin Scott, *Accountability in the Regulatory State*, 27 J.L. SOC’Y 38 (2000).

¹⁸⁰ AYRES & BRAITHWAITE, *supra* note 119, at 54.

¹⁸¹ Jonathan R. Macey, *Regulatory Globalization as a Response to Regulatory Competition*, 52 EMORY L.J. 1353, 1362 (2003).

constant (high), while in a regulatory fragmentation model, *ceteris paribus*, the demand increases with more harmonization and decreases with more fragmentation.¹⁸² Therefore, harmonized regulators will be less accountable, whereas fragmented regulators will be more accountable to their regulatees. In the context of financial markets and the indirect regulation of hedge funds, regulatory competition induced by entrusting a relatively large number of prime brokers with regulatory functions may create a less friendly environment for the evolution of cooperation and corruption between regulators and regulatees.

C. Indirect Regulation and Regulatory Competition Among Surrogate Regulators

One of the positive side effects of regulatory competition is the peer pressure imposed by the competitors of incumbent regulators. The peer pressure among prime brokers as surrogate regulators will not only decrease the likelihood of the evolution of corruption, but also will contribute to the efficiency of surrogate regulators. A peer review mechanism arising from competition can be as effective for regulators as it is for regulatees. For example, it is argued that the Financial Action Task Force (FATF) has been effective in shaping and defining international regulations against money laundering and terrorist financing partly because of the devolutionary nature of its oversight mechanism.¹⁸³ In the FATF, the oversight function is delegated to the regional groupings that conduct mutual valuations of other members' legal and regulatory policies.¹⁸⁴ Such a mechanism essentially constitutes a peer review mechanism for assessing the group's effectiveness in effectuating compliance with the FATF's standards.¹⁸⁵ In addition, it potentially provides market benchmarks or yardsticks against which the regulatory oversight can be assessed between different groupings in a kind of regulatory tournament.¹⁸⁶ Economic theory suggests that yardstick competition

¹⁸² *Id.* at 1362–63.

¹⁸³ ALEXANDER ET AL., *supra* note 68, at 72.

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ These competitive pressures can prove more effective than other strategies offered to promote regulatory efficiency and mitigate the probability of regulatory capture. Such a mechanism for oversight of regulators works similarly to the mechanism in labor contracts. In labor contracts and especially in franchise agreements, the franchisor (regulator) is not able (or it is not cost-justified for her) to monitor the level of effort (input) of the franchisee, while the level of output is readily observable. In such a context, there are several ways to deal with the information asymmetry problem. “Cost-of-service” regulation and “lagged price adjustment” are two mechanisms proposed to address this problem. Andrei

can achieve more efficient outcomes in franchise agreements and labor contracts.¹⁸⁷ As in the case of the FATF, yardstick competition can equally be applied to regulatory competition.¹⁸⁸

Several studies emphasize the welfare enhancing features of regulatory competition.¹⁸⁹ For example, it is argued that regulatory competition between accounting standards and providing corporations with the option of choosing from among different regulators and reporting formats will improve the efficiency of corporate governance and accounting standard-setting and practices both domestically and internationally, and will result in a lower cost of capital.¹⁹⁰ Thus, a competitive accounting regime is to be preferred to a monopoly regime, both domestically and internationally.¹⁹¹

The result of regulatory competition between surrogate regulators for hedge fund regulation is that delegating regulation to counterparties of hedge funds decreases the likelihood of regulatory capture. In addition, such a delegation increases the efficiency of regulation by providing incentives to surrogate regulators to compete with each other.

D. Indirect Regulation as Decentralized Regulation

The indirect regulation of hedge funds will more closely resemble standards as opposed to rules when applied to hedge funds. The indirect regulation of hedge funds can transform rules-based regulation into principles-based regulation when prime brokers implement it. This is to say that precise rules will be transformed into standards in at least three aspects. First, the application and enforcement of rules will be more decentralized. Second, rules

Shleifer, *A Theory of Yardstick Competition*, 16 RAND J. ECON. 319, 319–20 (1985). However, both of these mechanisms can equally be inefficient. *Id.*

¹⁸⁷ *Id.* In a recent study, it is elaborated how incentive-based pay schemes outperform fixed pay and how tournament theory is less effective than piece rate in certain settings. See M. Ali Choudhary et al., *Individual Incentives and Workers' Contracts: Evidence from a Field Experiment* (2012), available at http://www.webmeets.com/files/papers/res/2013/1023/CBGR_13_OCT_2012_v4.pdf.

¹⁸⁸ Frank H. Easterbrook, *Federalism and European Business Law*, 14 INT'L REV. L. & ECON. 125, 127–28 (1994). Indeed, when the competition involves political agents, the tournament can be adapted to regulatory competition with the focus on the competition between governments or regulators. See William W. Bratton & Joseph A. McCahery, *The New Economics of Jurisdictional Competition: Devolutionary Federalism in a Second-Best World*, 86 GEO. L.J. 201, 256 (1997).

¹⁸⁹ For more information regarding the arguments for regulatory competition by implementing competitive federalism approach, see Roberta Romano, *Empowering Investors: A Market Approach to Securities Regulation*, 107 YALE L.J. 2359 (1998).

¹⁹⁰ Shyam Sunder, *Regulatory Competition Among Accounting Standards Within and Across International Boundaries*, 21 J. ACCT. & PUB. POL'Y 219, 231–32 (2002).

¹⁹¹ *Id.*

will be applied with more flexibility, allowing for more variations in detail and implementation. Third, rules will be applied with more discretion. Therefore, indirect regulation has the ability to turn rules into standards when applied to the primary target of regulation.

