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Paying for risk: Bankers, compensation, and competition

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Paying for Risk: Bankers, Compensation, and Competition

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Paying for Risk:
Bankers, Compensation, and Competition

By Simone M. Sepe[+] and Charles K. Whitehead[✧]

Efforts to control bank risk address the wrong problem in the wrong way. They presume that the financial crisis was caused by CEOs who failed to supervise risk-taking employees. The responses focus on executive pay, believing that executives will bring non-executives into line—using incentives to manage risk-taking—once their own pay is regulated. What they overlook is the effect on non-executive pay of the competition for talent. Even if executive pay is regulated, and executives act in the bank's best interests, they will still be trapped into providing incentives that encourage risk-taking by non-executives due to the negative externality that arises from that competition.

Greater risk-taking can increase short-term profits and, in turn, the amount a non-executive receives, potentially at the expense of long-term bank value. Non-executives, therefore, have an incentive to incur significant risk upfront so long as they can depart for a new employer before any losses materialize. The result is an upward spiral in compensation—reducing an executive's ability to set non-executive pay and the ability of any one bank to adjust compensation to reflect risk-taking and long-term outcomes.

New regulation must address the tension between compensation and competition. Regulators should take account of the effect of competition on market-wide levels of pay, including by non-banks who compete for talent. The ability of non-executives to jump from a bank employer to another financial firm should also be limited. In addition, banks should be required to include a long-term equity component in non-executive pay, with subsequent employers being restricted from compensating a new employee for any losses she incurs related to her prior work.

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INTRODUCTION

Nick Leeson, a mid-level futures trader, was not yet 30 years old in 1995 when he incurred the $1.3 billion in losses that blew up Barings Bank. In 1992, when Leeson's trading profits were ten percent of Barings' annual income, he earned a bonus of £130,000 on a salary of £50,000.[1] Fabrice Tourre, then a 29-year-old vice president, was charged with fraud in Goldman Sachs' 2007 sale of its Abacus subprime collateralized

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[1] *See* Mark Roodhouse, *Leeson, Nick*, *in* 2 ENCYCLOPEDIA OF WHITE-COLLAR & CORPORATE CRIME 493, 493 (Lawrence M. Salinger ed., 2005); *see also How Leeson Broke the Bank*, BBC NEWS (June 22, 1999), http://news.bbc.co.uk/2/hi/business/375259.stm.

debt obligations. Tourre's compensation that year, well before the start of the fraud investigation, was $2 million.[2] Bruno Iksil, nicknamed the "London Whale" for the size of his trading portfolio, was a JPMorgan proprietary trader in his late 30's who realized losses of up to $6.2 billion in 2012.[3] Iksil's total compensation was $7.32 million in 2010 and $6.76 million in 2011.[4]

All three—Leeson, Tourre, and Iksil—share common characteristics: None was a bank executive. Each had the authority (real or apparent) to engage in significant business activities on their employer's behalf. And the risks they incurred profited their employers in the short-term—eventually causing losses or lawsuits, but only after each was paid handsomely.

Why, then, in the wake of the financial crisis, has *executive* compensation been a principal focus of efforts to control bank risk?[5] Although bank supervisors have provided new guidance on non-executive pay,[6] the Troubled Asset Relief Program (TARP)[7] requires banks that received government aid during the financial crisis to modify only how senior executives and top earners are paid.[8] The new "say-on-pay" rules also give shareholders a non-binding vote on compensation, but again, only on executive pay.[9]

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[2] *See* Steven M. Davidoff & Peter J. Henning, *The Importance of Fabrice Tourre*, N.Y. TIMES (Apr. 20, 2010), http://dealbook.nytimes.com/2010/04/20/the-importance-of-fabrice-tourre/.

[3] *See* Shannon D. Harrington et al., *JPMorgan Trader Iksil Fuels Prop-Trading Debate with Bets*, BLOOMBERG (Apr. 9, 2012), http://www.bloomberg.com/news/2012-04-09/jpmorgan-trader-iksil-fuels-prop-trading-debate-with-bets.html; Jessica Silver-Greenberg, *JPMorgan Sues Boss of 'London Whale' in Trading Loss*, N.Y. TIMES, (Oct. 31, 2012), http://dealbook.nytimes.com/2012/10/31/jpmorgan-sues-boss-of-london-whale/.

[4] *See* STAFF OF SUBCOMM. ON INVESTIGATIONS OF S. COMM. ON HOMELAND SEC. AND GOVERNMENTAL AFFAIRS, 113TH CONG., JPMORGAN CHASE WHALE TRADES: A CASE HISTORY OF DERIVATIVES RISKS AND ABUSES 58 (Comm. Print 2013) [hereinafter U.S. SENATE REPORT].

[5] Prior to the financial crisis, the Federal Deposit Insurance Improvement Act of 1991 required the Office of the Comptroller of the Currency (OCC), the Federal Reserve Board (Fed), the Federal Deposit Insurance Corporation (FDIC), and the Office of Thrift Supervision (OTS) to prescribe standards that would regulate compensation generally. *See* Pub. L. No. 102-242, sec. 132, § 39(c), 105 Stat. 2236, 2268 (codified at 12 U.S.C. § 1831p-1(c) (2012)); Standards for Safety and Soundness, 60 Fed. Reg. 35674, 35674, 35678 (July 10, 1995). Those agencies adopted guidelines prohibiting "excessive compensation"—compensation that is "unreasonable or disproportionate to the services performed by an executive officer, employee, director, or principal shareholder"—and any compensation that "could lead to material financial loss." 12 C.F.R. pt. 30, app. A (2013) (OCC); pt. 208, app. D-1 (Fed); pt. 364, app. A (FDIC); pt. 570, app. A (OTS).

[6] *See* Guidance on Sound Incentive Compensation Policies, 75 Fed. Reg. 36,395 (June 25, 2010) [hereinafter Compensation Guidance]. A summary description of the Compensation Guidance appears in Appendix A.

[7] *See* Emergency Economic Stabilization Act of 2008, 12 U.S.C. §§ 5211-5241 (2012). TARP's implementing rules are set out at 31 C.F.R. pt. 30 (2013).

[8] *See* 12 U.S.C. § 5221 (2012).

[9] *See* 15 U.S.C. § 78n-1 (2012); 17 C.F.R. § 240.14a-21 (2013). Academics have also focused primarily on executive pay. *See, e.g.*, PATRICK BOLTON ET AL., FED. RESERVE BANK OF N.Y., EXECUTIVE COMPENSATION AND RISK TAKING (2010), *available at* http://www.newyorkfed.org/research/staff_reports/sr456.pdf (studying the connection between risk-taking and executive compensation in financial institutions, and providing an empirical analysis of market perceptions of debt-like compensation); Lucian A. Bebchuk & Holger Spamann, *Regulating Bankers' Pay*, 98 GEO. L.J. 247, 249 (2010) (identifying

The focus on executive pay addresses the wrong problem in the wrong way. It presumes that the problem with excessive bank risk prior to the 2007 financial crisis was internal—that bank CEOs failed to supervise employees who pursued risky strategies. Fixing executive pay has been the response, with the expectation that executives will bring non-executives[10] into line—using incentives to manage risk-taking—once executive pay is regulated.[11] Yet, as this Article describes, it was *non-executive* incentives that significantly affected bank risk-taking prior to the 2007 financial crisis; and the structure, as well as the level, of those incentives was determined largely by the market's demand for talent, *independent of executive pay*.[12] In particular, what the current focus misses is

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incentives for risk-taking embedded in executive compensation); Sanjai Bhagat & Roberta Romano, *Reforming Executive Compensation: Focusing and Committing to the Long-Term*, 26 YALE J. ON REG. 359, 361 (2009) (suggesting an executive incentive compensation plan consisting only of restricted stock and restricted stock options in order to manage the firm in the long-term interests of shareholders); Robert DeYoung et al., *Executive Compensation and Business Policy Choices at U.S. Commercial Banks*, 48 J. FIN. & QUANT. ANALYSIS 165 (finding evidence that bank CEO incentives encouraged risk-taking); Simone M. Sepe, *Making Sense of Executive Compensation*, 36 DEL. J. CORP. L. 189, 196-207 (2011) (noting that fixed compensation schemes may be desirable to efficiently control the risk-taking incentives of executives); David I. Walker, *Evolving Executive Equity Compensation and the Limits of Optimal Contracting*, 64 VAND. L. REV. 609 (2011) (considering the evolution in executive equity pay practices and examining the limitations on efficient compensation contracting); Ing-Haw Cheng et al., Yesterday's Heroes: Compensation and Creative Risk-Taking 2-5 (European Corporate Governance Inst., Working Paper No. 285, 2013), *available at* http://ssrn.com/abstract=1502762 (presenting evidence linking top-management compensation and risk at financial firms during 1992-2008); Marc Chesney et al., Managerial Incentives to Take Asset Risk 4-5 (Swiss Fin. Inst., Working Paper No. 10-18, 2012), *available at* http://ssrn.com/abstract=1595343 (finding that CEO incentives promoted risk-taking by banks prior to the financial crisis). Some have argued that excessive compensation—at least with respect to CEOs and other senior executives—was not a likely cause of bank risk prior to the financial crisis. *See* Rüdiger Fahlenbrach & René M. Stulz, *Bank CEO Incentives and the Credit Crisis*, 99 J. FIN. ECON. 11, 12-13 (2011); *see also* Francesco Vallascas & Jens Hagendorff, *CEO Bonus Compensation and Bank Default Risk: Evidence from the U.S. and Europe*, 22 FIN. MARKETS, INSTITUTIONS & INSTRUMENTS 47, 47 (2013) (finding that increases in CEO cash bonuses lower a bank's default risk, except when the bank is financially distressed or operating within a weak regulatory regime).

[10] References in this Article to a bank's "non-executives" are to employees who are not senior, top-ranking members of the bank's management.

[11] *See, e.g.*, Bebchuk & Spamann, *supra* note 9, at 281 ("Compensation structures shape the incentives of those actually making the decisions on behalf of banks, namely bank executives."); John Thanassoulis, *The Case for Intervening in Bankers' Pay*, 67 J. FIN. 849, 850 (2012) ("Individual bankers work under a risk control regime overseen by the CEO and the board of directors. Those senior executives can control bank risk through their policies on hedging, diversification, and asset allocation. Financial regulation exists to make sure that CEOs and boards properly exercise their duties to build structures allowing them to manage the risks taken by their employees.").

[12] *See infra* notes 126-129 and accompanying text. A handful of recent studies have begun to consider the effect of non-executive compensation on bank risk. *See, e.g.*, Christina E. Bannier et al., *Competition, Bonuses, and Risk-taking in the Banking Industry*, 17 REV. FIN. 653, 653-54 (2013) (focusing on the bonus component of non-executive compensation); Eric D. Chason, *The Uneasy Case for Deferring Banker Pay*, 73 LA. L. REV. 923, 927, 962-74 (2013) (criticizing proposals for the use of debt-based compensation to remunerate bankers); Robert J. Jackson, *Stock Unloading and Banker Incentives*, 112 COLUM. L. REV. 951, 953, 956-60 (2012) (analyzing the effect of the unloading of stock-based compensation attributed to non-executives); Thanassoulis, *supra* note 11, at 849 (claiming that competition for bank employees generates a negative externality by increasing compensation and rival banks' default risk); Viral Acharya et al., *Non-*

the effect on compensation of the competition among financial firms to hire non-executives. That effect is significant. In a competitive market, firms are expected to adjust compensation in line with market demand, assessing and paying employees based on their relative ability to generate returns. In principle, that competition should align employee and employer incentives, allocating the best employees to the most profitable firms.[13] Among banks, however, combining performance-based pay with competition—where employees can move from one employer to the next—has had perverse results. Greater risk-taking can increase short-term[14] bank profits and, in turn, the amount a non-executive is paid, potentially at the expense of long-term bank value.[15] Non-executives, therefore, have an incentive to incur significant risk upfront so long as they can depart for a new employer before any longer-term losses (and corresponding drop in pay) materialize.[16]

For the non-executive, taking on greater risk becomes a win-win strategy. On the one hand, the non-executive is rewarded with higher pay due to her greater short-term performance, since employers are unable to assess (and discount) her risk-adjusted results.[17] On the other hand, the consequences of the non-executive's risk-taking are minimized, because greater performance, and the mobility that comes with it, permit her to change jobs and sidestep losses that arise in the future.[18] In short, efforts to hire the best talent have produced a negative externality: Compensation is the product of each bank's demand for the same employees, and since hiring is based on short-term performance, greater risk-taking is rewarded without accounting for potential longer-term losses. Competition results in an upward spiral in pay and limits the banks' ability to efficiently adjust compensation to reflect risk-taking and long-term outcomes.[19] Stated

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Executive Incentives and Bank Risk-Taking (Wharton Fin. Institutions Ctr., Working Paper No. 13-18, 2013), *available at* http://fic.wharton.upenn.edu/fic/papers/13/13-18.pdf (demonstrating that incentives paid to bank non-executives in 2003-2006 were mainly driven by market factors and were related to higher bank risk and lower bank value during the financial crisis) [hereinafter Acharya et al., *Non-Executive Incentives*]; Viral V. Acharya et al., *Seeking Alpha: Excess Risk Taking and Competition for Managerial Talent* (Nat'l Bureau of Econ. Research, Working Paper No. 18891, 2013), *available at* http://www.nber.org/papers/w18891 (developing a theoretical model to analyze the negative externality created by bank competition for non-executive talent) [hereinafter Acharya et al., *Seeking Alpha*].

[13] *See infra* notes 42, 80 and accompanying text.

[14] We refer to "short-term" and "long-term" periods (and similar phrases) throughout this Article. Our purpose is only to signify successive periods over which employees perform or are paid, without identifying particular lengths of time.

[15] *See infra* notes 83-84 and accompanying text.

[16] Although banking has evolved, *see infra* Part I.A., a portion of a bank's losses may not be realized until the long-term due to its investment in illiquid assets with maturities that are longer than a bank's demand deposits. *See* Jonathan R. Macey & Geoffrey P. Miller, *Deposit Insurance, the Implicit Regulatory Contract, and the Mismatch in the Term Structure of Banks' Assets and Liabilities*, 12 YALE J. ON REG. 1, 7 (1995).

[17] *See infra* notes 81, 95 and accompanying text.

[18] *See infra* notes 53, 95, 100-101 and accompanying text.

[19] *See infra* notes 92-95, 100-101 and accompanying text; *see also* Bannier et al., *supra* note 12, at 655, 679. As the *Financial Times* described it,

> Banks operate in a world where their star talent is apt to jump between different groups, whenever a bigger pay-packet appears, with scant regard for corporate loyalty or employment

differently, even if executive pay is regulated, and executives act in the bank's best interests, they will still be trapped into providing risk-prone incentives to non-executives due to the negative externality that arises from the competition for talent.[20]

In this account of compensation and competition, banks face an informational and a coordination problem. The informational problem arises from a bank's inability to assess an employee's risk-adjusted results unless she remains employed long enough for the full consequences of her strategy to materialize.[21] The coordination problem arises from each bank's efforts to hire the same non-executives. Each bank has a legitimate interest in luring the best performers, but in doing so, it rewards employees who may choose to enhance short-term performance at the expense of increased risk-taking and longer-term losses.[22]

We argue for three regulatory changes to address these problems. First, reflecting change in the financial markets, regulators should extend their assessment of compensation beyond individual banks to include the effect of competition on market-wide levels of pay, including the broader range of employers who now compete with banks for talent.[23] Second, certain of a bank's non-executives should be restricted from moving to other financial employers (including banks, insurance companies, broker-dealers, and hedge funds) for a period of time after leaving the bank, subject to defined exceptions. A mandatory "garden leave" period[24] will increase the cost of departure, as well as permit successor employers to better assess a prospective hire's performance, helping to balance

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> contracts. The result is that the compensation committees of many banks feel utterly trapped. . . . [A]s [one senior financial executive] says: "These bonuses are crazy—we all know that. But we don't know how to stop paying them without losing our best staff."

Gillian Tett, *What Bankers Can Learn from Chelsea Football Club*, FIN. TIMES ASIA EDITION 1 (London), Sept. 11, 2009, at 20, *available at* http://www.ft.com/intl/cms/s/0/03988992-9e6a-11de-b0aa00144feabdc0.html#axzz2RFNvwcoC. The Treasury Department, the Fed, and the FDIC also noted the effect of compensation on bank risk prior to the financial crisis: "Flawed incentive compensation practices in the financial industry were one of many factors contributing to the financial crisis that began in 2007. Banking organizations too often rewarded employees for increasing the organization's revenue or short-term profit without adequate recognition of the risks the employees' activities posed to the organization." Compensation Guidance, *supra* note 6, at 36,396; *accord* FINANCIAL STABILITY FORUM, FSF PRINCIPLES FOR SOUND COMPENSATION PRACTICES 1 (2009), *available at* http://www.financialstabilityboard.org/publications/r_0904b.pdf (describing consistent principles; the Financial Stability Forum was renamed the Financial Stability Board in April 2009) [hereinafter FSF PRINCIPLES].