For example, a regulatory strategy aimed at reducing hedge fund leverage may do so by imposing leverage restrictions on prime brokers.¹⁹² A cap on prime brokers' leverage can be translated into effective but variable caps on hedge fund leverage. In this case, it is the prime broker that will allocate the leveraged credit to hedge funds. Instead of directly putting a limit on hedge fund leverage, regulators delegate the allocation of leverage to prime brokers who are the main counterparties of hedge funds and who have superior knowledge of the hedge fund business. Although such a leverage requirement will operate as a rigid and non-discretionary rule for prime brokers, it will have the flexibility of standards for hedge funds. This is because prime brokers can customize the level of leverage and make loans to hedge funds according to their financial needs and their safety and soundness goals. In turn, hedge funds that value leverage the most will apply for more loans, and because banks are more efficient in monitoring borrowers, they will have more flexibility in allocating loans on behalf of regulators. Because hedge funds themselves can lend to each other, such a regulatory cap on prime brokers' leverage can, in essence, take the form of "leverage cap and trade."¹⁹³ In the end, such discretion will provide flexibility in the allocation of loans to hedge funds and result in a more efficient allocation of credit.¹⁹³

The principles-based regulation (PBR) approach by the organization formerly known as the Financial Services Authority (FSA)¹⁹⁴ is essentially based on standards. One of the positive aspects of standards is that their flexibility allows regulated entities to choose the specific means of achieving

¹⁹² INT'L SWAPS & DERIVATIVES ASSOC., ISDA RESPONSE TO EUROPEAN COMMISSION CONSULTATION PAPER ON HEDGE FUNDS, *available at* <http://www.isda.org/speeches/pdf/ISDArespECHFCP020809.pdf>.

¹⁹³ The idea of cap and trade originally comes from environmental economics. Under this scheme, every company is given a voucher for production of a certain level of pollution. *Cap and Trade Basics*, ENVTL. PROT. AGENCY, <http://www.epa.gov/clearskies/captrade.html> (last visited Nov. 19, 2014). If a company needs more pollution, it can buy a voucher to pollute from other companies that do not need to pollute. *Id.* However, the overall level of pollution should not exceed certain thresholds. *Id.* Although the measurement of leverage is not as straightforward as the measurement of pollution, the logic of the cap and trade scheme could be used to limit the level of the leverage of the financial system within its sustainable limits and also contribute to efficient allocation of leverage in the financial system.

¹⁹⁴ The Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA) have replaced the UK FSA.

general goals set by regulators, especially when regulation involves target and performance (or output) standards.¹⁹⁵ Environmental standards effectively demonstrate the strength of this regulatory approach. Needless to say, standard setting by means of target or output standards involves market participants' incentives and the market discipline in crafting strategies to achieve the goals set by the standard-setter. Prior to the financial crisis, this was one of the main reasons for the FSA to support standards over rules in financial regulation under the guise of PBR.¹⁹⁶ Indeed, similar to indirect regulation, PBR is a type of regulation by standards that delegates the details to lower regulatory levels.¹⁹⁷

The PBR approach provides certain benefits for firms in that it is flexible, it facilitates innovation, and it enhances competition.¹⁹⁸ In addition, there are benefits for regulators in terms of flexibility, a facilitative role in regulatory innovation in the methods and the types of supervision, and enhanced regulatory competition.¹⁹⁹ Finally, PBR also increases the durability of regulation in fast-changing financial markets.²⁰⁰ In conclusion, all stakeholders benefit from regulated firms improving conduct by focusing more on substantive compliance rather than "creative compliance."²⁰¹

During the financial crisis, PBR came under criticism.²⁰² Even the FSA itself called it a failure on the grounds that "a principles-based approach

¹⁹⁵ Ogus, *supra* note 36, at 150–51.

¹⁹⁶ See FIN. SERVS. AUTH., PRINCIPLES-BASED REGULATION: FOCUSING ON THE OUTCOMES THAT MATTER 6 (2007), available at <http://www.fsa.gov.uk/pubs/other/principles.pdf>. It seems that the FSA uses the term "principle" synonymous to the term "standard." This inference is best understood when it explicitly states that "[p]rinciples-based regulation means placing greater reliance on principles and outcome-focused, high-level rules as a means to drive at the regulatory aims we want to achieve, and less reliance on prescriptive rules," and "[f]or these reasons, we believe that further enhancing our risk-based and evidence-based approach to regulation with an increased emphasis on principles and outcomes is not only the right but also the only way to progress our regulatory regime." *Id.* However, the term "principle" has different meanings in jurisprudence. This term may generically refer to "principles" as "the whole set of standards other than rules." See RONALD DWORKIN, TAKING RIGHTS SERIOUSLY 22–33 (1977). Dworkin distinguishes between principles and policies. In its generic sense, it seems that the definition of "principles" is almost identical to the definition of "standards". However, in its specific sense, the standards as used in this paper, are policies per Dworkin. *Id.*

¹⁹⁷ McBarnet, *supra* note 2, at 78–79.

¹⁹⁸ Julia Black, *Forms and Paradoxes of Principles-Based Regulation*, 3 CAP. MARKET L.J. 425, 426 (2008).

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² Hector Sants, Chief Executive Fin. Servs. Authority, Speech at Reuters Newsmakers Event: Delivering Intensive Supervision and Credible Deterrence (Mar. 12, 2009) (transcript available at http://www.fsa.gov.uk/library/communication/speeches/2009/0312_hs.shtml).

does not work with individuals who have no principles.”²⁰³ However, even after the financial crisis, scholars suggested that the FSA and its successors not to abandon PBR because of crisis-induced criticisms.²⁰⁴ The main concern is that going back to rules would result in increased legal engineering because “creative compliance thrives on rule-based regulation, for tight specific rules provide particularly solid material for legal engineers to work with.”²⁰⁵ Therefore, adherents of PBR continuously call for a “commitment to principles-based regulation, accompanied by meaningful enforcement and oversight.”²⁰⁶

PBR provides for more flexibility with regard to the variations in details and implementation to achieve a particular goal. It further offers opportunities for achieving more international harmonization²⁰⁷ and decentralization of regulatory functions. In addition to these advantages, PBR contains another hidden aspect. That is, it can overcome legal engineering, which tries to comply with the letter of the law while escaping its purpose and spirit. By the same token, addressing legal and financial engineering to escape the spirit of the law was the driving force behind the adoption of PBR by the Accounting Standards Board (ASB) in the 1990s, “which saw it as an essential bastion against opportunistic legal engineering.”²⁰⁸

Indeed, “principles-based regulation is seen as the only realistic response, the only way to try to capture the spirit of the law in the face of constant creativity and technical challenge.”²⁰⁹ Indirect regulation coupled with PBR can be more effective in preventing regulatory arbitrage by hedge funds than the direct regulation based on rules.