[20] *See infra* note 162 and accompanying text.

[21] *See infra* notes 81-82, 95, 146 and accompanying text.

[22] *See infra* notes 83-84, 96, 147 and accompanying text.

[23] *See infra* Part III.A.

[24] "Garden leave" is a U.K.-originated employment practice that has become increasingly common in the United States, often as a substitute for a contractual covenant not to compete. Under a garden leave provision, an employee is required to give her employer advance notice of her intention to depart, but must serve out a period of time at home (or "in the garden") before starting a new job. The employee receives all salary and benefits (but not bonus) during the period. *See* Timothy J. Perri, *Garden Leave vs. Covenants Not to Compete*, 6 REV. L. & ECON. 167, 167-68 (2010); Jeffrey S. Klein & Nichols J. Pappas, *'Garden Leave' Clauses in Lieu of Non-Competes*, N.Y. L.J., Feb. 5, 2009, at 3.

against a non-executive's incentives for short-term risk-taking.[25] Third, banks should be required to include a long-term equity component in non-executive pay, with subsequent employers being restricted from compensating a new employee for any losses she incurs related to her prior work.[26]

To be clear, our goal is not to try to set an optimal, one-size-fits-all pay structure. Banks are diverse, suggesting that compensation—to be effective in helping manage risk—must take account of the circumstances of each individual firm.[27] Rather, we argue, an approach to regulating pay that focuses on individual banks without also taking account of the market-wide competition for talent will fail to address the risk-taking incentives that arose prior to the financial crisis. That competition will continue to distort individual efforts to craft compensation that aims to manage risk.[28]

We lay out our basic claim in Part I—namely, that non-executive pay in the financial markets is largely set by the competitive demand for talent, leading to an overall increase in pay and distortion in risk incentives for non-executives. Part II provides empirical support for our claim, setting out findings based on a model developed for a recent empirical study of bank non-executive compensation co-authored by one of us.[29] Those findings deliver two major results. First, they show that bank non-executive pay before the financial crisis (2003-2006) was tied largely to short-term bank performance, contributing to the increased bank risk and reduced bank value that occurred during the financial crisis (2007-2009). Second, they demonstrate the impact of market factors on non-executive incentives and, in turn, on bank risk and bank value. Finally, in Part III, we propose new regulation to address competition's effects on compensation and the problems this Article identifies. We also discuss the value of a mandatory compensation cap that is more robust than the measure proposed in the European Union.[30]

I. COMPENSATION AND COMPETITION

Competition is the key to efficiency in the neoclassical economic model.[31] Assuming perfect information, competition ensures that individuals and firms are led, almost as if by an invisible hand,[32] to allocate resources optimally.[33] Since information is

[25] *See infra* Part III.B.

[26] *See infra* Part III.C.

[27] *See* Compensation Guidance, *supra* note 6, at 36,397.

[28] *See infra* notes 95-96, 100-101 and accompanying text.

[29] *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12.

[30] *See infra* notes 174-182 and accompanying text.

[31] *See* JOSEPH E. STIGLITZ, WHITHER SOCIALISM? 45 (1994).

[32] In his seminal work, Adam Smith characterized the virtues of a free-market economy where individuals selfishly interact among themselves, but together advance the public interest as if led by an invisible hand. *See* ADAM SMITH, 2 THE WEALTH OF NATIONS 273 (James Decker 1801).

[33] The analytical characterization of Smith's "invisible hand" is represented by the First Welfare Theorem (also known as the Arrow-Debreu model), which states that a competitive equilibrium (the equilibrium that arises when consumers maximize their utility and firms maximize their profits) is, under certain assumptions, Pareto optimal. *See* Kenneth J. Arrow & Gerard Debreu, *Existence of an Equilibrium for a Competitive Economy*, 22 ECONOMETRICA 265, 265-66 (1954); *see also* ANDREU MAS-COLELL ET AL.,

complete, no employee has an interest in misbehaving—employers can observe whether or not the employee benefits the firm, making it irrational for her to act opportunistically.[34] Compensation is less important, since competition and perfect information lead to an optimal outcome without the need for incentives.[35]

Incentives matter, however, once we begin to relax the model's idealized assumptions.[36] That explains why incentive theory—based on the standard principal-agent model of the firm[37]—has gained so much influence in modern economics.[38] A starting point of that theory is the recognition that informational asymmetries arise when labor is divided between principals (employers) and agents (employees). The agent develops private information, which can be of two types: she may have hidden knowledge of her own characteristics or value, a problem known as "adverse selection;"[39] or she may take hidden actions, a problem known as "moral hazard."[40] A primary concern is that the employee may choose to exploit this informational asymmetry to her own advantage, potentially at the employer's expense.[41] Incentive theory relies on compensation to assist

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MICROECONOMIC THEORY 549-50 (1995) (discussing the First Welfare Theorem in the context of general equilibrium theory).

[34] *See* Bengt Holmstrom, *Moral Hazard and Observability*, 10 BELL J. ECON. 74, 74 (1979).

[35] *See* STIGLITZ, *supra* note 31, at 66 ("Incentives . . . play no role in the standard neoclassical theory.")

[36] *See id.* at 66-68. Bruce Greenwald and Joseph Stiglitz demonstrated that the results of the Arrow-Debreu model are no longer valid when the idealized assumptions of perfect information are dropped. *See* Bruce C. Greenwald & Joseph E. Stiglitz, *Externalities in Economies with Imperfect Information and Incomplete Markets*, 101 Q. J. ECON. 229, 231-38 (1986).

[37] *See* Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 308-10 (1976).

[38] *See generally* JEAN-JACQUES LAFFONT & DAVID MARTIMORT, THE THEORY OF INCENTIVES: THE PRINCIPAL-AGENT MODEL 11-15 (2002) (providing a systematic treatment of incentive theory).

[39] George Akerlof received the Nobel Prize in Economics for his classic account of adverse selection in the products market. Under conditions of uncertainty, a seller does not know how much a buyer is willing to pay for a good, in other words, whether the buyer's type is "good" or "bad." *See* George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 490 (1970). Akerlof shows that, when the number of bad buyers is relatively high, sellers may prefer to stop exchanging goods, leading to a market breakdown. *See id.* Other examples of adverse selection include (i) when a firm hires a worker and does not know the worker's ability, *see* Michael Spence, *Job Market Signaling*, 87 Q. J. ECON. 355, 356 (1973), and (ii) when an insurance company insures a car and the driver has private information about her risk propensity, *see* Michael Rothschild & Joseph Stiglitz *Equilibrium in Competitive Insurance Markets: An Essay in the Economics of Imperfect Information*, 90 Q. J. ECON. 629, 630-32 (1976).

[40] *See* LAFFONT & MARTIMORT, *supra* note 38, at 145 ("By the mere fact of delegation, the principal often loses any ability to control those actions [of the agent] that are no longer observable.") Moral hazard involves an agent's suboptimal "effort choices" and "risk choices." *See* Martin Hellwig, *A Reconsideration of the Jensen-Meckling Model of Outside Finance*, 18 J. FIN. INTERMEDIATION 495, 496 (2009) (referring to this problem as "two-dimensional moral hazard"). Effort choices involve the choice by the agent of a given level of effort that affects her performance. *See* PATRICK BOLTON & MATHIAS DEWATRIPONT, CONTRACT THEORY 129 (2005). Moral hazard arises because effort is costly to the agent, who may have incentives to act sub-optimally. Risk choices involve moral hazard when an agent chooses a given level of risk on behalf of the principal, but where she may have incentives to engage in excessive or insufficient risk-taking. *See* Bruno Biais & Catherine Casamatta, *Optimal Leverage and Aggregate Investment*, 54 J. FIN. 1291, 1293 (1999).

[41] *See* LAFFONT & MARTIMORT, *supra* note 38, at 11-12. Screening and monitoring can reduce the

in aligning the agent's and the principal's interests.[42] Competition is also important but not as central, providing a means to benchmark performance and adjust compensation.[43]

Incentive theory is often framed within a "bilateral agency" relationship, which assumes that principals do not compete with other principals, and agents do not compete with other agents.[44] That is the model underlying the regulation of executive pay—focusing on the relationship between employers and employees, without taking account of the competition among employers.[45] But what happens when principals begin to compete? Relationships in a competitive world are explored within a "common agency" model, which considers what can occur when principals with conflicting interests compete for the services of a common agent (the employee).[46] Competition induces each employer to offer the employee a compensation contract that makes the other contracts less appealing.[47] The employee can use that competition to her advantage by negotiating for greater pay through the threat of accepting a competitor's offer.[48] Anticipating her competitors' interest, the first employer is induced to enhance the compensation contract she originally offers.[49] The result is an inefficient escalation in employee pay[50] that undercuts the ability of any one employer to design an efficient compensation contract.[51]

The common agency model informs our analysis of bank non-executive compensation. As we describe below, in a competitive market, each bank naturally pursues the

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amount of private information. Through screening, the principal can cause the agent to reveal private information by providing her with a menu of choices; which choice the agent selects reveals private information about the agent. *See* Rothschild & Stiglitz, *supra* note 39, at 639, 643. Through monitoring, the principal can collect and process information about the agent and her behavior. *See* JEAN TIROLE, THE THEORY OF CORPORATE FINANCE 334-35 (2006).

[42] Under incentive theory, compensation contracts essentially are designed to elicit private information by paying the agent an amount equal to what she would have received if she behaved opportunistically. The contract must also induce the agent to voluntarily enter into the contractual relationship by rewarding her an amount at least equal to the value to her of not entering into the contract. For an analytical description, see LAFFONT & MARTIMORT, *supra* note 38, at 36-37.

[43] *See* STIGLITZ, *supra* note 31, at 111-12.

[44] *See* LAFFONT & MARTIMORT, *supra* note 38, at 38.

[45] *See supra* notes 10-16 and accompanying text.

[46] The seminal work on common agency is B. Douglas Bernheim & Michael D. Whinston, *Common Agency*, 54 ECONOMETRICA 923 (1986). For a survey of common agency studies, see David Martimort, *Multi-Contracting Mechanism Design*, *in* 1 ADVANCES IN ECONOMICS AND ECONOMETRICS 57 (Richard Blundell et al. eds., 2006) (highlighting the crucial importance of coordination among principals). For a discussion of common agency in the context of corporations, see Simone M. Sepe, *Corporate Agency Problems and Dequity Contracts*, 36 J. CORP. L. 113, 128-33 (2010).

[47] *See* Bernheim & Winston, *supra* note 46, at 927-30.

[48] For example, when principals compete on the basis of price, the agent can exploit that competition and extract additional rents. *See* MAS-COLELL ET AL., *supra* note 33, at 388-89.

[49] *See* Drew Fudenberg & Jean Tirole, *Moral Hazard and Renegotiation in Agency Contracts*, 58 ECONOMETRICA 1279, 1279-82, 1307-08 (1990).

[50] *See* STIGLITZ, *supra* note 31, at 114 (observing that in some contexts, including the managerial labor market, "competition does not serve social goals: Resources get dissipated in the competition for rents.").

[51] *See* Ilya Segal & Michael D. Whinston, *Robust Predictions for Bilateral Contracting With Externalities*, 71 ECONOMETRICA 757, 758-59 (2003).

same employees based on their short-term performance.[52] Consistent with the common agency model, greater competition results in an upward spiral in pay and limits the banks' ability to efficiently adjust compensation to reflect risk-taking and long-term outcomes. Riskier strategies and heightened performance improve an employee's compensation and, by making her more attractive to competitors, permit her to jump to a new job and sidestep the losses that later result.[53] In aggregate, this has permitted non-executives to take on excessive risk in the short-term without facing the longer-term consequences of their risk-taking.[54]

Next, in Section A, we describe the industry setting within which bank non-executive compensation has evolved. Changes in the financial markets caused market participants increasingly to compete for the same business with the same customers. That change fueled an increase in the competition for talent, with compensation levels escalating in line with market demand. Section B then describes how competition and performance-based compensation distorted the incentives for risk-taking. By assuming more risk, a bank employee could prompt a short-term rise in performance and pay—and, by switching jobs, she could avoid the later consequences of the risks she assumed. The result was a run-up in bank risk (2003-2006)[55] that contributed to the reduction in bank value during the financial crisis (2007-2009).[56]

A. Competition in the Financial Markets

The backdrop to our analysis of bank non-executive pay is the shift in the financial markets that occurred over the last 50 years—moving from a divided marketplace to one that increasingly involves competition between banks and non-banks. The U.S. financial markets were divided by regulation into separate categories following the Great Depression, largely in response to perceived abuses leading up to the economic collapse of the late 1920s.[57] The Glass-Steagall Act,[58] for example, created a regulatory divide

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[52] *See infra* notes 76-79, 94-95, 100 and accompanying text.

[53] *See infra* notes 95, 100-101, 166 and accompanying text.

[54] *See infra* notes 83-84, 101 and accompanying text.

[55] *See infra* Part II.B.

[56] *See infra* Part II.C.

[57] Senator Carter Glass noted that speculation, fueled with funds from commercial banks, "chang[ed] the whole character of the banking problem." OPERATION OF THE NATIONAL AND FEDERAL RESERVE BANKING SYSTEMS, COMM. ON BANKING AND CURRENCY, S. REP. NO. 72-584, at 8 (1932). As a result of the separation, financial regulation has been premised on decades-old business models—from the 1930s for banks, securities firms, and thrifts, and from the 1940s for investment advisors and mutual funds. *See* Roberta S. Karmel, *The Challenge to Financial Regulators Posed by Social Security Privatization*, 64 BROOK. L. REV. 1043, 1049-50, 1056-57 (1998) (describing statutory distinctions that control regulatory oversight). *Compare* Franklin Allen & Douglas Gale, *Capital Adequacy Regulation: In Search of a Rationale* 3 (Wharton Fin. Institutions Ctr., Working Paper No. 03-07, 2002), *available at* http://fic.wharton.upenn.edu/fic/papers/03/0307.pdf (questioning the theoretical rationale for the division) *with* John C. Coffee Jr. & Hillary A. Sale, *Redesigning the SEC: Does the Treasury Have a Better Idea?*, 95 VA. L. REV. 707, 717-19 (2009) (suggesting that regulation tied to business models is durable). For a description of financial intermediary categories, see Robert Charles Clark, *The Federal Income Taxation of Financial Intermediaries*, 84 YALE L.J. 1603, 1605-08 & nn.1-21 (1975); Gary Gorton, *Bank Regulation When 'Banks' and 'Banking' Are Not the Same*, OXFORD REV. ECON. POL'Y, Winter 1994, at 106, 107; and

between commercial and investment banking.[59] Twenty years later, the Bank Holding Company Act[60] extended that separation by walling off banks from the underwriting of insurance products.[61] Those regulations began to evolve in the 1950s largely in response to change in the financial markets.[62] That change accelerated in the 1970s and 1980s[63] with increased competition across entities and categories,[64] as well as a shift in capital-raising from traditional intermediation to lower-cost alternatives, in many cases in the capital markets.[65] For banks, new regulatory capital requirements made it more costly to continue the lending business as they had before, causing them to explore new sources of revenue.[66] Banks also experienced a decline in market share—often losing ground to

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Howell E. Jackson, *Regulation in a Multisectored Financial Services Industry: An Exploratory Essay*, 77 WASH. U. L. Q. 319, 322-31 (1999).

[58] Banking Act of 1933, Pub. L. No. 73-66, 48 Stat. 162 (codified as amended in scattered sections of 12 U.S.C.). The barrier between banking and investment banking was largely repealed by the Financial Services Modernization Act of 1999, also known as the Gramm-Leach-Bliley Act. *See* Pub. L. No. 106-102, § 101, 113 Stat. 1338, 1341.

[59] *See* Banking Act of 1933 § 16, 48 Stat. at 184-85 (current version at 12 U.S.C. § 24 (2006)); § 20, 48 Stat. at 188-89 (repealed 1999); § 21, 48 Stat. at 189 (current version at 12 U.S.C. § 378(a) (2006); § 32, 48 Stat. at 194 (repealed 1999); *see also* James R. Smoot, *Bank Operating Subsidiaries: Free at Last or More of Same?*, 46 DEPAUL L. REV. 651, 655-56 (1997).

[60] Bank Holding Company Act of 1956, ch. 240, 70 Stat. 133 (current version at 12 U.S.C. §§ 1841-1844, 1846-1850 (2012)).

[61] *See* Alan E. Sorcher & Satish M. Kini, *Does the Term "Bank Broker-Dealer" Still Have Meaning?*, 6 N.C. BANKING INST. 227, 231 (2002).