E. Indirect Regulation Is More Feasible and Less Costly

We argue that indirect regulation is the preferred form of regulation for the hedge fund industry because it entails lower costs and it is arguably

²⁰³ *Id.*

²⁰⁴ McBarnet, *supra* note 2, at 78–80. *See also* Dan Awrey, *Regulating Financial Innovation: A More Principles-Based Proposal*, 5 BROOK. J. CORP. FIN. & COM. L. 273 (2011); Cristie Ford, *Principles-Based Securities Regulation in the Wake of the Global Financial Crisis*, 55 MCGILL L.J. 257 (2010).

²⁰⁵ McBarnet, *supra* note 2, at 79.

²⁰⁶ Ford, *supra* note 204, at 257.

²⁰⁷ McBarnet, *supra* note 2, at 78.

²⁰⁸ *Id.* at 79.

²⁰⁹ *Id.* As McBarnet puts it:

Driving this approach is an explicit recognition that any specific rule will be met by legal engineering to circumvent it, and principles-based regulation is seen as the only realistic response, the only way to try to capture the spirit of the law in the face of constant creativity and technical challenge.

Id.

more effective. Indirect regulation significantly reduces regulatory expenses and, at the same time, preserves “the necessary opaqueness of the activities of hedge funds” enabling them to “continue to operate ... and thus, expose market inefficiencies.”²¹⁰ We further argue that the “‘indirect supervision’ approach is the least intrusive and also the most effective in the short term, in particular at the international level.”²¹¹

By indirectly regulating hedge funds, regulators take advantage of market participants’ dispersed, but superior knowledge about firms, which can diminish the likelihood of regulatory errors. Hence, there will be no need for further investment in gathering data and other necessary steps for regulatory intervention. These actions all require substantial investment on the part of governments. In addition, indirect regulation is perceived to be more politically feasible than direct regulation²¹² because it is less interventionist. Therefore, overcoming political status quo bias would be easier with indirect regulation than with direct regulation.²¹³

In order to measure the effectiveness of the indirect regulation of hedge funds in reducing systemic risk, proxies for improvements in risk factors, which can potentially make hedge funds less systemically important, should be taken into account. Such proxies include reduced leverage, improved funding liquidity,²¹⁴ increased disclosure, and improved counterparty risk management practices in the hedge fund industry. The available evidence suggests that on all these counts, the action by hedge funds’ counterparties led to significant improvements in the absence of direct regulation.²¹⁵

Hedge fund leverage has been significantly lower compared to that of other financial institutions. In particular, after the collapse of Long Term Capital Management (LTCM) in 1998, there was evidence of a decline in

²¹⁰ WULF ALEXANDER KAAL, HEDGE FUND REGULATION BY BANKING SUPERVISION: A COMPARATIVE INSTITUTIONAL ANALYSIS (2005).

²¹¹ Noyer, *supra* note 147, at 111.

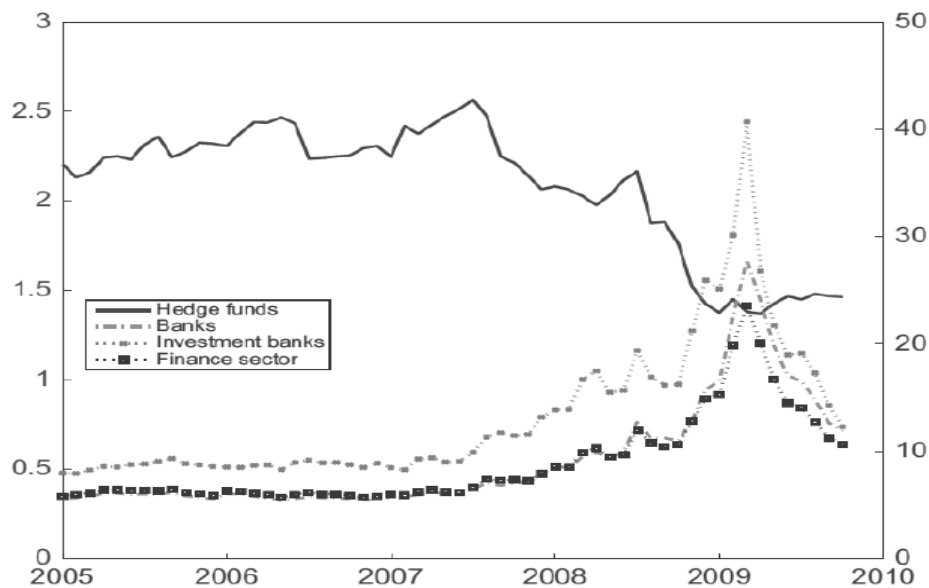
²¹² This might be the reason that European regulators imposed direct regulation on hedge funds under the guise of and using the terminology of indirect regulation. The title of the act is obviously telling: “The Alternative Investment Fund Managers Directive” and not “The Alternative Investment Fund Directive.” Nonetheless, commentators believe that the European AIFMD is more direct versus indirect in regulatory nature. *See* Giorgio Tosetti Dardanelli, *Direct or Indirect Regulation of Hedge Funds: A European Dilemma*, 2011 EURO. J. RISK REG. 463, 463–64 (2011). The same holds true for the U.S. regulators who used the term “Private Fund Investment Advisers Registration Act.” The difference is that U.S. regulators have leant more heavily towards indirect regulation.

²¹³ Ferran, *supra* note 27, at 390; *see also* Lucia Quaglia, *The ‘Old’ and ‘New’ Political Economy of Hedge Fund Regulation in the European Union*, 34 W. EURO. POL. 665, 670 (2011).

²¹⁴ Funding liquidity refers to the ease with which a firm can acquire funds.

²¹⁵ King & Maier, *supra* note 76, at 294–95.

the leverage of the hedge fund industry as a whole.²¹⁶ These lower levels of leverage were documented especially prior to the financial crisis.²¹⁷ After the financial crisis, hedge fund leverage remained moderate. For example, Ang, Gorovyy & van Inwegen’s empirical analysis of hedge fund leverage from December 2004 to October 2009 shows that the leverage of hedge funds, compared to that of investment banks and broker-dealers, is “fairly modest.”²¹⁸ The figure below suggests a more interesting finding about the leverage of hedge funds, that is, it is counter-cyclical to the market leverage of listed financial intermediaries.²¹⁹ The left-hand axis demonstrates the average gross hedge fund leverage and the right-hand axis shows the leverage of banks, investment banks and the finance sector. The figure suggests that prior to the financial crisis in mid-2007, while the leverage of regulated investment banks continually increased, hedge fund leverage decreased.²²⁰ In the worst period of the global financial crisis during which the investment banks’ leverage was at its peak, hedge funds’ leverage was at its lowest point.²²¹



Andrew Ang et al., *Hedge Fund Leverage*, 102 JOURNAL OF FINANCIAL ECONOMICS 119 (2011).

²¹⁶ Patrick McGuire et al., *Time Varying Exposures and Leverage in Hedge Funds*, BANK INT’L SETTLEMENT Q. REV., Mar. 2005, at 59, 59–60.

²¹⁷ Patrick McGuire & Kostas Tsatsaronis, *Estimating Hedge Fund Leverage* 24–31 (Bank of Int’l Settlement, Working Paper No. 260, 2008).

²¹⁸ Ang et al., *supra* note 15, at 121.

²¹⁹ *Id.*

²²⁰ *Id.* at 102.

²²¹ *Id.* at 119–20.

According to this study, gross leverage ratio for hedge funds until mid-2007 was approximately 2.3.²²² This leverage ratio decreased from 2.6 in June 2007 to a minimum of 1.4 in March 2009.²²³ In October 2009 at the end of the period covering the study, the authors estimate the gross leverage ratio across hedge funds to be 1.5. And over the whole period, the average gross leverage ratio was 2.1.²²⁴ As the above figure clearly shows, hedge funds' leverage is much lower than the leverage of banks and that of the financial sector in general.²²⁵ Overall, the lower levels of leverage employed by hedge funds could partly be explained by the market discipline imposed by their counterparties, creditors, investors, and the internal governance mechanisms embedded in the hedge fund industry.²²⁶

As far as disclosure is concerned, market forces have increasingly put pressure on hedge funds to become more transparent.²²⁷ Particularly because of an increasing trend towards institutionalization of hedge funds' investor base, the hedge fund industry is expected to become more transparent. This is partly because institutional investors are in a better position to negotiate deals with hedge funds in terms of hedge fund transparency.²²⁸ Industry associations also exert influence by issuing recommendations of

²²² *Id.* at 119.

²²³ *Id.*

²²⁴ *Id.* They also show that the leverage for event-driven and equity funds is on average lower (1.3 and 1.6 respectively) than for all other hedge funds, which have an average gross leverage of 2.1. over their sample. *Id.* at 105. They further demonstrate that in the recent crisis both the event-driven and equity sectors reach their highest peak of gross leverage in mid-2007 and gradually decrease their leverage over the crisis. *Id.* at 110.

In addition, one of the proxies for measuring leverage is comparing the volatility of trading returns with the volatility of underlying assets that hedge funds invest in. *See* McGuire & Tsatsaronis, *supra* note 217, at 4. According to this model, the higher the volatility of trading returns, the greater the risk of the investment. Estimates suggest that for banks the ratio of this measure was 1.5, which peaked at 2.2 in the second quarter of 2010. However, this measure for average hedge funds was 0.7. *See* S. Jones, *JPMorgan Highlights Leverage Anomaly*, FT.COM. (March 9, 2011), <http://www.ft.com/cms/s/0/d2038690-4a7d-11e0-82ab-00144feab49a.html#axzz3IUwwEIXV>.

²²⁵ Ang et al., *supra* note 15, at 119. Comparison of hedge fund leverage with the level of leverage of other financial institutions shows that the leverage of hedge funds is just a small fraction of the leverage of the regulated financial institutions. *Id.* As an example, Capital Adequacy Requirements for banks is set at eight percent. With this level of CAR, regulated bank's leverage ratio can be 12.5:1. *See* Danielsson et al., *supra* note 124, at 529. Even after the introduction of Basel III, the level of leverage allowed for banks will be much higher than the *de facto* leverage of hedge funds.

²²⁶ *See, e.g.*, Houman B. Shadab, *Hedge Fund Governance*, 19 STAN. J.L. BUS. FIN. 141, 182-84 (2013).

²²⁷ King & Maier, *supra* note 76, at 294.

²²⁸ *Id.*

best practices for hedge fund transparency and encouraging hedge funds to comply with them.²²⁹

As far as counterparty risk is concerned, the anecdotal evidence suggests significant improvements in counterparty risk management practices in the aftermath of the collapse of LTCM. The collapse of Amaranth in 2006 is a case in point.²³⁰ Although that was a large hedge fund, its collapse did not pose any material risks to its counterparties or the financial system because of better risk management techniques employed both by the hedge fund and its counterparties.²³¹

As far as funding liquidity is concerned, hedge funds can better manage their liquidity problems partly because they face lower regulatory restrictions. Using gates and side-pocket arrangements, they can impose longer redemption periods on their investors for purposes of liquidity management. Moreover, some hedge funds also started using more stable sources of funding such as issuing debt, using credit lines from banks, and raising permanent capital through equity offerings.²³² It is also expected that the larger institutional investor base will improve the liquidity management of the hedge fund industry.²³³ The impact of indirect regulation in mitigating the most significant concerns about systemic risk is potentially so pronounced that some commentators have even suggested that the indirect regulation of hedge funds is sufficient to cope with their contribution to systemic risk.²³⁴

Finally, in the aftermath of the global financial crisis, there was criticism about the limited resources available to regulators.²³⁵ Since indirect regulation can result in substantial savings in the use of limited regulatory resources by substituting government regulators with private surrogate regulators, it should be preferable to direct regulation. The above arguments suggest that,

²²⁹ *Id.* Residual concerns about hedge fund transparency are to a great extent resolved by the introduction of the Dodd-Frank Act in the US, and the Alternative Investment Fund Managers Directive (AIFMD) in the EU.

²³⁰ Roach, Jr., *supra* note 7, at 171. See also Roger Ferguson & David Laster, *Hedge Funds and Systemic Risk*, in FINANCIAL STABILITY REVIEW; SPECIAL ISSUE, HEDGE FUNDS 45, 51 (Banque de France ed., 2007).

²³¹ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-200, HEDGE FUNDS: REGULATORS AND MARKET PARTICIPANTS ARE TAKING STEPS TO STRENGTHEN MARKET DISCIPLINE, BUT CONTINUED ATTENTION IS NEEDED 3 (2008), available at <http://www.gao.gov/new.items/d08200.pdf>.

²³² King & Maier, *supra* note 76, at 295.