[62] *See* Franklin Allen & Anthony M. Santomero, *The Theory of Financial Intermediation*, 21 J. BANKING & FIN. 1461, 1464-74 (1997); Donald C. Langevoort, *Statutory Obsolescence and the Judicial Process: The Revisionist Role of the Courts in Federal Banking Regulation*, 85 MICH. L. REV. 672, 677-80 (1987); Sorcher & Kini, *supra* note 61, at 233; Richard J. Herring & Anthony M. Santomero, *What is Optimal Financial Regulation?* 29-35 (Wharton Fin. Institutions Ctr., Working Paper No. 00-34, 1999), *available at* http://fic.wharton.upenn. edu/fic/papers/00/0034.pdf.

[63] *See* KERRY COOPER & DONALD R. FRASER, BANKING DEREGULATION AND THE NEW COMPETITION IN FINANCIAL SERVICES 195-217 (1st ed. 1984); *see also* ROBERT E. LITAN, WHAT SHOULD BANKS DO? 33-59 (1987) (noting importance of changes at the state level); Allen N. Berger et al., *The Transformation of the U.S. Banking Industry: What a Long, Strange Trip It's Been*, BROOKINGS PAPERS ON ECON. ACTIVITY, 1995 No. 2, at 55, 127 (1995) (summarizing changes from 1979 onward).

[64] *See* COOPER & FRASER, *supra* note 63, at 2-17; *see also* LOWELL L. BRYAN, BREAKING UP THE BANK: RETHINKING AN INDUSTRY UNDER SIEGE 22-28 (1988) (focusing on banks and thrifts); Franklin Allen & Anthony M. Santomero, *What Do Financial Intermediaries Do?*, 25 J. BANKING & FIN. 271, 274-82 (2001) (showing how competition evolved through the 1990s); Michael C. Keeley, *Deposit Insurance, Risk, and Market Power in Banking*, 80 AM. ECON. REV. 1183, 1184-86 (1990) (discussing the relationship between competition, risk-taking, and bank and thrift failures); Sorcher & Kini, *supra* note 61, at 232-34 (surveying the development of this competition).

[65] *See* Ronald J. Gilson & Charles K. Whitehead, *Deconstructing Equity: Public Ownership, Agency Costs, and Complete Capital Markets*, 108 COLUM. L. REV. 231, 244-47 (2008); *see also* Berger et al., *supra* note 63, at 68-70 (predicting changes in bank lending patterns); Merton H. Miller, *Financial Innovation: The Last Twenty Years and the Next*, 21 J. FIN. & QUANTITATIVE ANALYSIS 459, 459-60 (1986) (suggesting innovations were primarily driven by regulation and tax structures); Peter Tufano, *Financial Innovation*, *in* 1A HANDBOOK OF THE ECONOMICS OF FINANCE 307, 310-12 (George M. Constantinides et al. eds., 2003) (noting the ubiquity of innovations over time and the difficulty classifying them). .

[66] *See* Kevin J. Stiroh, *Diversification in Banking: Is Noninterest Income the Answer?*, 36 J. MONEY, CREDIT & BANKING 853, 853-55 (2004) (discussing increase in non-interest income); Smoot, *supra* note 59, at 654-60 (noting increase in securitization and insurance revenue).

less-regulated competitors.[67] Regulators began to loosen their interpretation of permissible activities under the Glass-Steagall Act and the Bank Holding Company Act in order to permit banks to offer new products and services.[68]

Banks and non-banks increasingly began to compete, with new market participants in some cases replicating the functions of traditional intermediaries. A classic example was the rise of money market funds (MMFs) and finance companies that together began to offer products and services similar to what banks offered, but at competitive prices, drawing substantial numbers of depositors and borrowers from the banking industry. MMFs are required by the federal securities laws to invest in short-term, liquid, high-quality debt instruments, such as Treasury bills and commercial paper.[69] They offer investors the convenience of a bank account, including checking services, toll-free telephone numbers, record-keeping, and wire transfers, but with nominally higher returns than bank deposits.[70] Finance companies, in turn, lend to business and retail borrowers, relying on MMFs for funding through the sale to them of short-term commercial paper.[71] Together, MMFs and finance companies began to mirror the traditional balance between depositors and borrowers—but now between MMFs and finance companies—resulting in a substantial shift in liquid household assets from the banking sector to the capital markets.[72]

Banks also began to change their business, partly to minimize regulatory costs. For example, during the 20 years leading up to the 2007 financial crisis, the asset-backed securities market was fueled by the drive toward lower-cost financing. Banks reportedly were forced to move subprime assets off their balance sheets in light of the higher costs they incurred compared to securities firms. As a result, assets traditionally held by banks moved to a "shadow" banking system comprised of structured investment vehicles and other financing conduits set up to minimize the effects of regulatory capital requirements.[73] In addition, banks entered new business lines. Since the 1980s, for

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[67] *See* Allen & Santomero, *supra* note 62, at 1466-74; Herring & Santomero, *supra* note 62, at 27-30; Matthew Richardson et al., *Large Banks and the Volcker Rule*, *in* REGULATING WALL ST.; THE DODD-FRANK ACT AND THE NEW ARCHITECTURE OF GLOBAL FINANCE 187-88 (Viral V. Acharya et al. eds., 2011).

[68] *See* Thomas G. Fischer et al., *The Securities Activities of Commercial Banks: A Legal and Economic Analysis*, 51 TENN. L. REV. 467, 474-502 (1984); Sorcher & Kini, *supra* note 61, at 233-34.

[69] *See* 17 C.F.R. § 270.2a-7 (2013); *see also* MONEY MARKET WORKING GROUP, INVESTMENT COMPANY INSTITUTE, REPORT OF THE MONEY MARKET WORKING GROUP 31-39 (2009), *available at* http://www.ici.org/pdf/ppr_09_mmwg.pdf (describing regulation of MMFs).

[70] *See* FRANKLIN R. EDWARDS, THE NEW FINANCE REGULATION AND FINANCIAL STABILITY 16 (1996).

[71] *See* Jane W. D'Arista & Tom Schlesinger, ECON. POLICY INST., THE PARALLEL BANKING SYSTEM 3-4, 7-14 (1993), *available at* http://www.epi.org/publication/epi_virlib_briefingpapers_1993_ parallelb/.

[72] *See* EDWARDS, *supra* note 70, at 73-74; D'Arista & Schlesinger, *supra* note 71, at 3-4, 7-14.

[73] *See* Floyd Norris, *No Way To Make A Loan*, N.Y. TIMES, Oct. 19, 2007, at C1; Timothy F. Geithner, President and Chief Exec. Officer, Fed. Reserve Bank of N.Y., Reducing Systemic Risk in a Dynamic Financial System (June 9, 2008), *available at* http://www.newyorkfed.org/newsevents/speeches/2008/tfg 080609.html; *see also* Aaron Unterman, *Innovative Destruction—Structured Finance and Credit Market Reform in the Bubble Era*, 5 HASTINGS BUS. L.J. 53, 59 (2009). As Representative Barney Frank recalled, former Citigroup Chairman and CEO, Chuck Prince, told him that off-balance sheet financing was necessary because on-balance sheet financing "would have put Citigroup at a disadvantage with Wall Street

example, banks began trading commodity derivatives—financial contracts whose values are linked to changes in the price of a referenced commodity, such as oil or iron ore. More recently, banks began to buy and sell the physical commodities underlying those derivatives—in some cases, requiring them to take ownership and delivery of the commodity itself—as an activity that was "complementary" to their derivatives business.[74]

The financial markets continue to converge as banks and non-banks compete across traditional business lines.[75] Greater homogeneity in products and services has also sharpened the competition for the same employees, who increasingly overlap in skills and qualities.[76] The upshot, as described next, has been growth in the demand for talent as banks and non-banks compete to hire the same people—and, like change in the financial industry generally, a shift in how banks hire and compensate non-executives.

B. Competition's Effects on Compensation and Risk-Taking

Bankers were paid a largely-fixed salary before the financial markets began to converge. Performance incentives were less important, since bankers were not expected to seek substantial returns. That changed—with a rise in performance-based pay—as competition between banks and non-banks grew.[77] How compensation was set shifted

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investment banks that were more loosely regulated and were allowed to take far greater risks." Nelson D. Schwartz & Julie Creswell, *What Created This Monster? Yes, the Markets Can Bite Back*, N.Y. TIMES, Mar. 23, 2008, at BU1.

[74] In 2003, for example, following its acquisition of Salomon Brothers, Citigroup became the first bank holding company to obtain bank regulatory approval of its commodity-trading unit's buying and selling of physical commodities. That approval included trading in commodities on the spot market, as well as taking and making physical delivery of commodities to settle commodity derivatives. *See* Dietrich Domanski & Alexandra Heath, *Financial Investors and Commodity Markets*, BIS Q. REV., Mar. 2007, 53, 65-66, *available at* http://ssrn.com/abstract=1600058 (describing the rise of financial investors in the commodities market); *see also* Saule T. Omarova, *The Merchants of Wall Street: Banking, Commerce, and Commodities* 98 MINN. L. REV. 265, 297-307 (describing the growth of bank trading in commodities).

[75] *See* Gorton, *supra* note 57, at 116-18; Jonathan R. Macey, *Derivative Instruments: Lessons for the Regulatory State*, 21 J. CORP. L. 69, 78 (1995); Robert C. Merton, *Operation and Regulation in Financial Intermediation: A Functional Perspective, in* OPERATION AND REGULATION OF FINANCIAL MARKETS 17, 33-41 (Peter Englund ed., 1993). Some new regulation limits competition. For example, section 619 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, commonly known as the "Volcker Rule," limits financial market competition (with some exceptions) by, among other things, prohibiting a "banking entity" from "engag[ing] in proprietary trading" or "acquir[ing] or retain[ing] any equity, partnership, or other ownership interest in or sponsor[ing] a hedge fund or private equity fund." 12 U.S.C. § 1851(a)(1)(A)-(B) (2012).

[76] *See* Acharya et al., *Seeking Alpha*, *supra* note 12, at 4 (describing the skills of financial sector employees as being "highly fungible").

[77] *See* Kevin J. Murphy, *Regulating Banking Bonuses in the European Union: A Case Study in Unintended Consequences* 4 (Univ. of S. Cal. Legal Studies, Working Paper No. 13-8, 2013), *available at* http://ssrn.com/abstract=2235395 (noting that, as banks moved into investment banking, they "faced a growing tension between . . . traditional commercial bankers—paid high salaries with relatively little performance-based pay—and the professionals in its investment-banking divisions. Ultimately, commercial banks began offering investment-banking-type remuneration for top performers throughout the organization."). The result was a substantial increase in financial sector compensation. From 1980 onwards, the financial sector became a high-skill and high-wage industry (compared to other sectors of the U.S. economy), in line with changes in regulation that permitted greater competition across the financial

from being an internal process to increasingly being determined by what others in the marketplace would pay—including investment banks and, more recently, hedge funds.[78] Individual banks adjusted what they paid in order to remain competitive.[79]

Tying compensation to financial performance was designed to align employees' and employers' interests.[80] The change in pay structure, however, created two problems. First, it distorted an employee's risk incentives. Banks are unable to assess an employee's risk-adjusted results unless she remains at the bank long enough for the consequences of her strategy to materialize.[81] A bank employee, therefore, can anticipate being rewarded in the short-term for higher returns, regardless of whether they resulted from her talent (her ability to outperform the market) or excessive risk-taking. She has a particular interest in concealing her high-risk strategy from others—making it appear as if she outperformed her peers based on talent alone.[82] The result is an overall increase in

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markets. *See* Thomas Philippon & Ariell Reshef, *Wages and Human Capital in the U.S. Finance Industry: 1909-2006*, 127 Q. J. ECON. 1551, 1552 (2012).

[78] *See* Milton Harris & Bengt Holmstrom, *A Theory of Wage Dynamics*, 49 REV. ECON. STUD. 315, 316 (1982) (noting that compensation is influenced by what competing employers are willing to pay). When an agent has an outside option—and can accept a job offer from a competitor if bargaining with her employer fails—the principal must design the agent's contract to match the agent's other opportunities in order to induce her to accept the contract. *See* Jonathan Levin, *Relational Incentive Contracts*, 93 AM. ECON. REV. 835, 836 (2003). Although banks are subject to the Compensation Guidance, other prospective employers—including securities firms and hedge funds—are not. *See* Compensation Guidance, *supra* note 6, at 36,396.

[79] As the Treasury Department, the Fed, and the FDIC noted when summarizing comments on the proposed Compensation Guidance:

> Several commenters . . . expressed concern that the proposed guidance, if implemented, could impede the ability of banking organizations to attract or retain qualified staff and compete with other financial services providers. In light of these concerns, some commenters suggested that the guidance expressly allow banking organizations to enter into such compensation arrangements as they deem necessary for recruitment or retention purposes. A number of commenters also encouraged the Federal Reserve to work with other domestic and foreign supervisors and authorities to promote consistent standards for incentive compensation practices at financial institutions and a level competitive playing field for financial service providers.

Compensation Guidance, *supra* note 6, at 36,398.

[80] Non-executive pay shares goals similar to those identified for executive compensation, namely (i) rewarding success, (ii) providing incentives, (iii) retaining and attracting talent, and (iv) aligning shareholder and employee interests. *See* Jeffrey N. Gordon, "*Say on Pay": Cautionary Notes on the U.K. Experience and the Case for Shareholder Opt-In*, 46 HARV. J. ON LEGIS. 323, 329 (2009) (listing the goals of executive compensation). *See also supra* note 42 and accompanying text.

[81] *See* Acharya et al., *Seeking Alpha*, *supra* note 12, at 3-4; Bannier et al., *supra* note 12, at 655-56.

[82] An employee who seeks to conceal a high-risk strategy may pursue complicated projects that are difficult for an employer to monitor or jump to a new job before the risks are realized so that management of the projects moves to someone else. *See* Igor Makarov & Guillaume Plantin, Rewarding Trading Skills Without Inducing Gambling 1-3 (Apr. 2011) (unpublished manuscript), *available at* http://ssrn.com/abstract=1571545 (describing the incentive of fund managers to incur risk without detection in order to manipulate reputations and attract more funds). Even managers who can differentiate among potential hires may lack the incentive to do so, out of concern that this may delay the hiring process and risk losing the best performers to competitors. *See* Roy C. Smith, *Greed is Good*, WALL ST. J., Feb. 7-8, 2009, at W1, *available at* http://online.wsj.com/article/SB123396915233059229.html#CX ("You had to pay everyone

risk-taking, which can boost short-term performance and pay, but potentially at the expense of long-term bank value,[83] also referred to as a "tail-risk strategy."[84]

Consider the following example. During 2005-2007, JPMorgan's bankers underwrote residential mortgage-backed securities (RMBS) totaling $10.28 billion.[85] Investors relied on cash flows from pools of residential mortgages for the payment of principal and interest on the RMBS, although important loan-level data were often difficult to obtain[86] or were unreliable.[87] JPMorgan purchased those mortgages from the firms that originated them. From January 2006 to September 2007, its bankers learned that a number of the loans were substandard—meaning that the mortgages failed to comply with the originator's own underwriting guidelines or have sufficient compensating factors to justify including them in an RMBS pool.[88] Excluding them would have improved the credit quality of the RMBS, but too many exclusions would have caused the originators to do

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well . . . because there was always someone trying to poach your best trained people, whom you didn't want to lose even if they were not superstars."). Risk managers also may have little incentive to control risk to the extent that minimizing risk is not valued by the bank (or if the value is difficult to measure) and doing so lowers the bank's short-term performance. *See* Karl S. Okamoto, *After the Bailout: Regulating Systemic Moral Hazard*, 57 UCLA L. REV. 183, 216-18 (2009). Consequently, the failure to take account of the employees' interest in concealing high-risk strategies—by using revenues, rather than risk-adjusted profits, to set compensation—was found by senior financial regulators after the financial crisis to be one critical area of risk management that requires improvement. *See* SENIOR SUPERVISORS GROUP, RISK MANAGEMENT LESSONS FROM THE GLOBAL BANKING CRISIS OF 2008 24-25 (2009), http://www.sec.gov/news/press/2009/report102109.pdf ("Individual performance measurement schemes have often not reflected true economic profits, adjusted for known costs and uncertainty.") *See also* MATHIAS DEWATRIPONT & JEAN TIROLE, THE PRUDENTIAL REGULATION OF BANKS 120 (1994) (suggesting that the limited verifiability of an agent's actions makes performance-based compensation an insufficient discipline).

[83] *See* RAGHURAM G. RAJAN, FAULT LINES: HOW HIDDEN FRACTURES STILL THREATEN THE WORLD ECONOMY 137-39 (2010) (explaining how bankers' search for "alpha" (excess returns) resulted in the undertaking of excessive risk); *see also* Raghuram G. Rajan, *Has Financial Development Made the World Riskier?*, *in* THE GREENSPAN ERA: LESSONS FOR THE FUTURE 313, 315-17 (2005) (same); Krishnan Sharma, *Financial Sector Compensation and Excess Risk-taking—A Consideration of the Issues and Policy Lessons* 2 (U.N. Dep't of Econ. & Social Affairs, Working Paper No. 115, 2012), *available at* http://www.un.org/esa/desa/papers/2012/wp115_2012.pdf (observing that asymmetries in the "term magnitude and probability of gain and losses" combined to encourage the undertaking of tail risk in the banking sector).