²³³ *Id.*

²³⁴ Cole et al., *supra* note 19, at 11–12.

²³⁵ The limited resources at the disposal of regulators are pushing them to be efficient in using those resources. For example, the FSA stressed the need for prioritizing regulatory objectives and methods and offered the principles-based regulation in response to such a demand. See FIN. SERVS. AUTH., *supra* note 196, at 3.

at least in qualitative terms, the support for the indirect regulation of hedge funds far exceeds the support for direct regulation. This outcome is reflected in the policy debate. Institutional advocates of the indirect regulation of hedge funds include, inter alia, the following: the Group of Seven (G7), the President's Working Group (PWG), the Financial Stability Forum (FSF), the Basel Committee on Banking Supervision (BCBS), the Counterparty Risk Management Policy Group II (CRMPG II), the Economic and Financial Affairs Council (ECOFIN), and the European Central Bank (ECB).²³⁶

IV. SHORTCOMINGS OF AND REMEDIES FOR INDIRECT REGULATION OF HEDGE FUNDS

Commentators suggest that there are a number of problems with the indirect regulation of hedge funds through prime brokers,²³⁷ which may undermine the effectiveness of the market discipline on hedge funds. Hedge fund literature raises a number of problems with respect to indirect regulation. However, even acknowledging these problems with indirect regulation, it is unlikely that such problems would be solved by direct regulation of hedge funds. On the contrary, regulating prime brokers rather than the hedge funds themselves can still address these problems.

A. Use of Multiple Prime Brokers by Hedge Funds

The global financial crisis and the failures or near-failures of prime brokers showed that counterparty risk management through diversification is equally (if not more) important for hedge funds than it is for their prime brokers.²³⁸ Therefore, as a response to or a hedge against the counterparty risks arising from the failure of prime brokers, and to avoid too much exposure to a single prime broker, hedge funds have diversified their prime brokers both domestically and internationally.²³⁹ As a result, a single prime broker is no longer informed of all of its hedge fund clients' transactions. This means that prime brokers are no longer able to observe the entire trading activities of hedge funds and raise early red flags, where necessary. This increasingly diminishing knowledge of hedge fund activities and risks

²³⁶ See ATHANASSIOU, *supra* note 25, at 227–28.

²³⁷ See Houman B. Shadab, *The Challenge of Hedge Fund Regulation*, REG., Spring 2007, at 37, available at <http://object.cato.org/sites/cato.org/files/serials/files/regulation/2007/3/v30n1-1.pdf>.

²³⁸ See Merrill Lynch Global Mkts. Fin. & Servs., *The Multi-Prime Broker Environment Overcoming the Challenges and Reaping the Benefits 2* (2008), available at <http://www.ml.com/media/113487.pdf>.

²³⁹ See AIKMAN, *supra* note 8, at 36–37.

weakens the argument in favor of delegating the regulatory functions to hedge funds' prime brokers for fear that they might not be capable of effectively monitoring such activities and risks.²⁴⁰

In addition, as mentioned earlier, the supply of monitoring is similar to the supply of public goods.²⁴¹ Since monitoring is costly and its benefits are not excludable, it is prone to free riding.²⁴² Hence, individual firms have an incentive to free ride on the monitoring and due diligence efforts of other firms, which can lead to inadequate collective discipline among creditors.²⁴³

This argument based on the insufficient discipline by prime brokers, however, does not undermine the case for indirect regulation. Rather, this argument shows that it is important to devise mechanisms to provide prime brokers with adequate incentives to monitor.

B. Competition Among Prime Brokers and Ineffectiveness of Indirect Regulation

One of the concerns about the indirect regulation of hedge funds through their prime brokers is that the prime brokers lack sufficient incentives to carry out the regulatory functions assigned to them.²⁴⁴ In the prime finance industry, there is intense competition between prime brokers in attracting profitable hedge fund business.²⁴⁵ The prime finance industry tends to be oligopolistic; gaining market share in such a market structure is of crucial importance.²⁴⁶ In addition, the fact that the hedge fund industry itself is highly concentrated²⁴⁷ adds more fuel to already burning competition between prime brokers. High concentration means that prime brokers derive substantial returns from attracting one large hedge fund. Given prime brokers' appetite for gaining market share in such an oligopolistic market, attracting one large hedge fund with a substantial market share is

²⁴⁰ See King & Maier, *supra* note 76, at 290–91.

²⁴¹ See Fehr & Gächter, *supra* note 155, at 980.

²⁴² *Id.*

²⁴³ See Timothy Geithner, President & Chief Fin. Officer, Fed. Reserve Bank of N.Y., Remarks at the Distinguished Lecture 2006, (Sept. 15, 2006) (transcript available at <http://www.ny.frb.org/newsevents/speeches/2006/gei060914.html>).

²⁴⁴ See King & Maier, *supra* note 76, at 287.

²⁴⁵ Estimates suggest that around fifteen percent to twenty percent of total investment banking revenues derive from business with hedge funds. See AA Weber, *Hedge Funds: A Central Bank Perspective*, 10 FIN. STABILITY REV. 161, 165 (2007).

²⁴⁶ See AIKMAN, *supra* note 8, at 32.

²⁴⁷ The hedge fund industry tends to be highly concentrated. Studies suggest that in 2007, 100 largest hedge funds managed seventy-five percent of the total hedge fund industry assets. In the same year, thirty-eight hedge funds managed assets greater than \$10 billion. See King & Maier, *supra* note 76, at 287.

crucial for their competitiveness. Consequently, prime brokers have an incentive to offer more favorable terms to hedge fund clients such as lower margin requirements, which allow for higher leverage.

In addition, the competition between prime brokers for hedge fund business gives hedge funds more bargaining power. This enables hedge funds to negotiate deals with prime brokers that foster their own interest, but are perhaps at the expense of the public interest because such deals loosen (indirect) regulatory requirements and may put financial stability at risk. Larger hedge funds, which tend to be more systemically important, are more likely to negotiate and cut better and more advantageous deals with their prime brokers in terms of collateral, margin rates, and haircuts. Reducing margin rates or haircuts implies that the prime brokers will be more exposed to the hedge funds' counterparty risks.²⁴⁸ These increased counterparty risks make them ineffective enforcers of market discipline. Furthermore, prime brokers that have substantial investments in hedge funds may not exert any market discipline on hedge funds at all. Because of their heightened exposure to hedge fund risk, prime brokers have an incentive to bail out the failing hedge funds in which they have a substantial investment for fear that their failure might put substantial stress on their own balance sheet.