[84] Tail risk is less likely to occur than other risk, although its magnitude may be significant. *See* RAJAN, *supra* note 83, at 137; *see also* Acharya et al., *Seeking Alpha*, *supra* note 12, at 3 (observing that it may be easier for financial sector employees to undertake tail-risk strategies due to potential long-run losses).

[85] This example is drawn from the Justice Department's statement of facts that was publicly released in connection with its $13 billion settlement with JPMorgan. *See* U.S. Department of Justice, Statement of Facts, 1-2 & n.2 (Nov. 19, 2013), http://www.justice.gov/iso/opa/resources/9432013111915103 1990622.pdf [hereinafter Statement of Facts].

[86] *See* Committee on Capital Markets Regulation, *The Global Financial Crisis: A Plan for Regulatory Reform* 146-48 (2009), *available at* http://www.capmktsreg.org/pdfs/TGFC-CCMR_Report_(5-26-09).pdf (survey of institutional investors indicating that one-third of the data fields that most surveyed investors thought "essential" typically was not disclosed).

[87] *See, e.g.*, Christopher Papagianis, *Housing Market in Crisis*, E21 COMMENTARY SERIES (Nov. 19, 2010), *available at* http://economics21.org/commentary/housing-market-crisis.

[88] *See* Statement of Facts, *supra* note 85, at 4.

business elsewhere—potentially causing a drop in JPMorgan's revenues.[89] Since the bankers' performance was measured by profitability, they had an incentive to include lower-quality loans in the mortgage pools (in many instances, without JPMorgan's executives or customers being able to differentiate among them). As a result, rather than exclude the loans, the bankers directed that a number of them be waived into the pools.[90] Based on one report, 27 percent of the loans JPMorgan purchased during the period were substandard, although the bankers accepted roughly 50 percent of them.[91]

Second, greater competition for talent lowered the natural constraint on risk-taking created by long-term employment, increasing the possibility of employee moral hazard.[92] An employee's outside job options are limited in a heterogeneous industry. Job skills tend to be specific to a particular employer, resulting in longer-term employment that permits the employer to better assess an employee and, based on outcome, adjust her compensation and responsibilities.[93] A lack of mobility and the potential for negative long-term results, with a resulting drop in pay, are likely to weigh against a high-risk strategy. That constraint weakens as the industry becomes more homogeneous (as occurred with the financial industry[94]) and where, in a fluid labor market, the employee can jump to a competitor before any long-term losses materialize. Having performed well in the short-term, the employee can move to a new employer—seeking compensation based on her performance, but again without her employer being able to assess whether that performance was due to talent or a tail-risk strategy.[95] The result is a negative externality—each bank naturally competes for the same employees based on how well they do in the short-term, making it difficult for any one employer to unilaterally implement pay incentives that adjust for risk-taking and long-term outcomes.[96]

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[89] *See* THE FINANCIAL CRISIS INQUIRY COMMISSION, THE FINANCIAL CRISIS INQUIRY REPORT 166 (2011), *available at* http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf.

[90] *See* Statement of Facts, *supra* note 85, at 4-5.

[91] *See id.* at 5.

[92] *See* Acharya et al., *Seeking Alpha*, *supra* note 12, at 2-3.

[93] *See* Robert Parrino, *CEO Turnover and Outside Succession: A Cross-Sectional Analysis*, 46 J. FIN. ECON. 165, 179 (1997) ("[E]vidence suggests that industry-specific human capital is highly valued in most industries.").

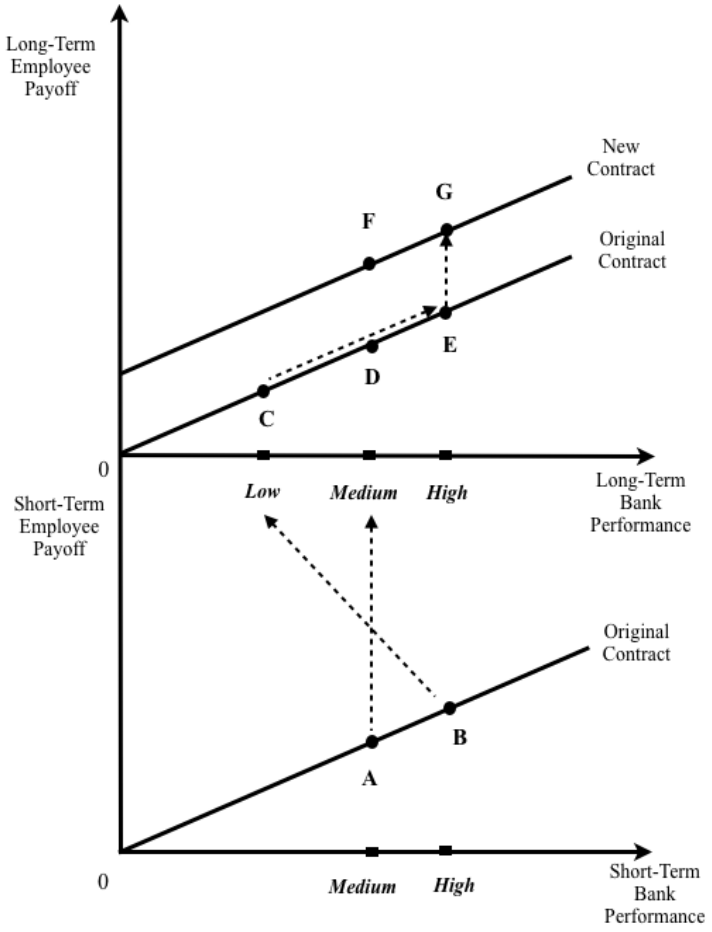
[94] *See supra* Part I.A.

[95] *See supra* notes 81-82 and accompanying text.

[96] *See* Acharya et al., *Seeking Alpha*, *supra* note 12, at 2-3; Thanassoulis, *supra* note 11, at 849-50; Roland Bénabou & Jean Tirole, *Bonus Culture: Competitive Pay, Screening, and Multitasking* 1-2 (Nat'l Bureau of Econ. Research, Working Paper No. 18936, 2013), *available at* http://www.nber.org/papers/w18936 (observing that outside job options may limit an employer's ability to manage its employees). The competition for managerial talent may also produce a similar negative externality by incentivizing firms to choose to underinvest in corporate governance (providing higher levels of compensation and lower levels of discipline for managers) in order to remain competitive as employers. *See* Viral V. Acharya & Paolo F. Volpin, *Corporate Governance Externalities*, 14 REV. FIN. 1, 2-3 (2010) (developing a theoretical model to illustrate the production of negative governance externalities by competition); David L. Dicks, *Executive Compensation and the Role for Corporate Governance Regulation*, 25 REV. FIN. STUDIES 1971, 1971-72 (2012) (same); Viral Acharya et al., Competition for Managers, Corporate Governance and Incentive Compensation 1-2 (Oct. 2010) (unpublished manuscript), *available at* http://faculty.london.edu/pvolpin/compensation.pdf (providing empirical support); *see also* Ing-Haw Cheng, Corporate Governance Spillovers 1-5 (Apr. 10, 2011) (unpublished manuscript), *available at* http://ssrn.com/abstract=1299652 (describing the spillover effects of poor corporate governance on peer firms in a competitive labor market).

Figure 1 below illustrates the relationship among competition, compensation (*Employee Payoff*), and bank performance (*Bank Performance*). The lower graph relates to *Short-Term* performance and the upper graph relates to *Long-Term* performance.[97]

Figure 1. Competition, Compensation, and Performance



In our illustration, a bank Employee can undertake one of two types of actions, either a *High Risk* strategy or a *Low Risk* strategy. A *High Risk* strategy (for example, waiving sub-standard loans into an RMBS pool, as JPMorgan's bankers did[98]) is likely to result in a *Short-Term* increase in *Bank Performance*, but also yield a lower level of *Bank Performance* (or even losses) in the *Long-Term*. A *Low Risk* strategy (for example, excluding sub-standard loans from an RMBS pool[99]) is likely to result in a lower level of *Bank Performance* in the *Short-Term*, but also lead to higher *Long-Term* gains. Due to the enhanced *Short-Term Bank Performance* that results from a *High Risk* strategy, the

[97] *Bank Performance* refers to the Employee's contribution to the bank's revenues. Recall that, for purposes of this Article, *Short-Term* and *Long-Term* refer to successive periods without identifying particular lengths of time. *See supra* note 14.

[98] *See supra* notes 90-91 and accompanying text.

[99] *See supra* note 89 and accompanying text.

Employee who chooses that approach will benefit from a higher *Employee Payoff* at point B. Of course, if the Employee is talented, she could also receive compensation at point B by selecting a *Low Risk* strategy. On balance, however, an Employee who selects a *Low Risk* strategy is more likely to contribute less to *Bank Performance* in the *Short-Term* and, therefore, receive compensation at point A, corresponding to medium performance.

In a non-competitive market, an Employee who selects a *Low Risk* strategy and remains with her first employer (subject to her *Original Contract*) is likely in the *Long-Term* to contribute to *Bank Performance* and receive an *Employee Payoff* corresponding to point D. By contrast, if the Employee opts for a *High Risk* strategy, she is likely to realize lower *Long-Term* compensation when the negative consequences of that strategy materialize at point C. Hence, in a market with limited employee mobility, an Employee has an incentive to select a *Low Risk* strategy in order to avoid the longer-term losses that can arise from a riskier strategy.

In a competitive market, Employee compensation increases as banks and other financial firms bid for high performers, shifting pay upward in the *Long-Term* to the *New Contract*.[100] In such a market, an Employee who pursues a *Low Risk* strategy with medium performance may be able to increase her compensation from point D to point F. More significantly, an Employee who pursues a *High Risk* strategy can more easily switch jobs due to how well she did—the high level of *Bank Performance*—in the *Short-Term* and, in turn, avoid the *Long-Term* losses of her riskier strategy. In fact, since a new employer's assessment is based only on *Short-Term Bank Performance*, the Employee may be able to negotiate a *New Contract*—starting from an *Employee Payoff* at point E—as if she had generated the greater returns based on superior talent (rather than excessive risk-taking).[101] By adopting the same *High Risk* strategy at her new employer, the Employee can then increase her compensation from point E to point G—with an overall rise in total pay from point C (the point where her compensation would have reflected the *Long-Term* losses from her *High Risk* strategy) to point G.

In addition, since a *Low Risk* strategy is more likely to underperform a *High Risk* strategy in the *Short-Term*, and since *Employee Payoff* is determined by *Bank Performance* and not by levels of risk-taking, both less-talented and talented Employees have an incentive to pursue a *High Risk* strategy that increases the likelihood of higher compensa-

[100] *See supra* notes 77-79 and accompanying text.

[101] Thus, the competition for non-executives creates an adverse selection and a moral hazard problem. An employer who is unable to tell whether a new hire's performance resulted from talent or increased risk-taking faces an adverse selection problem. Moral hazard arises when a bank employee has the incentive to pursue a *Short-Term High Risk* strategy and then move to a new employer before any losses materialize. *See supra* notes 40, 81-82, 95and accompanying text.

tion at points B and G.[102] Doing so, however, also increases the likelihood of greater bank losses over the *Long-Term*.[103]

The upshot is that growing competition for financial talent has distorted the relationship between compensation and performance. Increased mobility provides non-executives with the means to take on greater risk without facing the consequences—first, by improving short-term performance and, in turn, increasing their compensation (either by current or future employers) and, second, by permitting them to sidestep the long-term losses that result from excessive risk-taking. As a result, non-executive pay in banks is no longer an internally set feature of employment. Instead, as we set out empirically in the next Part, it is determined by the market's demand for talent.

II. BANK COMPENSATION AND RISK-TAKING: EMPIRICAL RESULTS

Part I set out our explanation of the relationship among bank non-executive compensation, the competition for talent, and risk-taking. In this Part, we offer a reduced and modified version of a recent empirical study, co-authored by one of us, that investigates non-executive compensation in a sample of 77 U.S. bank holding companies over the period 2003-2009.[104] This study delivers two major results that support our earlier explanation. First, it shows that bank non-executive compensation before the financial crisis (2003-2006) was tied largely to short-term bank performance, contributing to the increased bank risk and reduced bank value that occurred during the financial crisis (2007-2009). Second, it demonstrates the impact of market factors—rather than individual choices by top executives—on non-executive incentives and, in turn, on bank risk and bank value. The result has been an industry-wide increase in compensation that failed to take account of the increased risk-taking that arose from each bank's interest in hiring the strongest performers. We turn to those findings next.

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[102] If compensation is tied to short-term results, other employees—even if they are normally inclined to pursue less-risky strategies—are more likely to incur greater risk rather than underperform colleagues and potentially face a drop in pay. *See* Sherwin Rosen, *The Economics of Superstars*, 71 AM. ECON. REV. 845, 846-47 (1981).

[103] *See supra* notes 83-84 and accompanying text.

[104] *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, at *passim*. One key difference is that this Article uses net income rather than interest income as a measure to estimate bank performance. *Id.* at 3-4, 9 (acknowledging the use of total interest income in the main specifications). Our reliance on net income is consistent with how bank bonuses are set. The shift in bank compensation away from largely fixed to contingent (bonus) payments replicated the use of bonuses within the investment banking world. *See* Rajan, *supra* note 83, at 315-17; Murphy, *supra* note 77, at 3. That reliance on bonuses continues today, with base salaries constituting only a small portion of total pay for professional employees and year-end bonuses set on the basis of individual, group, and firm performance. *See* Bannier et al., *supra* note 12, at 654; Murphy, *supra* note 77, at 4.

A. Non-Executive Incentives and Bank Performance

Public data on bank non-executive pay is limited. The Bank Regulatory database of the Federal Reserve Bank of Chicago,[105] which collects quarterly data on, among other items, bank balance sheets and income statements, only provides information on total compensation (for executives and non-executives). Unlike data on top management compensation, which is available from the ExecuComp database,[106] no dedicated database exists for non-executive pay.

The solution is to derive changes in non-executive pay from changes in total bank compensation. Non-executive pay can be measured for each bank by computing how it adjusts its quarterly total compensation (obtained from the Bank Regulatory database), net of its quarterly executive pay (obtained from the ExecuComp database). In order to assess incentive effect, quarterly changes in pay can then be related to the quarter's variation in bank profits (as a proxy for bank performance, obtained from the Bank Regulatory database). Computing changes on a quarterly basis is important, because it captures the sensitivity of non-executive incentives to short-term bank performance. Also important is differentiating the components of pay in order to verify whether cash and stock compensation have different effects. Accordingly, the following measures were estimated for each bank over the period 2003-2006:[107] (i) CASH COMP. INCENT.—computed as the quarterly variation in total salary, bonus, and net benefits granted to each bank's non-executives relative to the quarter's variation in bank profits; (ii) STOCK COMP. INCENT.—computed as the quarterly variation in total payments in stock granted to each bank's non-executives relative to the quarter's variation in bank profits; and (iii) TOTAL COMP. INCENT.—computed as the quarterly variation in total salary, bonus, net benefits, and stock granted to each bank's non-executives relative to the quarter's variation in bank profits.

Identifying the distinct roles played by market-wide and firm-specific effects in setting non-executive incentives is also critical. Non-executive cash incentives (CASH COMP. INCENT.) were divided into two components, one for market effects (CASH COMP.

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[105] The Bank Regulatory database collects financial information that the Fed and the FDIC require all bank holding companies to file using FR Y-9C reports. Pursuant to the Bank Holding Company Act, a bank holding company is defined as "any company which has control over any bank or over any company that is or becomes a bank holding company." *See* 12 U.S.C. § 1841(a)(1) (2012). For a detailed description of the financial information bank holding companies are required to disclose in FR Y-9C reports, see BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, FORM FR Y-9C (last updated Dec. 18, 2013), *available at* http://www.federalreserve.gov/apps/reportforms/reportdetail.aspx?sOoYJ+5BzDal8cbqnRxZRg==.

[106] The ExecuComp database provides information on executives at S&P 1000 firms, including information on salaries, bonuses, and stock options since 1992. Note that, since the ExecuComp database only provides data on an annual basis, the data are pro-rated in the estimates employed in Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 7-8.

[107] For the technical specifications of these measures, see Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 9 (Equation 1).