In short, the short-term competitive pressures between prime brokers could endanger the effectiveness of indirect regulation.²⁴⁹ Additionally, risk management practices are vulnerable to erosion by competitive pressures.²⁵⁰ This weakens the market discipline on hedge funds. Therefore, the contribution of hedge funds to systemic risk can best be achieved through government regulation.²⁵¹

However, government action does not necessitate direct regulatory measures. As argued before, prime brokers' competition in regulating hedge funds not only diminishes the opportunities for regulatory capture among prime brokers, but also enhances the mechanisms of monitoring hedge funds.²⁵² On the one hand, the previous discussion on regulatory capture, the theory of regulatory tournament, and the efficiency of regulatory competition has at least two implications for hedge fund regulation. These theories imply that delegating hedge fund regulation to the hedge funds' counterparties not only decreases the likelihood of regulatory capture,²⁵³ but also

²⁴⁸ *Id.*

²⁴⁹ See Nouy, *supra* note 95, at 95.

²⁵⁰ See Mario Draghi, *Hedge Funds and Financial Stability*, 10 FIN. STABILITY REV. 37, 38–39 (2007).

²⁵¹ See Engert, *supra* note 122, at 332.

²⁵² See Nouy, *supra* note 95, at 95.

²⁵³ According to Aristotle, “[A] crowd can also judge many things better than any single individual. Besides, a large quantity is more incorruptible, so the multitude, like a

increases the efficiency of regulation, because it provides regulators with incentives to compete with each other. On the other hand, since several prime brokers will implement the indirect regulation of hedge funds, it implies that hedge funds are disciplined in a decentralized fashion via rules initially applied to banks.

C. Lack of Transparency in Prime Finance Industry

The lack of transparency in the prime brokerage business originates from the fact that the prime brokerage business is embedded within the universal banking system.²⁵⁴ In other words, the operating vehicle of a prime broker is often a vehicle within large and complex investment banks. Under the universal banking system, the bank, as one legal entity, offers a full range of banking and non-banking financial services.²⁵⁵ The services offered by universal banks include financial intermediation, liquidity provision (market making), payment facilities, financial instrument trading, proprietary trading, brokerage services, advisory services, investment management, and insurance services.²⁵⁶ In other words, universal banks can engage in both commercial and investment banking activities. Commercial banking involves taking deposits and making loans.²⁵⁷ Although the sources of funding and the methods through which commercial banks make loans are diversified, taking deposits and making loans remains the core activity of the commercial banks.²⁵⁸ On the contrary, investment banking involves activities such as underwriting (assisting firms in raising capital), advisory services, mergers and acquisitions, loan restructuring, trading and brokerage services,

larger quantity of water, are more incorruptible than the few.” ARISTOTLE, *supra* note 156, at 94.

²⁵⁴ See Christopher Stern & Katherine Burton, *Hedge Fund Registration Bill Introduced Into Senate (Update 3)*, BLOOMBERG (Jan. 29, 2009, 5:00 PM), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a_NUKRBjQzfk&refer=home.

²⁵⁵ See SHELAGH HEFFERNAN, *MODERN BANKING* 19 (2005).

²⁵⁶ *Id.* One of the effects of the gradual erosion and final repeal of the Glass-Steagall Act was the collapse of the underwriting spreads both for equity and debt underwritings. See MORRISON & WILHELM, JR., *supra* note 122, at 24–25. This is mostly attributed to the fact that the repeal of the Glass-Steagall Act allowed commercial banks to enter the securities underwriting business and made the markets more competitive with the end result of reduction in the spreads. Since debt offerings are less information sensitive, they responded more rapidly to the forces of competition emanating from the new entrants than the equity offering with higher information sensitivity. *Id.*

²⁵⁷ Commercial banking plays an important role in operating payment systems, as well. Given such a narrow definition, commercial banks (merchant banks) are sometimes referred to as “narrow banks.” See GIULIANO IANNOTTA, *INVESTMENT BANKING: A GUIDE TO UNDERWRITING AND ADVISORY SERVICES* 1–2 (2010).

²⁵⁸ *Id.*

and asset management services, including both traditional and alternative asset management.²⁵⁹

In the United States, the Glass-Steagall Act of 1933 created a wall between investment banking and commercial banking.²⁶⁰ The Gramm-Leach-Bliley Act of 1999 eventually tore down that wall, but it was hardly impenetrable during the period in which it was intact.²⁶¹ Gramm-Leach-Bliley followed a period of deregulation in which commercial banks expanded their activities into securities underwriting.²⁶² Indeed, at the end of the 20th century, the investment banks could operate with the same powers as they did in the beginning of the century.²⁶³ The fall of the Glass-Steagall wall started the period in which universal banks dominated financial markets.²⁶⁴

Even if there are already substantial regulatory requirements with respect to information disclosure, complexity in the intermingling of the prime brokerage business with other universal banking functions makes it difficult for regulators to trace activities falling under the ambit of prime brokerage.²⁶⁵ Furthermore, there is no mechanism for independent assessment of the risks and transparency of the prime broker's legal entity separate from that of the bank within which it is embedded.²⁶⁶ Thus, there is a need for increased transparency requirements targeting the prime brokers as separate legal entities.

D. Collateral Rehypothecation and How It Affects the Relationships Between Hedge Funds and Prime Brokers

Rehypothecation occurs when an intermediary holding securities on behalf of investors grants a security interest or encumbers those securities to obtain financing for itself.²⁶⁷ In the context of the relationship between hedge funds and prime brokers, rehypothecation is the reuse of hedge funds' collateral by prime brokers in other transactions with other financial

²⁵⁹ See *id.* at 1.

²⁶⁰ See Corinne Crawford, *The Repeal of the Glass-Steagall Act and the Current Financial Crisis*, 9 J. BUS. & ECON. RES. 127, 127 (2011), available at <http://www.unarts.org/H-II/ref/949-3747-1-PB-1.pdf>.

²⁶¹ *Id.* at 127, 132.

²⁶² *Id.* at 131.

²⁶³ See MORRISON AND WILHELM, JR., *supra* note 122, at viii.

²⁶⁴ See Crawford, *supra* note 260, at 127.