INCENT. (MARKET)) and the other for firm effects (CASH COMP. INCENT. (FIRM)).[108] The market-effects component measures the quarterly cash compensation variation for each bank relative to the quarter's variation in *market* profits. For each bank, the "market" corresponds to a reference peer group comprised of five other banks whose headquarters are located in the same state or neighboring states.[109] The firm-effects component measures the quarterly cash compensation variation for each bank relative to the quarter's variation in *individual bank* profits *after* market effects are taken into account.[110]

Table 1. Descriptive Statistics for Main Variables

	Mean	**Standard Deviation**
Independent Variables (2003-2006):[111]		
CASH COMP. INCENT.	0.98	0.75
STOCK COMP. INCENT.	0.89	1.103
TOTAL COMP. INCENT.	0.97	0.072
CASH COMP. INCENT. (MARKET)	1.00	0.090
CASH COMP. INCENT. (FIRM)	0.07	4.455
Dependent Variables (2007-2009):		
Bank Risk	0.071	0.044
Bank Value	1.049	0.171

Table 1 sets out Mean and Standard Deviation data for the main variables used in this Article's empirical analysis. The data confirm that bank employee compensation was mainly driven by short-term (quarterly) bank profits. As shown in the first column (Mean), a $1.00 quarterly increase (decrease) in *bank* profits corresponded on average to a 98¢ increase (decrease) in cash compensation in the next quarter, and a $1.00 quarterly increase (decrease) in *market* profits corresponded on average to a $1.00 increase (decrease) in cash compensation in the next quarter.

Significantly, once market effects were taken into account, a $1.00 quarterly increase (decrease) in an individual bank's relative profits corresponded on average to

[108] For a more detailed discussion of the specific econometric technique employed to separate market effects and firm effects, see Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 10 (Equation 2).

[109] For example, Citigroup's peer group includes five other bank holding companies headquartered in New York: JP Morgan Chase & Co., Metlife Inc., Bank of New York Mellon Corp., M&T Bank Corp., and New York Community Bancorp Inc. *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 11-12 (describing in more detail the construction of peer groups).

[110] As compared to CASH COMP. INCENT., CASH COMP. INCENT. (FIRM) is designed to measure changes in a bank's compensation relative to changes in profits that are specific to that bank and uncorrelated to changes in market profits. *See id*. at 10-12.

[111] The statistical data on independent variables in Table 1 are based on a sample of 88 U.S. bank holding companies, while the regressions described in the text are based on a sample of 77 U.S. bank holding companies. Regressions were not possible for 11 U.S. bank holding companies that went out of business during 2007-2009.

only a 7¢ increase (decrease) in bank employee cash compensation. This suggests, consistent with our earlier analysis,[112] that the bulk of the effect on employee compensation was tied to changes in market profits rather than individual bank earnings. Compensation for non-executive employees was essentially driven by market-wide results rather than on how well a specific bank performed relative to the industry.

B. Non-Executive Incentives and Bank Risk-Taking

In Section A, we showed that non-executive incentives during 2003-2006 were predominantly tied to short-term market profits. The next step is to verify the impact of those incentives on longer-term bank risk. Our claim was that non-executive incentives promoted riskier strategies whose results emerged during the financial crisis.[113] *Bank Risk*, therefore, was estimated as aggregate risk during 2007-2009,[114] using the standard deviation of a bank's weekly excess return (defined as the weekly return of a bank's stock, less the weekly return of the S&P 500) over the calendar year.

As shown in Table 2 below, the greater a bank's non-executive incentives were during 2003-2006, the greater the *Bank Risk* during 2007-2009. This finding is consistent with our conclusion that a rise in the competition for talent would cause a bank to rely on short-term performance in setting employee pay (2003-2006), without adjusting it to account for risk-taking and longer-term (2007-2009) outcomes.[115]

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[112] *See supra* notes 77-79, 100 and accompanying text.

[113] *See supra* notes 83-84, 100-101 and accompanying text.

[114] It is unlikely that high bank risk during the financial crisis determined pre-crisis non-executive pay, since this would imply that banks and the market for non-executives were able to anticipate the effects of the financial crisis before they occurred and adjust non-executive pay in anticipation of those effects. Measuring non-executive incentives *before* the financial crisis and *Bank Risk* only *during* the financial crisis mitigates endogeneity concerns. *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 21, 31-32.

[115] *See supra* notes 81-82, 95-96 and accompanying text. Although compensation was not the sole cause of the financial crisis, its effect on risk was widely recognized as an important cause of the losses that resulted. *See* Grant Kirkpatrick, *The Corporate Governance Lessons from the Financial Crisis*, FIN. MARKET TRENDS, Sept. 25, 2009, at 72-76 (stating that remuneration and incentive systems played a key role in favoring excessive bank risk-taking); INST. OF INT'L FIN., COMPENSATION IN FINANCIAL SERVICES: INDUSTRY PROGRESS AND THE AGENDA FOR CHANGE 2, 10 (2009), www.iif.com/download.php?id=YgXfGGw8KEA= (stating that 98 percent of survey respondents believed that compensation practices were one cause of the financial crisis); SENIOR SUPERVISORS GROUP, OBSERVATIONS ON RISK MANAGEMENT PRACTICES DURING THE RECENT MARKET TURBULENCE 7 (2008), http://www.newyorkfed.org/newsevents/news/banking/2008/SSG_Risk_Mgt_doc_final.pdf (noting that for many firms compensation and other incentives were not sufficiently well-designed to balance risk appetite and risk control); UBS, SHAREHOLDER REPORT ON UBS'S WRITE-DOWNS 32, 41-42 (2008), http://www.ubs.com/1/ShowMedia/investors/agm?contentId=140333&name=080418ShareholderReport.pdf (finding the incentive effects of UBS's compensation practices to be one overarching cause of its subprime mortgage losses).

Table 2. Bank Risk and Compensation Incentives[116]

	Bank Risk (2007-2009)		
Independent Variables (2003-2006)	(1)	(2)	(3)
CASH COMP. INCENT.	0.0516***		
t-stat	(3.98)		
STOCK COMP. INCENT.		-0.0005*	
t-stat		(1.75)	
TOTAL COMP. INCENT.			0.066***
t-stat			(3.03)
Percentage Effect[117]	30.5%	-4.3%	37.7%
Observations	231	231	231
Adjusted R-squared	41%	40%	41%

Table 2 shows that all non-executive incentives had an impact on *Bank Risk* that is statistically significant, but the direction of the impact varied. Specifically, for CASH COMP. INCENT. (shown in column 1), there was a positive effect on *Bank Risk*. This means that the more sensitive non-executive cash compensation (total salary, bonus, and net benefits) was to a bank's profits in 2003-2006, the greater the increase in *Bank Risk* over the period 2007-2009. The economic significance of this effect is notable, with CASH COMP. INCENT. being responsible on average for a 30.5 percent increase in *Bank Risk* during the financial crisis. By contrast, for STOCK COMP. INCENT. (shown in column 2), there was a negative effect on *Bank Risk*—meaning that the more sensitive non-executive stock compensation was to a bank's profits in 2003-2006, the lower the *Bank Risk* in 2007-2009.

Both results are consistent with our theoretical analysis. With growth in the competition for talent, and a reliance on near-term performance to set compensation, non-executive *cash* compensation failed to reflect the resulting increase in risk-taking incentives.[118] *Stock* compensation, however, involves different dynamics, especially in the

[116] The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. This means that the null hypothesis (the hypothesis that an independent variable has no impact on a dependent variable) cannot be rejected with a probability of 1%, 5%, and 10%, respectively. In statistics, when the significance level is above 10%, it is standard to consider the result to be statistically insignificant or uninformative.

[117] The percentage effects correspond to a one standard deviation increase in the dependent variable (*Bank Risk*) given a one standard deviation increase in the independent variables (the measures of non-executive incentives). *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 25 n.20 (including a detailed discussion of the computations underlying the calculation of each percentage effect).

[118] *See supra* notes 81-82, 95-96 and accompanying text. As financial regulators reported in the wake of the financial crisis, "Historical compensation arrangements were generally not sensitive to risk and skewed incentives to maximize revenues . . . . Firms largely acknowledged that current compensation practices, or those in place prior to the crisis, created strong incentives to maximize revenues rather than risk-, capital-, and liquidity-adjusted earnings." *See* SENIOR SUPERVISORS GROUP, *supra* note 82, at 24.

form of restricted stock and other deferred equity plans. This kind of incentive is more likely to internalize the costs of an employee's risk-taking, because higher risk is likely to correlate with lower future stock values.[119]

In our sample of banks, stock compensation accounted on average for only two percent of total compensation, with the remaining 98 percent comprised of cash.[120] The principal reliance on cash compensation explains the overall effect of non-executive pay in increasing *Bank Risk*. It is also consistent with the influence of market demand on how non-executive pay is set. Compensation tied to longer-term results becomes less attractive as it becomes more common to reward employees for short-term performance. For employees, a cash bonus is likely to be more desirable than equal compensation in stock whose value may not be realized until the future. Consequently, in a competitive market, employees—and the employers interested in making the best hires—are more likely to favor cash over stock compensation.[121]

Earlier we noted that non-executive pay is largely tied to market profits.[122] Based on that finding, we suspected that the effect of non-executive incentives on *Bank Risk* was primarily driven by their market component. The empirical results in Table 3 below support our view.

[119] Those results contrast with the analysis of executive compensation in Bebchuk & Spamann, *supra* note 9, at 275-76 ("[R]estricted stock could tie executive payoffs to an even more highly levered bet on the value of the assets of the bank, and thus, give executives highly distorted incentives" to engage in excessive risk-taking), but support the compensation proposal made in Bhagat & Romano, *supra* note 9, at 363-71, as well as our own proposal to require that a component of non-executive compensation be tied to long-term equity. *See infra* Part III.C.

[120] *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 3, 19, 22; *see also* Bernard S. Sharfman, *Using the Law to Reduce Systemic Risk*, 36 J. CORP. L. 607, 616-17 (2011) (describing reliance on annual cash bonuses).

[121] Employers who choose to reflect long-term performance in what they pay may also need to increase the value the employee can realize over time in order to remain competitive. *See* Michael C. Jensen & Kevin J. Murphy, *CEO Incentives—It's Not How Much You Pay, But How*, HARV. BUS. REV., May-June 1990, at 138, 149. For example, if a bank continues to do well over the long-term, the amount the employee gains on her restricted stock or stock options should be greater than what she would have received up front in cash. This may partly account for the eight percent drop in Wall Street cash bonuses in 2010, but the overall increase in pay—largely comprised of deferred compensation—by six percent during the same year. *See* Brett Philbin, *Wall Street Cash Bonuses Fall, Despite Strong Profit*, WALL ST. J. (Feb. 24, 2011), http://online.wsj.com/news/articles/SB10001424052748703775704576162731016064512.

[122] *See supra* note 112 and accompanying text.

Table 3. Bank Risk and Cash Compensation Incentives: Market and Firm [123]

		Bank Risk (2007-2009)
Independent Variables (2003-2006)		
CASH COMP. INCENT. (MARKET)		0.0635***
	t-stat	(4.99)
CASH COMP. INCENT. (FIRM)		-0.00031
	t-stat	(1.19)
Percentage Effect[124]		40.0%
		-10.9%
Observations		231
Adjusted R-squared		43.3%

We focus here on non-executive cash compensation (CASH COMP. INCENT.), since, as noted earlier, this was the dominant component of non-executive pay before the financial crisis.[125] Table 3 shows that, once market factors are separated from firm factors, the effect of CASH COMP. INCENT. (MARKET) on *Bank Risk* is significantly greater than CASH COMP. INCENT. (FIRM). The effect of CASH COMP. INCENT. (MARKET) is positive and statistically significant, leading to an average increase in *Bank Risk* of 40 percent. By contrast, the effect of CASH COMP. INCENT. (FIRM) on *Bank Risk* is statistically insignificant.

Finally, we note that the results in Table 3, as well as in Table 4 below, were controlled for executive incentives (measured over the same period as non-executive incentives, 2003-2006) and the results persisted[126]—meaning that executive incentives

[123] The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. *See supra* note 116.

[124] The percentage effects correspond to a one standard deviation increase in the dependent variable (*Bank Risk*) given a one standard deviation increase in the independent variables (CASH COMP. INCENT. (MARKET) and CASH COMP. INCENT. (FIRM)). *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 26 (including a detailed discussion of the computations underlying the calculation of each percentage effect).

[125] *See supra* note 120 and accompanying text.

[126] The regressions in Tables 3 and 4 were also controlled for several additional variables (estimated during 2003-2006) that were likely to have an impact on *Bank Risk*, including (i) bank size; (ii) past bank profitability (ROA); (iii) total deposits to total assets; (iv) Tier-1 capital to total assets; (v) total loans to total assets; (vi) past bad loans to total assets; (vii) ratio of underwriter assets to total bank assets; (viii) ratio of insurance assets to total bank assets; (ix) ratio of derivative products trading to total assets; and (x) ratio of derivative hedging to total assets. Control (i) is included because large banks are more likely to benefit from various forms of governmental support and, therefore, they may have greater incentives to engage in excessive risk-taking. Control (ii) reflects the possibility that banks that have previously failed to achieve expected returns may be more inclined to undertake riskier investments. Control (iii) is included, because deposits are a financial source that is largely insensitive to risk (due to FDIC insurance) and, therefore,

can be excluded as an explanation of the effects on *Bank Risk* shown in those Tables.[127] Importantly, this confirms our claim that changes in executive pay had limited effect on changes in non-executive risk-taking. Greater homogeneity in the financial markets[128] caused non-executive pay to no longer be a choice made by a bank's top executives, but instead increasingly to be determined by the market's demand for talent.[129]

C. Non-Executive Incentives and Bank Value

So far we have considered the impact of bank non-executive incentives on risk-taking without analyzing whether they were efficient or inefficient. Bank compensation that promotes riskier strategies is not necessarily inefficient,[130] for example, if it is associated with a high (long-term) expected return.[131] Our claim, however, is that the negative externality that results from the competition for bank talent caused bank non-executive incentives to be inefficient.[132] Greater employee mobility limited the banks' ability to structure non-executive incentives to efficiently manage a banker's effort choices (inducing her to refrain from self-interested conduct) and risk choices (inducing her to undertake an optimal level of risk).[133]

Empirically, our claim can be tested by relating bank non-executive incentives before the financial crisis (2003-2006) to *Bank Value*, measured as the bank's average

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banks with more deposit-funding may be more prone to taking excessive risk. Control (iv) is included, because banks that are less well-capitalized tend to be more exposed to insolvency and, therefore, more sensitive to changes in risk. Finally, controls (v)-(x) are included since the indicated lines of business may directly impact future bank risk and value. *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, app. at Table 1.

[127] Executive incentives were measured through *CEO Delta*, which estimates the sensitivity of CEO compensation to stock price (*i.e.*, the percent change in the value of the CEO option portfolio for a one percent increase in stock price), and *CEO Vega*, which estimates the sensitivity of CEO compensation to stock return volatility (*i.e.*, the percent change in the value of the CEO option portfolio for a one percent increase in the volatility of the returns on the underlying stock). *See* John Core & Wayne Guay, *Estimating the Value of Employee Stock Option Portfolios and Their Sensitivities to Price and Volatility*, 40 J. ACCT. RES. 613, 629 (2002).

[128] *See supra* notes 75-76 and accompanying text.

[129] *See supra* notes 77-79 and accompanying text.

[130] In fact, the main concern with managerial risk choices has long been that undiversified managers may have incentives to select projects that are too conservatives from the shareholders' perspective. REBECCA S. DEMSETZ ET AL., FED. RESERVE BANK OF N.Y., AGENCY PROBLEMS AND RISK TAKING AT BANKS 1-2 (1997), *available at* http://www.newyorkfed.org/research/staff_reports/research_papers/9709.pdf ("[T]he owner/manager agency problem is characterized by excessively *safe* behavior on the part of the manager, who pursues his own objectives at the expense of better diversified shareholders." (emphasis in original)). Conservative projects have the opposite effect of increased risk-taking, expropriating wealth from diversified shareholders to the benefit of fixed claimants, including wage-compensated managers. *See* Jensen & Meckling, *supra* note 37, at 353.

[131] Within modern scholarship, the link between risk and expected return was first studied by William F. Sharpe. *See* William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk*, 19 J. FIN. 425 (1964).

[132] *See supra* notes 83-84, 96 and accompanying text.

[133] *See supra* notes 100-101 and accompanying text.