²⁶⁵ *Id.*

²⁶⁶ See Aleksey Matiychenko & Gregory Dyra, *How Much Transparency Do Hedge Funds Need?*, FINALTERNATIVES.COM (June 26, 2009, 11:09 AM), <http://www.finalternatives.com/node/8349>.

²⁶⁷ See Steven L. Schwarcz, *Distorting Legal Principles*, 35 J. CORP. L. 697, 699 (2010).

intermediaries completely unrelated to the original transaction.²⁶⁸ Though rehypothecation provides a source of inexpensive financing for financial institutions,²⁶⁹ such a practice is believed to be dangerous for financial stability, particularly if one looks at how the global financial crisis manifested itself—namely as withdrawals of collateral from investment banks such as Lehman Brothers.²⁷⁰ The practice of rehypothecation gives rise to a number of concerns, the most important of which is systemic risk.

Systemic risk originates from uncertainty stemming from falling collateral prices and potential runs on the banks by the firms whose collateral is being rehypothecated.²⁷¹ A run by hedge funds might occur because of the uncertainty of prime brokerage business when they have rehypothecated the collateral. Unable to locate the collateral initially posted by hedge funds to prime brokers, hedge funds fearing or experiencing distress might suddenly run to close their position with their prime brokers. This may cause serious distress to the prime brokers.

A second concern relates to the conflicts of interest. This concern originates from the reuse of collateral in other transactions. The possibility of reuse of collateral gives additional incentives for prime brokers to attract more hedge funds by loosening the terms of the loans (e.g., requiring lower margins). This behavior tends to increase systemic risk.

Partly because of these concerns, and given the symbiotic relationship between hedge funds and prime brokers, delegating regulatory functions to prime brokers would be a mistake.²⁷² The interests of prime brokers in attracting hedge funds and collateral to be used for their own investments in derivatives transactions may give rise to a conflict between their delegated regulatory tasks with their profit maximizing strategies. In other words, the possibility of rehypothecation creates incentives for prime brokers to not apply the due diligence standards expected of them. Such conflicts of interest can potentially undermine the effectiveness of the indirect regulation of hedge funds through prime brokers. Requiring prime brokers to limit

²⁶⁸ See GARY B. GORTON, *SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007* 7 (2010); see also Manmohan Singh & James Aitken, *Deleveraging After Lehman—Evidence from Reduced Rehypothecation* 1 (Int'l Monetary Fund, Working Paper No. 09/42, 2009), available at <https://www.imf.org/external/pubs/ft/wp/2009/wp0942.pdf>.

²⁶⁹ See Christian A. Johnson, *Derivatives and Rehypothecation Failure: It's 3:00 PM, Do You Know Where Your Collateral Is?*, 30 ARIZ. L. REV. 949, 969 (1997).

²⁷⁰ See Schwarcz, *supra* note 267, at 700.

²⁷¹ Scott shows how hedge funds can face a prospect of becoming unsecured creditors under UK legal treatment of rehypothecated collaterals. See Hal Scott, *Interconnectedness and Contagion: Financial Panics and the Crisis of 2008* 53 (June 26, 2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2178475.

²⁷² See Danielsson & Zigrand, *supra* note 40, at 34.

and/or disclose the reuse of the collateral posted by hedge funds can help mitigate such concerns.

In addition, prior to the enactment of the U.S. Private Fund Investment Advisers Registration Act (title IV of the Dodd-Frank Act),²⁷³ some prime brokers invested in hedge funds or sponsored hedge funds themselves, a practice that is to a large extent prohibited under current regulations.²⁷⁴ Having a substantial investment in hedge funds, the prime brokers would have insufficient incentives to take on regulatory functions, especially if implementing such monitoring functions involved putting at risk their own proprietary trading and investment in hedge funds.

The above arguments cast some doubt about the effectiveness of the indirect regulation of hedge funds through prime brokers. However, these arguments cannot be viewed as supporting the direct regulation of hedge funds. If anything, the above arguments support more direct regulation of prime brokers rather than of hedge funds.

E. Moral Hazard Spillovers Arising from Bank Regulation

Moral hazard is a ubiquitous feature of financial regulation, specifically where such regulation is aimed at coping with problems of financial stability.²⁷⁵ The government's attempts to preserve financial stability often requires the provision of some sort of safety net for systemically important financial institutions.²⁷⁶ However, this safety net will give financial institutions the impression that the government will bear the consequences of their risk taking. This side effect of the safety net encourages regulated entities to engage in opportunistic behavior.²⁷⁷

Implicit and explicit government guarantees offered to banks can create moral hazard. Such a problem in turn encourages excessive risk taking by giant banks that are too-big-to-fail. This problem may not be limited to the banks themselves. In turn, it can be transmitted to other less regulated parts of the financial system as those banks transact with hedge funds and private equity funds.²⁷⁸ For a long time, there were fears by central bankers that banks that take risks in the derivatives markets would essentially exploit their

²⁷³ See 15 U.S.C. § 80a-3(b) (2012).

²⁷⁴ See 12 U.S.C. § 1851 (2012).

²⁷⁵ See William A. Allen & Geoffrey Wood, *Defining and Achieving Financial Stability*, 2 J. FIN. STABILITY 152, 161 (2006).

²⁷⁶ See ANAT ADMATI & MARTIN HELLWIG, *THE BANKERS' NEW CLOTHES: WHAT'S WRONG WITH BANKING AND WHAT TO DO ABOUT IT* 93 (2013).