Tobin's Q (the ratio of the bank's market value of assets over its book value of assets)[134] during the financial crisis (2007-2009). Again, the empirical evidence confirms our explanation. Table 4 shows that bank employee compensation had a negative effect on *Bank Value*, suggesting that the risk-taking that resulted from pre-crisis non-executive incentives was inefficient and, hence, so were the incentives.[135]

[134] Tobin's Q is the ratio of a firm's market value (defined as the firm's total liabilities, minus its deferred taxes and investment tax credits, plus the value of its preferred stock and the market value of its common stock) divided by the replacement cost of its assets. *See* Eugene F. Fama & Kenneth R. French, *Testing Trade-off and Pecking Order Predictions About Dividends and Debt*, 15 REV. FIN. STUD. 1, 8 (2002). The measure was introduced by James Tobin in *A General Equilibrium Approach to Monetary Theory*, 1 J. MONEY, CREDIT & BANKING 15 (1969). Tobin's Q has become a commonly recognized proxy for market valuation. *See, e.g.*, Philip G. Berger & Eli Ofek, *Diversification's Effect on Firm Value*, 37 J. FIN. ECON. 39, 40, 47 (1995); Larry H. P. Lang & René Stulz, *Tobin's* Q, *Corporate Diversification, and Firm Performance*, 102 J. POL. ECON. 1248, 1249-50 (1994); Randal Morck et al., *Management Ownership and Market Valuation: An Empirical Analysis*, 20 J. FIN. ECON. 293, 294 (1988); David Yermack, *Higher Market Valuation of Companies with a Small Board of Directors*, 40 J. FIN. ECON. 185, 186 (1996). One major advantage of Tobin's Q is its computational simplicity. All of its determinants are retrievable from existing data sources such as, for example, the Compustat database. Tobin's Q, however, is not without its critics. First, market value may not reflect the marginal cost of capital, but instead may reflect the average cost of capital. In that case, firm value may not be properly captured by Tobin's Q. *See* Joao Gomes, *Financing Investment*, 91 AM. ECON. REV. 1263, 1264-65 (2001); *see also* Eric B. Lindenberg & Stephen A. Ross, *Tobin's* q *Ratio and Industrial Organization*, 54 J. BUS. 1, 8-9 (1981). Second, Tobin's Q may not reflect an accurate valuation of the firm due to market irrationality. Irrationality could be significant if investor sentiment drives valuations in the stock market. *See* Malcolm Baker et al., *When Does the Market Matter? Stock Prices and the Investment of Equity-Dependent Firms*, 23 Q. J. ECON. 969, 969-70 (2003). With those caveats in mind, Tobin's Q is still a commonly accepted measure of firm valuation, including within the scholarship on corporate governance. S*ee, e.g.*, Paul Gompers et al., *Corporate Governance and Equity Prices*, 118 Q. J. ECON. 107, 126 (2003) ("Our valuation measure is Tobin's *Q*, which has been used for this purpose in corporate-governance studies.").

[135] Like the *Bank Risk* regressions in Tables 2 and 3, all of the *Bank Value* regressions in Table 4 include several control variables, including executive incentives and the additional variables specified *supra* in note 126. The results remained unchanged when the controls were included. *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, app. at Table 11.

Table 4. Bank Value and Compensation Incentives[136]

	Bank Value (2007-2009)		
Independent Variables (2003-2006)	(1)	(2)	(3)
CASH COMP. INCENT.	-0.095***		
t-stat	(4.52)		
STOCK COMP. INCENT.	0.0036***		
t-stat	(3.46)		
TOTAL COMP. INCENT.		-0.0873***	
t-stat		(10.91)	
CASH COMP. INCENT. (MARKET)			-0.1024**
t-stat			(3.37)
CASH COMP. INCENT. (FIRM)			0.0008
t-stat			(0.69)
Percentage Effect[137]	-14.4%	-12.8%	-16.6%
	8.0%		7.2%
Observations	231	231	231
Adjusted R-squared	57.3%	57.0%	58.0%

In particular, column 2 shows that total non-executive compensation (TOTAL COMP. INCENT.) had a statistically significant negative effect on *Bank Value*, accounting for an average reduction of 12.8 percent during the financial crisis. That effect increased when considering only the cash component of non-executive pay, with CASH COMP. INCENT. (shown in column 1) accounting for an average reduction in value of 14.4 percent during the financial crisis. By contrast, the stock component of non-executive pay, STOCK COMP. INCENT. (also shown in column 1), had a statistically significant positive impact on *Bank Value*, accounting for an average increase of eight percent during the financial crisis. This result is consistent with our claim that stock compensation is more likely to internalize the negative effect of excessive risk-taking.[138] Nevertheless, as we observed earlier, stock compensation accounted on average for only two percent of total non-executive pay, explaining why the overall effect on *Bank Value* was negative, driven largely by non-executive cash compensation.[139] This also explains the lower effect of TOTAL COMP. INCENT. on *Bank Value*, compared to CASH COMP. INCENT., since total non-executive compensation included the marginal effect of stock compensation.

[136] The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. *See supra* note 116.

[137] The percentage effects correspond to a one standard deviation increase in the dependent variable (*Bank Value*) given a one standard deviation increase in the independent variables (the measures of non-executive incentives). *See* Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 27 (including a detailed discussion of the computations underlying the calculation of the percentage effects).

[138] *See supra* note 119 and accompanying text.

[139] *See supra* note 120 and accompanying text.

Finally, column 3 shows the effect on *Bank Value* of the market and firm-specific components of cash compensation. Similar to our prior results,[140] the effect of CASH COMP. INCENT. (MARKET) on *Bank Value* dominated CASH COMP. INCENT. (FIRM). Specifically, CASH COMP. INCENT. (MARKET) had a statistically significant negative effect on *Bank Value*, being responsible on average for a drop in value of 16.6 percent during the financial crisis, while the effect of CASH COMP. INCENT. (FIRM) on *Bank Value* was statistically insignificant.

* * *

The empirical results in this Part confirm our claim that, in a competitive labor market, it is difficult for any one bank employer to implement pay incentives that can adjust for risk-taking and long-term outcomes.[141] Specifically, we demonstrate the following:

(i) Market factors were primarily responsible for setting bank non-executive incentives that largely focused on short-term performance.[142]

(ii) Those incentives promoted employee strategies that increased *Bank Risk* prior to the financial crisis.[143]

(iii) Increasing *Bank Risk* was inefficient, causing a significant decline in *Bank Value* during the financial crisis.[144]

As a result, competitive payoffs rose as each bank sought to hire the same talent, reinforcing an industry-wide increase in compensation.[145] Underlying the run-up was an informational and a coordination problem. The informational problem arose from each bank's inability to assess the employees' risk-adjusted results in the short-term.[146] The coordination problem arose from each bank's natural interest in hiring the same non-executives—in the process, rewarding employees who enhanced short-term performance at the expense of riskier strategies and longer-term losses.[147] Both problems can benefit from regulatory change, and in the next Part, we consider three proposals that respond to the problems identified in this Article.

[140] *See supra* notes 112, 122-125 and accompanying text.
[141] *See supra* notes 83-84, 96 and accompanying text.
[142] *See supra* note 112 and accompanying text.
[143] *See supra* notes 116-120, 125 and accompanying text.
[144] *See supra* notes 135-139 and accompanying text.
[145] *See supra* notes 77-79 and accompanying text.
[146] *See supra* notes 81-82, 95 and accompanying text.
[147] *See supra* notes 83-84, 96 and accompanying text.

III. REGULATING THE COMPETITION FOR TALENT

In this Part, we propose three regulatory changes to address problems that can arise from competition's effects on compensation. The prudential regulation of banks reflects their importance as financial intermediaries and the costs of a banking crisis—particularly the negative externalities that can arise from bank risk-taking.[148] Much of financial regulation induces banks to internalize those costs, reducing externalities by restricting the amounts and types of risk a bank can bear.[149] In general, it does so by circumscribing a bank's investment assets and capital structure[150] and through rules regarding net worth, capital, and surplus that effectively cap risk-taking activities.[151] Together, they moderate risk by regulating the asset and liability sides of a bank's balance sheet.[152]

Those rules also affect bank profitability and employee compensation.[153] What they fail to do is directly address the incentives of non-executives who actually incur risk. The focus instead has been on regulating executives, as the bank's top decision-makers.[154] The presumption that, by regulating executive pay, each bank's managers will appropriately set non-executive incentives is consistent with an approach to regulation that, to date, largely considers each bank separately.[155] At odds with that approach is the

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[148] A standard example of a negative externality in the banking industry is a bank run that arises from a bank's decision to assume a risky loan portfolio. Concerns over the bank's financial stability may become substantial, causing depositors to run on the bank to withdraw funds. *See* Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401 (1983) (providing a seminal model on financial intermediation and bank runs). In addition to affecting the bank, and its managers, shareholders, and customers, other banks may experience a decline in business, or even a run, as concerns over financial stability spread across the financial markets. Borrowers, as a result, may not be able to obtain funding at the same cost, restricting their ability to invest in new, value-enhancing projects and causing a slowdown in the general economy. *See* Ben S. Bernanke, *Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression*, 73 AM. ECON. REV. 257, 264-65, 271 (1983); Charles W. Calomiris, *Is Deposit Insurance Necessary? A Historical Perspective*, 50 J. ECON. HIST. 283, 284 (1990).

[149] *See* Robert Charles Clark, *The Soundness of Financial Intermediaries*, 86 YALE L.J. 1, 15-18, 23-24 (1976); Jackson, *supra* note 57, at 352-59; Jonathan R. Macey & Geoffrey P. Miller, *Bank Failures, Risk Monitoring, and the Market for Bank Control*, 88 COLUM. L. REV. 1153, 1155, 1165 (1988).

[150] *See* Charles K. Whitehead, *Reframing Financial Regulation*, 90 B.U. L. REV. 1, 47-48 (2010) (providing examples of regulatory limits on investment assets and capital structure).

[151] *See id.* at 49-50; *see also* Charles K. Whitehead, *What's Your Sign?—International Norms, Signals, and Compliance*, 27 MICH. J. INT'L L. 695, 721-25 (2006) (detailing international efforts).

[152] *See* Clark, *supra* note 149, at 47.

[153] *See* Thanassoulis, *supra* note 11, at 853.

[154] *See supra* notes 5-9 and accompanying text.

[155] *See* MARKUS K. BRUNNERMEIER ET AL., THE FUNDAMENTAL PRINCIPLES OF FINANCIAL REGULATION 2-4, 14-15 (2009); ANDREW CROCKETT, BANK FOR INT'L SETTLEMENTS, MARRYING THE MICRO- AND MACRO-PRUDENTIAL DIMENSIONS OF FINANCIAL STABILITY 3 (2000), http://www.bis.org/review/rr000921b.pdf ("The quintessential micro-prudential dictum is that 'financial stability is ensured as long as each and every institution is sound.'"). One of us has questioned whether that approach is outdated in light of convergence in the financial markets. *See* Charles K. Whitehead, *Destructive Coordination*, 96 CORNELL L. REV. 323, 360 (2011) ("Expanding the scope of regulation beyond individual firms . . . can help fill gaps in today's regulatory framework.").

market-wide competition for the best employees. Higher pay can encourage a non-executive to pursue a tail-risk strategy if she can sidestep the long-term consequences by switching jobs.[156] Lower pay can also encourage tail risk if higher short-term performance makes it easier to negotiate a hike in compensation from a new, higher-paying employer.[157] The result has been a decline in the ability of any one bank to set compensation that efficiently balances performance and risk-taking.[158]

Of course, regulating executive pay can increase an executive's interest in monitoring (and controlling) non-executive risk-taking. Doing so, however, may be difficult to do in real time as new risks are incurred. Leeson, Tourre, and Iksil each alleged they were supervised by managers who knew (or should have known) about the risks they took.[159] Employees may also minimize their managers' ability to supervise their activities and assess their performance.[160] Moreover, supervisors themselves may be interested in incurring greater risk to the extent a subordinate's better performance enhances their own compensation.[161]

The more radical insight is that executives may not be able to set efficient non-executive pay even when they have the incentive to do so. Executives may be concerned that limits on risk-taking are too tight—restricting an employee's ability to enhance short-term compensation and causing the best performers to move elsewhere. In other words, even when—perhaps, *precisely* when—acting in the bank's best interests, executives will still be trapped into providing risk-prone incentives to non-executives due to the negative externality that arises from the competition for talent.[162]

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[156] *See supra* notes 92-95, 100-101 and accompanying text.

[157] *See* Eric Dash, *Effort to Rein in Pay on Wall St. Hits New Hurdle*, N.Y. TIMES LATE EDITION, Aug. 10, 2009, at A1 (describing competition for talent among firms subject to "pay czar" oversight and those that are not).

[158] Recall, from Figure 1, that a *High Risk* Employee who has performed well in the short-term is interested in moving firms before losses from her *High Risk* strategy materialize. The new employer may pay no more in the short-term than the existing employer, but changing jobs permits the *High Risk* Employee to avoid the long-term effects of her strategy and enhance total compensation. *See supra* Figure 1 and accompanying text.

[159] *See* U.S. SENATE REPORT, *supra* note 4, at 14, 52, 66-67 (explaining Bruno Iksil's role in JPMorgan trades); JOHN E. MARTHINSEN, RISK TAKERS: USES AND ABUSES OF FINANCIAL DERIVATIVES 219-22 (Denise Clinton et al. eds., 2nd ed. 2009). *Compare* Complaint at para. 4, SEC v. Goldman Sachs & Co, No. 1:10-cv-03229 (S.D.N.Y. filed Apr. 16, 2010) (accusing Tourre of being "principally responsible for ABACUS") *with* Answer of Defendant at para. 4, SEC v. Goldman Sachs & Co, No. 1:10-cv-03229 (S.D.N.Y. filed July 19, 2010) (denying allegations except admitting Tourre "was one of many" employees involved in the transaction).

[160] *See supra* notes 37-42, 82 and accompanying text.

[161] The potential for a supervisor to prefer that subordinates adopt high-risk strategies is consistent with concerns over moral hazard that can arise within partnerships when performance is measured jointly on the basis of team (rather than individual) productivity. *See* Bengt Holmstrom, *Moral Hazard in Teams*, 13 BELL J. ECON. 324, 325, 327 (1982).

[162] The concern is not merely theoretical. In 2011, Goldman Sachs' shareholders brought a derivative suit against the firm's directors alleging they had breached their fiduciary duties by, among other things, failing to properly analyze and rationally set compensation levels for Goldman Sachs' employees. *See* In re The Goldman Sachs Group, Inc. Shareholder Litigation, No. 5215-VCG, 2011 WL 4826104, at *5 (Del. Ch., Oct. 12, 2011). In particular, they claimed that because the directors "consistently based compensation

New regulation that fails to account for a competitive talent market is incomplete. We, therefore, argue for three regulatory changes to plug this gap—first, directing regulators to consider the effect of competition on market-wide levels of compensation; second, limiting the ability of non-executives to move from a bank to another financial firm; and third, requiring some portion of non-executive pay to include a long-term equity component, with subsequent employers being restricted from compensating her for any losses she incurs related to her prior work.[163]

A. Assessing Competition and Compensation

Reflecting change in the financial markets,[164] regulators should extend their assessment of compensation beyond individual banks to include the effect of competition on market-wide levels of pay. That approach differs from the Compensation Guidance adopted by U.S. bank regulators. The Compensation Guidance requires each bank to ensure its incentives appropriately balance risk and financial results.[165] Missing from the Guidance, however, is an assessment of how the competition for talent affects a bank's short-term incentives. In order to assess pay, the bank (and its regulators) must also consider the effects on risk-taking of the incentives *other* employers offer.[166] Those employers are not limited to banks.[167] In a converging world, the competition for talent extends beyond banks to others who offer similar products and services, including investment banks and hedge funds.[168]

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for the firm's management on a percentage of net revenue, Goldman's employees had a motivation to grow net revenue at any cost and without regard to risk." *Id.* at *1. The Delaware Chancery Court dismissed the case, observing that "[t]he decision as to how much compensation is appropriate to retain and incentivize employees, both individually and in the aggregate, is a core function of a board of directors exercising its business judgment." *Id.* at *14. Our analysis supports the suit's dismissal, but for almost the opposite reason—namely, that directors should not be held liable for non-executive compensation practices that are largely determined by the market's demand for talent over which they have only limited control.

[163] This Article's principal focus has been on non-executive pay in light of the significant contribution of non-executives to risk-taking during 2003-2006 and the resulting decline in bank value in 2007-2009, independent of the effects of executive pay. *See supra* notes 126-129 and accompanying text. Of course, the failure of executives to properly oversee employees is likely to have contributed to the losses banks suffered during the financial crisis. *See supra* notes 159-161 and accompanying text. Efforts to improve oversight are not inconsistent with the proposals we make here. In fact, adapting this Article's proposals for senior managers may help address concerns over their own incentives to properly manage risk. Our point is that the current focus on executive pay, without taking account of the market's demand for non-executive talent, is incomplete. *See supra* notes 10-16 and accompanying text.

[164] *See supra* Part I.A.

[165] *See* Compensation Guidance, *supra* note 6, at 36,398. See Appendix A for a description of the Compensation Guidance's core principles.

[166] *See supra* notes 95, 100-101 and accompanying text.

[167] Our proposal differs from others who argue that regulating compensation can be limited to banks. *See, e.g.*, Bebchuk & Spamann, *supra* note 9, at 285 ("Because regulating executive pay can improve the effectiveness of banking regulation in achieving its widely accepted goals, it could be appropriate to constrain banks' freedom to set pay structures while not imposing such constraints outside the banking sector.").

[168] *See supra* notes 77-79 and accompanying text.