²⁷⁷ *Id.*

²⁷⁸ See Viral V. Acharya & Matthew Richardson, *International Alignment of Financial Sector Regulation*, in *RESTORING FINANCIAL STABILITY: HOW TO REPAIR A FAILED SYSTEM* 366–67 (Viral V. Acharya & Matthew Richardson eds., 2009).

unique access to deposit insurance and discounted Federal Reserve funds.²⁷⁹ By the same token, a bank's investment in a hedge fund might be similarly exploitive in that such investment would also be backed by the FDIC and the Fed. Moral hazard problems can also occur when hedge funds are subject to indirect regulation. For instance, banks' and elite prime brokers' reliance on bailouts may affect their counterparty credit risk management and induce them to take suboptimal care in dealing with hedge funds.²⁸⁰

In addition, some prime brokers function as hedge fund "hotels", meaning that hedge funds are embedded within them.²⁸¹ Such an institutional setting can result in compromised risk management incentives in the relationship between hedge funds and prime brokers. Moreover, this arrangement can cause reputational damage to the prime broker when a hedge fund operating within a certain prime brokerage firm fails. For example, prior to the recent financial crisis, the collapse of two Bear Stearns hedge funds in the spring of 2007 imposed substantial losses to the parent company, which was a systemically important investment bank.²⁸² In that case, the collapse of hedge funds did not pose a substantial credit risk to Bear Stearns.²⁸³ However, Bear Stearns bailed them out due to reputational concerns that the failure of such entities could raise concerns about the safety and soundness of the firm itself.²⁸⁴ The bailout highlighted concerns about the indirect subsidization of hedge funds by taxpayers through the parent organization's access to the Federal Reserve discount window and implicit guarantee of a bailout of a too-big-to-fail parent company. Such an opportunity for excessive risk taking means that hedge funds managers do not bear the entire costs and consequences of their risk taking.²⁸⁵

Although this argument seems to question the benefits of indirect regulation, it is in fact another argument for regulating prime brokers rather than hedge funds themselves. To address such a problem, the Dodd-Frank Act limits the banking entities' investment in, and sponsorship of, hedge funds

²⁷⁹ Lynn A. Stout, *Betting the Bank: How Derivatives Trading Under Conditions of Uncertainty Can Increase Risks and Erode Returns in Financial Markets*, 21 J. CORP. L. 53, 57 (1995).

²⁸⁰ See Wulf A. Kaal, *Hedge Fund Regulation via Basel III*, 44 VAND. J. TRANSNAT'L L. 389, 451 (2011).

²⁸¹ See Anderson, *supra* note 134.

²⁸² See Chris Dolmetsch, *Bear Stearns Fund Liquidator Suit Assails Rating Firms*, BLOOMBERG (Nov. 11, 2013, 11:54 AM), <http://www.bloomberg.com/news/2013-11-11/bear-stearns-fund-liquidator-suit-assails-ratings-firms.html>.

²⁸³ See Julie Creswell & Vikas Bajaj, *Bear Stearns in \$3.2 Billion Bailout of Fund*, N.Y. TIMES (June 23, 2007), <http://www.nytimes.com/2007/06/23/business/worldbusiness/23iht-bear.1.6295771.html?pagewanted=all>.

²⁸⁴ *Id.*

²⁸⁵ DIXON ET AL., *supra* note 19, at xxii.

through the Volcker Rule.²⁸⁶ Indeed, the Volcker Rule limits banking entities' ability to invest the taxpayer-subsidized capital in hedge funds.²⁸⁷ Under this rule, it will be very unlikely for hedge funds to be again bailed out by those subsidized banks.²⁸⁸

F. Costs of Indirect Regulation for the Intermediated Regulators

There are certain factors undermining the effectiveness of the indirect regulation of hedge funds through their prime brokers, which are described in the arguments above. However, given the costs and impediments associated with direct regulation, it makes more sense to enhance and harness the market discipline already in place for hedge funds rather than to regulate them directly. In fact, the latter strategy is prone to circumvention by hedge funds.

However, one of the neglected features in the majority of the proposals for indirect regulation is the additional cost that the indirect regulation imposes on the entity transmitting the effects of regulation. In deciding how to allocate the costs of regulation, however, prime brokers can afford such costs better than hedge funds, because they are already regulated and have the infrastructure (such as compliance offices) to deal with new regulatory requirements. In addition, economies of scale in compliance costs suggest that larger firms are better positioned to absorb such costs. Hedge funds are relatively small in size, which eliminates the economies of scale in compliance costs. Moreover, they are transient in nature, which makes substantial investments in compliance unthinkable. Therefore, direct regulation of hedge funds would impose compliance costs that may discourage the hedge fund business altogether.²⁸⁹

CONCLUSION

In this Article we have argued that the choice between the direct and indirect regulation of hedge funds should be based on the relative effectiveness

²⁸⁶ *Id.*

²⁸⁷ *Id.*

²⁸⁸ *Id.*

²⁸⁹ The Dodd-Frank Act addresses this problem by introducing a ladder approach to hedge fund regulation. Small hedge funds are not even required to register with the SEC. Mid-sized hedge funds are required to register, but they should disclose a limited amount of information and should do so less frequently. *See* 15 U.S.C. § 80b-3 (2012). In contrast, hedge funds designated as Systemically Important Non-bank Financial Companies (SINBFCs) by the Financial Stability Oversight Council (FSOC) not only should register and disclose information, but will also be subject to the prudential regulation of the Fed. *See* 12 U.S.C. § 5325(a)(1) (2012).

of direct and indirect regulation in addressing hedge funds' contribution to systemic risk at the lowest cost. The proxies for measuring the effectiveness of indirect regulation in mitigating potential systemic risks of hedge funds such as reduced leverage, improved transparency, counterparty risk management, and funding liquidity suggest that indirect regulation could have a significant impact. In fact, the effectiveness of indirect regulation is potentially so great that it could be sufficient to cope with the systemic risk generated by hedge funds. On the contrary, direct regulation is unlikely to address hedge funds' contribution to systemic risk without jeopardizing their benefits to financial markets. In addition, the greatest obstacle to the success of direct regulation remains regulatory arbitrage by hedge funds.

There are, however, arguments against the indirect regulation of hedge funds that we have reviewed in this Article. These arguments suggest that even if indirect regulation were effective, it would be far from sufficient to cope with systemic risk. Most critiques of indirect regulation focus on its potential shortcomings. However, we argue that mere problems with indirect regulation do not necessarily imply that direct regulation is the better regulatory alternative. In our view, the counterarguments for the effectiveness of indirect regulation imply that there is a need for direct regulation of hedge funds' counterparties (not hedge funds themselves) in order to enhance market discipline. Needless to say, direct regulation of counterparties, particularly prime brokers, is the essence of the indirect regulation model being advocated in this Article.

In this Article we argue for the indirect regulation of hedge funds. In this model of regulation, "surrogate regulators" such as investors, counterparties, creditors, rating agencies, and hedge fund professional associations can play a role and reinforce the market discipline in addition to government agencies. From this perspective, the introduction of the Volcker Rule in the Dodd-Frank Act as an indirect measure for regulating hedge funds is a positive move towards addressing the potential contribution of hedge funds to financial instability.