The need to match what others pay is well-known to bank executives.[169] It may, however, be difficult for banks to fully assess the compensation arrangements of others. Likewise, it may be difficult for regulators who review a bank's compensation structure in isolation to fully assess its risk-taking effects. For that reason, bank and other financial market regulators should be required to coordinate their oversight of compensation.[170] Analyzing compensation in a vacuum fails to reflect the competitive labor market within which incentives are assessed by the employees themselves.[171]

One alternative to monitoring compensation is to impose a compensation cap[172] that limits the amount a firm can pay. The European Union proposed a pay ceiling, although it has not been implemented.[173] Compensation caps are intended to minimize

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[169] *See* Tett, *supra* note 19, at 20; Smith, *supra* note 82, at W1.

[170] Coordination among regulators may be facilitated by adoption of the proposed rules appearing in Incentive-Based Compensation Arrangements, 76 Fed. Reg. 21,170, 21,172-74 (proposed April 14, 2011) (to be codified at 12 C.F.R. pt. 42 (OCC), at pt. 236 (Fed), at pt. 372 (FDIC), at pt. 563h (OTS), at pts. 741, 751 (National Credit Union Administration (NCUA)), at 17 C.F.R. pt. 248 (Securities and Exchange Commission (SEC)), at 12 C.F.R. pt. 1232 (Federal Housing Finance Agency (FHFA)) [hereinafter Jointly Proposed Incentive Rules]. Note, however, that those proposed rules would not extend to all financial regulators, including the Commodity Futures Trading Commission or state insurance regulators. A summary description of the Jointly Proposed Incentive Rules appears in Appendix A.

[171] Among its tasks, the Financial Stability Oversight Council (FSOC) is charged with identifying risks to U.S. financial stability arising from activities in or outside the financial markets. *See* Dodd-Frank Wall Street Reform and Consumer Protection Act § 112, 12 U.S.C. § 5322 (2012). The FSOC must "identify gaps in regulation that could pose risks to" U.S. financial stability, § 5322(a)(2)(G), as well as make recommendations to primary regulators to "apply new or heightened standards and safeguards for financial activities or practices that could create or increase risks" among financial firms and markets, § 5322(a)(2)(K). In addition to the Jointly Proposed Incentive Rules, *see supra* note 170, this broad grant of authority offers one basis for financial regulators, under the FSOC's guidance, to begin assessing the effect of greater competition for talent on compensation and risk-taking incentives.

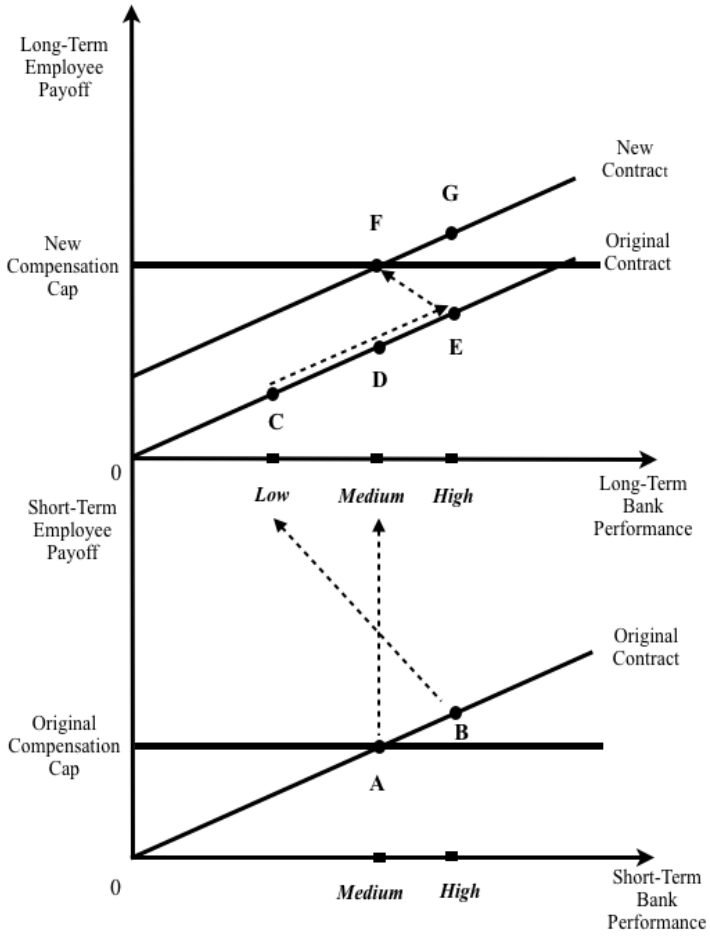
[172] Here we refer to limits on total compensation, not caps on bonuses or other incentive pay. A cap on incentive pay is likely to result only in the deck chairs being re-arranged from bonuses to increased salary. *See* Daniel Schäfer & Tom Braithwaite, *Bankers Look for Ways Round Bonus Caps*, FIN. TIMES (Feb. 28, 2013), http://www.ft.com/intl/cms/s/0/9b8d8f48-81cb-11e2-b050-00144feabdc0.html#axzz2WD359gql. Competition's effect on compensation and risk-taking, described in this Article, would be largely unchanged, although the resulting rise in fixed expense could create greater bank instability. *See* Thanassoulis, *supra* note 11, at 849-50 (claiming that competition for bank employees generates a negative externality by increasing compensation and rival banks' default risk); Murphy, *supra* note 77, at 14-15. Professor Thanassoulis demonstrates how a modest cap on bonuses set by reference to a bank's balance sheet can lower default risk among larger banks as well as lessen the competition for employees. *See* Thanassoulis, *supra* note 11, at 868-69. His model, however, differs from this Article's analysis through its premise on (i) a population of bankers with publicly observable skills and (ii) bank remuneration and risk being internally decided. *See id*. at 850. The model also contemplates continued differences in compensation levels among banks, but does not address the effect of those differences on the risk-taking incentives of non-executives. *See id*. at 852.

[173] In February 2013, the European Union (EU) provisionally agreed to limit bankers' incentive compensation to an amount equal to their fixed salary (a one-to-one ratio) that could be increased to twice their fixed salary (a two-to-one ratio) with the approval of a supermajority of shareholders. Increases in base salary, therefore, would raise the total compensation that can be paid in line with the competition for talent. The new limit was to be finalized by June 2013, *see* Murphy, *supra* note 77, at 1, but is subject to continuing review, *see* EUROPEAN BANKING AUTHORITY, EBA FINAL DRAFT REGULATORY TECHNICAL STANDARDS 5 (2013), *available at* http://www.eba.europa.eu/documents/10180/526386/EBA-RTS-2013-

risk-taking by limiting incentives to pursue a high-risk strategy. Yet, as explained below, they are only a partial response to the fluid market for bank talent and its impact on non-executive incentives.

Consider again competition's effects on risk-taking and compensation, originally diagramed in Figure 1, but now illustrated in Figure 2 below with a *Compensation Cap*.

Figure 2. Competition and Capped Payoffs



For simplicity's sake, we assume in Figure 2 that the *Compensation Cap* is the same for all firms.[174] The *Compensation Cap* is not a static number. Instead, it is set in

11+%28On+identified+staff%29.pdf/ c313a671-269b-45be-a748-29e1c772ee0e. A robust cap, or the adoption of any cap, may be in doubt. *See* Baptiste Aboulian, *EU Bonus Cap Could Be Scrapped*, FIN. TIMES (London), June 10, 2013, at 13, *available at* http://www.ft.com/intl/cms/s/0/d983fb2e-cf6f-11e2-be7b-00144feab7de.html#axzz2WD359gql.

[174] This simplifying assumption differs from proposals to impose a modest cap on compensation based on the size of a bank's balance sheet. *See* Thanassoulis, *supra* note 11, at 851-52. Varying bonus size can still provide employees with an incentive to incur risk if the resulting improvement in short-term perfor-

each period to reflect medium *Bank Performance*—with the result that, as a dollar amount, it is higher in the *Long-Term* than in the *Short-Term* due to the market-wide increase in compensation that arises from the competition for talent (as evidenced by the shift in pay from the *Original Contract* to the *New Contract*).[175] Unlike Figure 1, no Employee can receive the highest *Employee Payoff* at point B in the *Short-Term* or point G in the *Long-Term*. Instead, all Employees are capped at point A in the *Short-Term* (under the *Original Compensation Cap*) and point F in the *Long-Term* (under the *New Compensation Cap*).

The *Compensation Cap* may result in a decline in risk-taking under some circumstances. Certainly, a talented Employee who achieves medium-level *Bank Performance* with moderate risk-taking has little incentive to take more risk if her *Employee Payoff* remains unchanged. Nevertheless, both talented and less-talented Employees may be interested in a *High Risk* strategy if *Low Risk* is more likely to result in *Bank Performance* and compensation below the *Compensation Cap*.[176] Employees may prefer the greater likelihood of *Short-Term* gains from a *High Risk* approach so long as they can move to a new employer before any losses materialize. Like in Figure 1, by moving to a new employer, a *High Risk* Employee will be compensated as if she was a talented Employee, starting from an *Employee Payoff* at point E.[177] By adopting a *High Risk* strategy at her new employer, the Employee may be able to increase her compensation, but now due to the *Compensation Cap*, rising from point E to point F—overall, still a significant increase in compensation compared to what the *High Risk* Employee otherwise would have received at point C. Reaching point F, however, does not require the same level of *Bank Performance* as is required to reach point G. Consequently, depending on where the *Compensation Cap* is set, maximizing compensation may be possible with fewer risky transactions or an overall decline in risk-taking.[178] In addition, with a *Compensation Cap*, new employers may anticipate that an Employee who selected *High Risk* in the *Short-Term* is more likely to switch jobs than a talented Employee who does

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mance enhances their ability to move to a larger bank with a higher bonus cap. *See supra* notes 95, 100-101 and accompanying text.

[175] Adjusting the *Compensation Cap* from the *Original Contract* to the *New Contract*, rather than setting it at a fixed amount during the short-term and long-term, is consistent with the EU's proposed regulation that ties bonuses to base salary. *See supra* note 173 and accompanying text.

[176] *See supra* note 102 and accompanying text (discussing potential distortions in the incentives of talented and less-talented *Low Risk* Employees arising from competition).

[177] *See supra* note 101 and accompanying text.

[178] The long-term *Compensation Cap* could be set at a level lower than depicted in Figure 2, for example, at a fixed dollar amount corresponding to the *Short-Term Compensation Cap* during both the *Short-Term* and *Long-Term* periods. Doing so is likely to depress mobility—causing most Employees to remain with their original employer over the *Long-Term*, since transferring to a new employer would be less likely to increase total compensation. The result would be a decline in risk-taking, since less mobile Employees would be more likely to realize the negative effects of a *High Risk* strategy. Nevertheless, a less-talented Employee could still adopt a short-term *High Risk* strategy if it was necessary to reach a medium-level of performance, hoping to then move to a new employer to avoid the resulting consequences.

not face the same *Long-Term* losses. That separating effect may limit Employee mobility or signal to new employers the need to more closely monitor a new hire.[179]

Balanced against its benefits, the *Compensation Cap* may also limit Employee effort and deter risky strategies that are valuable to the bank. By capping an Employee's payout, the *Compensation Cap* can reduce a non-executive's efforts since her share of any returns will be limited. Assume, for example, that the Employee's contribution to *Bank Performance* has reached the medium-level (and so her pay is also at the *Compensation Cap*), and she discovers a new opportunity to enhance *Bank Performance* further. Assume also that the opportunity has a 50 percent chance of yielding an additional $10 million for the bank and a 50 percent chance of losing $5 million. Notwithstanding the risk of loss, the expected value of the opportunity is positive, $2.5 million ((50% x $10 million) minus (50% x $5 million)). Without the *Compensation Cap*, pursuing the opportunity would be valuable for both the Employee and the bank. With the *Compensation Cap*, however, even though the opportunity remains valuable to the bank, the Employee has no incentive to pursue it. Any value that results will accrue to the bank, but any loss will reduce the Employee's compensation.[180]

The question, then, is whether the potential cost of a *Compensation Cap* outweighs its benefits. On the one hand, Employees subject to a cap are more likely to exert lower effort and give up valuable opportunities compared to Employees in a regime without a cap. On the other hand, a *Compensation Cap* potentially reduces the negative effects of mobility described in this Article. The key to assessing its benefits is not simply to focus on how it affects current pay, but also to consider its effect on an Employee's future opportunities. Even with a *Compensation Cap*, excessive risk-taking may be a logical strategy for some Employees if it improves *Bank Performance*, the Employee's payout, and her ability to switch jobs.[181]

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[179] To the extent that switching jobs always results in an increase in the *Employee Payoff*, one would think that a talented Employee with medium performance also has an incentive to move to a competitor. However, since that Employee does not fear long-term retribution from her current employer, she is more likely to use the threat of leaving to negotiate a *Long-Term Employee Payoff* under the *Original Contract* falling at point F rather than point D. Thus, based on the likelihood of a *High Risk* Employee moving and a *Low Risk* Employee staying, a new employer should theoretically be able to separate *Low* and *High Risk* hires, taking the Employee's *High Risk* strategy into account when deciding whether to hire her and the terms of her *New Contract*. In practice, however, an Employee can point to a number of non-economic reasons for choosing to find a new job. They include personal factors, work satisfaction, satisfaction with supervision, co-workers, promotional opportunities, and organizational commitment. *See* John L. Cotton & Jeffrey M. Tuttle, *Employee Turnover: A Meta-Analysis and Review with Implications for Research*, 11 ACAD. MGMT. REV. 55, 57 (1986); W.H. Mobley et al., *Review and Conceptual Analysis of the Employee Turnover Process*, 86 PSYCHOL. BULL. 493, 496-512 (1979). As a result, the signal that arises from an Employee's departure could be noisy. A mandatory garden leave period would help employers identify whether a prospective employee's previous performance was due to excessive risk-taking. *See infra* Part III.B.

[180] Although a drop in the *Compensation Cap* may result in a decline in risk-taking, *see supra* note 178, the potential effect on risk-taking that is valuable to the bank is likely to be greater as well.

[181] Risk-taking incentives may also increase depending on the effect of a *Compensation Cap* on what Employees are paid. For example, a cap on bonus compensation may result in an increase in fixed salary. Since a higher fixed salary increases the amount the Employee will earn, without regard to the results of her

A *Compensation Cap* is not inconsistent with this Article's proposals, although it does not directly address the problems arising from competition. Whether a *Compensation Cap* is effective, we suspect, will vary by bank and from year-to-year and will turn on the regulators' ability to adjust the cap based on the experience and insights they gain over time.[182] Like our proposal, however, it will also require regulators to coordinate across the financial markets to assess the effect of the *Compensation Cap* on relative incentives and mobility.

B. Limiting Mobility

At its core, the tension between compensation and competition arises from the ability of non-executives to change jobs. An employee can incur significant risk in order to enhance short-term performance, but then switch employers to avoid the consequences of that high-risk strategy.[183]

In response, new regulation should limit the ability of a bank's non-executives to move to another financial employer (including other banks, insurance companies, broker-dealers, and hedge funds). Regulation is required because, as noted before,[184] no one firm has the incentive to unilaterally stop competing for others' employees and halt competition's distortive effect on compensation. New regulation, therefore, should require a bank's non-executive employment contracts to include terms that make continuing employment more valuable than outside job opportunities. A mandatory garden leave[185] would increase the cost of an employee's departure and, by lengthening the time before she starts her new job, permit successor employers to better assess her prior performance. Put another way, by requiring a garden leave, regulation may make long-term cooperation with the original employer more rewarding than the gains a non-executive could receive by exploiting the competition for talent.[186] The new requirement would not be an

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risky strategy, she may incur greater risks in light of the potential increase in bonus (subject to the *Compensation Cap*), but without being fully exposed to the potential loss in light of the higher fixed salary. *See* Murphy, *supra* note 77, at 15-16.

[182] *See* Charles K. Whitehead, *The Goldilocks Approach: Financial Risk and Staged Regulation*, 97 CORNELL L. REV. 1267, 1295-99 (2012) (advocating a staged approach to implementing new financial regulation that takes account of information regarding its effect on market conduct).

[183] *See supra* notes 92-95, 100-101 and accompanying text.

[184] *See supra* note 96 and accompanying text.

[185] *See supra* note 24 and accompanying text.

[186] This approach is grounded economically on relational contracts and repeated trust games. The basic intuition is that, when actors anticipate they will interact more than once, they are more likely to consider the effect of their current actions on the future actions of the other actors. *See* DREW FUDENBERG & JEAN TIROLE, GAME THEORY 110 (1991) (showing that, in repeated games, players "condition their actions on the way their opponents played in previous periods"). This leads to cooperation so long as each actor values continuing the interaction and they can agree upon a credible punishment in the event either of them deviates from a cooperative strategy. *See* Robert Gibbons & Rebecca Henderson, *What Do Managers Do?*, *in* THE HANDBOOK OF ORGANIZATIONAL ECONOMICS 680, 698 (Robert Gibbons & John Roberts eds., 2013).

absolute restriction on changing jobs, but it would increase the cost of departure as one means to balance against the employee's risk-taking incentives.

Our proposal is not as novel as it first seems. Garden leave policies already are in place at some banks,[187] often to discourage employees from departing or to limit their use of company information at a competitor. A garden leave requirement, however, should only be as broad as necessary to address the effects of competition on bank risk. To this end, it should be limited to non-executives who are responsible for material business lines or whose activities may expose the bank to material amounts of risk.[188] Exceptions should be made for employees who are involuntarily terminated or who leave the bank due to an unexpected change of circumstances, including for personal reasons. Our goal is to limit the employee's incentives to incur risk in the short-term with the expectation of then transferring to a new employer. Relaxing the garden leave requirement when the change in job is unanticipated is consistent with that goal.[189]

The new regulation should also apply only to employees who depart a bank for another financial firm, since our focus is on bank risk. It should not extend to employees who move from one non-bank employer to another, from a non-bank to a bank, or (presumptively) from a bank to a non-financial firm.[190] Banks will still be required to offer market-level compensation to attract talent, offsetting any tendency to pay "captive" employees unfairly. Under this new regime, however, employees will be less inclined to pursue high-risk strategies, because longer-term employment will make it more likely they will face the consequences of their risk-taking.

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[187] *See* Howard J. Rubin & Gregg A. Gilman, *Will Garden Leaves Blossom in the States?*, EMP. REL. L. J., Fall 2007, at 3, 3-4. Bank of America, for example, instituted a garden leave requirement for financial advisors within one of its banking businesses, U.S. Trust, but not within Merrill Lynch, although similar requirements have been introduced in other investment banks. *See* John Aidan Byrne, *No Hardball Garden Leave at Merrill, Krawcheck Tells Advisors*, WEALTH MGMT.COM (Mar. 7, 2011), http://wealthmanagement.com/practice-management/no-hardball-garden-leave-merrill-krawcheck-tells-advisors; Joe Rauch, *BofA's US Trust Adding "Garden Leave" for Some*, REUTERS (Feb. 18, 2011), http://www.reuters.com/article/2011/02/18/us-bankofamerica-ustrust-idUSTRE71H4OZ20110218.

[188] That limitation is consistent with the Compensation Guidance, except that the Compensation Guidance extends to groups of employees subject to similar incentive compensation arrangements who, in aggregate, may expose the bank to material amounts of risk. *See* Compensation Guidance, *supra* note 6, at 36,413. This Article's focus has been on individual employees and, while employee groups may raise similar issues, those issues may be more diffuse when no individual is likely to expose the bank to material risk. Absent evidence to the contrary, we would limit the new regulation to individuals.

[189] We have not recommended a specific garden leave period, expecting regulators to do so after soliciting comments from financial market participants and others. Garden leave periods in the financial industry vary today, with examples ranging from 50 to 90 days and potentially beyond, with receipt or retention of cash and stock bonus payments in some cases being conditioned on departing employees complying with the garden leave requirements. *See* Rubin & Gilman, *supra* note 187, at 7-8. Advisors in Bank of America's U.S. Trust unit were required to stay at U.S. Trust for 60 days, and avoid soliciting clients for eight months, after resigning. *See* Byrne, *supra* note 187.

[190] A bank employee's ability to move to a non-financial firm may also be tied to her short-term performance at the bank. In that case, her incentives to incur risk and enhance performance may argue in favor of imposing a garden leave requirement.

An alternative means to limit mobility is to adopt some form of pigouvian tax, such as, for example, a tax on the compensation a bank employee receives from her new employer.[191] To date, however, efforts to manage conduct and compensation through direct taxation have met with limited success. For example, in response to the takeover wave of the 1980s, much of corporate America adopted "golden parachutes" that awarded substantial payments to incumbent managers following a change in control of their company. Sections 280(G) and 4999 of the Internal Revenue Code were intended to limit golden parachute payments by disallowing corporate deductions and imposing a 20 percent tax on executives for amounts they received in excess of three times the applicable "base amount."[192] Those amendments prompted companies to add a "gross up" to payments that were made in order to cover the additional tax (as well as taxes on the incremental gross-up amount).[193] Imposing a new tax, therefore, caused changes in how compensation was structured, but did little to reduce the amount that was paid. Like with a tax, some portion of a garden leave's cost can be offset by what the new employer pays, but we believe there is also a real cost—to the employee and, significantly, to the new employer—associated with her being "out of the business" for a substantial period of time. The employee may lose customer and other relationships, become less current on market practices, or fall behind business changes that occur while she is away. Those costs may be difficult to assess, potentially limiting her appeal to a prospective employer and making any reimbursement less certain.

C. Long-Term Equity Compensation and Cash-Outs

New regulation should require a portion of a non-executive's pay to consist of long-term participation in the bank's equity. Tying a portion of pay to bank performance, and forfeiting future rewards if the employee moves to another financial firm, will

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[191] *See* Acharya et al., *Seeking Alpha*, *supra* note 12, at 39 ("policies that discourage managerial mobility—say, taxing managers who switch jobs at a higher rate than loyal ones—can improve efficiency.").

[192] The "base amount" typically was the executive's average annualized taxable compensation for the prior five years or, if shorter, however long she worked for the company. *See* Deficit Reduction Act of 1984, Pub. L. No. 98-369, § 280G, 98 Stat. 494, 585-87; § 4999, 98 Stat. at 587.

[193] *See, e.g.*, Joy Sabino Mullane, *Incidence and Accidents: Regulation of Executive Compensation through the Tax Code*, 13 LEWIS & CLARK L. REV. 485, 512-19 & n.117 (2009). Similar problems arose with Internal Revenue Code section 162(m), which provided that annual compensation in excess of $1 million paid to the CEO and the four other highest paid officers of a public company could not be deducted by the company as an ordinary business expense. *See* Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, sec. 13211, § 162, 107 Stat. 312, 469-471. The new provision had limited effect on total compensation—many firms continued to pay compensation in excess of $1 million—and, in fact, increased the use of performance-based pay (such as stock options) which was exempt from section 162(m)'s limit on deductibility. *See* Meredith R. Conway, *Money for Nothing and the Stocks for Free: Taxing Executive Compensation*, 17 CORNELL J.L. & PUB. POL'Y 383, 396-414 (2008); *see also* David Schizer, *Executives and Hedging: The Fragile Legal Foundation of Incentive Compatibility*, 100 COLUM. L. REV. 440, 468 (2000) (noting 162(m) may have been a means to encourage performance compensation rather than a way to limit total compensation); Nancy L. Rose & Catherine Wolfram, *Regulating Executive Pay: Using the Tax Code to Influence CEO Compensation* 23 (Nat'l Bureau of Econ. Research, Working Paper No. 7842, 2000), *available at* http://www.nber.org/papers/w7842 (suggesting firms near cap may have restrained salary increases).

provide the non-executive with an incentive to remain with her employer.[194] Similar to a mandatory garden leave, this will reduce the incentives for excessive risk-taking by making it more likely a non-executive will face the long-term consequences of her risk choices. From a theoretical perspective, using compensation tied to long-term economic performance as a means to incentivize hard-to-monitor employees has been well-explored in the industrial organizational literature.[195] As applied to banks, employee ownership, if structured for the long-term, could likewise help incentivize optimal risk-taking. This argument finds support in the empirical evidence, described earlier in Part II.B, that showed that stock incentives paid to bank non-executives in 2003-2006 were correlated with lower bank risk and higher bank value during 2007-2009.[196]

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[194] Of course, the composition of a long-term equity compensation package must also be considered. As this Article's empirical results show, by tying returns to long-term financial performance, equity compensation may be able to offset incentives for excessive risk-taking. *See supra* note 119 and accompanying text. At the same time, since a stock option holder receives the full benefit of an increase in stock price, but does not bear the full cost of a loss, s*ee* Bebchuk & Spamann, *supra* note 9, at 263, an excessive reliance on equity-based compensation may provide bank managers with an incentive to prefer riskier projects at the expense of creditors, including depositors. *See id*. at 253, 283-84 (arguing that bank executive compensation should be tied to a security basket representing "a set percentage of the aggregate value of common shares, preferred shares, and all outstanding bonds"); *see also* Richard A. DeFusco et al., *The Effect of Executive Stock Option Plans on Stockholders and Bondholders*, 45 J. FIN. 617, 618 (1990) ("The asymmetric payoffs of call options make it more attractive for managers to undertake risky projects."). Moreover, equity compensation is unlikely to be effective in managing risk if existing employers are forced by market competition to guarantee a minimum bonus. *See* Smith, *supra* note 82, at W1 ("At most firms, much or most of the bonus is paid in stock, which vests over several years, to reward long-term performance. But the market for talent is competitive and many firms have been compelled to offer guaranteed or minimum bonuses to recruit people . . . ."). Restricted compensation also permits an employee—in part, based on her assessment of future compen-sation—to calculate the cost of departing the bank against the cost of remaining. In a competitive market, an employee is likely to discount the value of long-term compensation at her current employer if she adopted a high-risk strategy to enhance her short-term performance. *See supra* notes 83-84, 98 and accompanying text. The challenge, therefore, is to design a pay package that balances the risk-reducing and risk-enhancing effects of equity compensation.

[195] *See generally* Armen Alchian & Harold Demsetz, *Production, Information Costs, and Economic Organization*, 62 AM. ECON. REV. 777, 786-90 (suggesting that employee ownership may incentivize forms of peer-monitoring); *see also* Michael C. Jensen & William H. Meckling, *Rights and Production Functions: An Application to Labor-Managed Firms and Codetermination*, 52 J. BUS. 469, 471 (1979) (noting that production maximization is partially a function of the "organizational forms" available, which are based upon property and contract law); Raymond Russel, *Employee Ownership and Employee Governance*, 6 J. ECON. BEHAVIOR AND ORGANIZATION 217, 228 (1985) (noting that conventional modes of organization are inappropriate where "[p]erformance is hard to meter, and [where] differences in labor quality are hard to identify and control").

[196] *See supra* note 120 and accompanying text. These results are consistent with other recent empirical studies of the use of employee stock option plans (ESOPs). In particular, one of the studies documents that non-financial firms employing ESOPs to remunerate non-executives exhibit lower enterprise risk relative to firms that do not use this form of compensation. *See* Francesco Bova et al., *Non-Executive Employee Ownership and Corporate Risk-Taking* (Rotman School of Management, Working Paper No. 2297996, 2013), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2297996. The impact of ESOPs on employee mobility has also been empirically investigated, with several studies finding that broad-based equity ownership helps retain a firm's employees. *See, e.g.*, John E. Core & Wayne R. Guay, *Stock Option Plans for Non-Executive Employees*, 61 J. FIN. ECON. 253, 257, 274 (2001); Paul Oyer & Scott Schaefer, *Why Do Some Firms Give Stock Options to all Employees?: An Empirical Examination of Alternative Theories*, 76 J. FIN. ECON. 99, 110 (2005).

One potential concern is that a bank employee may still choose to increase short-term risk-taking if the pay package she receives from a new employer offsets the long-term compensation she foregoes, either by paying cash for the restricted compensation "left behind" or substituting the new employer's own long-term pay package (referred to as a "golden handshake").[197] In that case, the non-executive will still have an incentive to incur risk if, by doing so, she increases the likelihood of a higher-paying (and offsetting) job offer from someone else.[198]

Some portion of our concern is addressed by our prior proposal to limit bank employee mobility.[199] By imposing a garden leave, a non-executive is more likely to remain with the same bank over the long-term, with the consequences of excessive risk-taking weighing against incentives to pursue a short-term, high-risk strategy. Our addition here is to propose that new employers be restricted from "cashing out" the long-term portion of a new hire's prior compensation when setting a new pay package. The Compensation Guidance directs banks to assess whether golden handshakes materially weaken efforts to constrain risk-taking.[200] Since non-bank employers may offer them, it notes that bank supervisors should continue efforts to coordinate with other financial regulators.[201] We believe that new regulation must go further and apply equally to non-bank financial firms. Restricting a new employer—whether a bank or a non-bank—from offsetting the costs of a risky strategy will reinforce the benefits of compensation that is tied to long-term performance.[202]

CONCLUSION

Efforts to control bank risk-taking by regulating executive pay rest on two faulty premises—first, that executive pay was the principal driver of bank risk prior to the 2007 financial crisis, and second, that a bank's managers can bring non-executives into line by

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[197] *See* Compensation Guidance, *supra* note 6, at 36,401, 36,410.

[198] *See supra* notes 95, 101 and accompanying text.

[199] *See supra* Part III.B.

[200] *See* Compensation Guidance, *supra* note 6, at 36,410.

[201] As the Compensation Guidance states:

> Provisions that require a departing employee to forfeit deferred incentive compensation payments may . . . weaken the effectiveness of a deferral arrangement if the departing employee is able to negotiate a "golden handshake" arrangement with the employee's new organization. Golden handshake provisions present special issues for banking organizations and supervisors . . . because it is the action of the employee's new employer—which may not be a regulated institution—that can affect the current employer's ability to properly align the employee's interest with the organization's long-term health. . . . The Agencies will continue to work with banking organizations and others to develop appropriate methods for addressing any effect that such arrangements may have. . . .

Compensation Guidance, *supra* note 6, at 36,401.

[202] As noted earlier, one means to coordinate efforts among bank and non-bank financial regulators is to use the FSOC's authority to identify financial market risks and recommend new regulation. *See supra* note 171.

using incentives to manage risk-taking once executive pay is regulated. What they miss is the effect on compensation of the competition among banks and non-banks to hire non-executives—with changes in pay in response to the demand for talent creating incentives for bank non-executives to incur greater risk.[203]

In effect, the greater competition for products and services, which benefited consumers by enhancing financial market efficiency,[204] also increased the cost of maintaining financial market stability. Has the trade-off been positive? The answer is unlikely to come from the financial firms themselves. The greater competition created a negative externality: Each bank's efforts to hire talent rewarded riskier strategies without accounting for the longer-term losses that could result.[205] In this Article, we proposed three ways in which regulation could step in—greater coordination across bank and non-bank regulators,[206] a mandatory garden leave,[207] and requiring banks to include a long-term equity component in non-executive pay, with subsequent employers being restricted from compensating for any losses an employee incurs related to her prior work.[208] Those new requirements could be introduced together with, or in lieu of, a compensation cap.[209]

One regulatory solution we have not explored is forcing financial firms back into the traditional business categories in which they operated.[210] Doing so would limit the competition for products and services and, in turn, lower the competition for non-executives. We are wary, however, of such an approach, since it moves against the trend toward convergence in the financial markets we have seen over the last five decades.[211] New regulation should reflect the benefits of that convergence, but it must also take account of the new costs.

APPENDIX A: COMPENSATION GUIDANCE AND JOINTLY PROPOSED INCENTIVE RULES

The Compensation Guidance is a principles-based approach to incentives, without mandating or prohibiting any specific forms of compensation or establishing mandatory levels or caps.[212] It is directed toward senior executives at banks, individuals (including non-executives) whose activities may expose a bank to material amounts of risk, and groups of employees who are subject to the same or similar incentive compensation and who, in aggregate, may expose the bank to material amounts of risk (even if no one

[203] *See supra* notes 100-101 and accompanying text.
[204] *See* Whitehead, *supra* note 150, at 37-39.
[205] *See supra* notes 83-84, 96 and accompanying text.
[206] *See supra* Part III.A.
[207] *See supra* Part III.B.
[208] *See supra* Part III.C.
[209] We analyze how a compensation cap could work *supra* at notes 174-182 and accompanying text.
[210] *See supra* notes 57-61 and accompanying text.
[211] *See supra* notes 62-75 and accompanying text.
[212] *See* Compensation Guidance, *supra* note 6, at 36,399.

person is likely to do so).[213] The Compensation Guidance is premised on three core principles, namely that (i) incentives should appropriately balance risk and financial results in order not to encourage employees to take imprudent risks, (ii) incentives should be compatible with effective controls and risk management, and (iii) incentives should be supported by strong corporate governance, including board oversight.[214] Bank regulators have committed to ensure that banks incorporate the Compensation Guidance through a process that includes inspections and examinations that will produce a supervisory rating that reflects bank compliance.[215] That rating will form a part of the Uniform Financial Institutions Rating System regime, adopted by the Fed, the OCC, and the FDIC, which provides a composite score based on a bank's capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk (known by its acronym, "CAMELS").[216] CAMELS is often criticized for failing to identify troubled banks,[217] and so its effectiveness in policing bank activities is open to question.[218]

Section 956 of the Dodd-Frank Act[219] requires the Fed, the OCC, the FDIC, the OTS, the NCUA, the SEC, and the FHFA (together, the Agencies) to introduce the Jointly Proposed Incentive regarding incentive pay for a much broader range of financial institutions. The proposed rules contain standards that are consistent with the Compensation Guidance. Specifically, the Agencies would prohibit incentive-based pay to executive officers, employees, directors, or principal shareholders that is excessive and encourages inappropriate risks or that could lead to material financial loss.[220] The new rules also would prohibit pay that is unreasonable or disproportionate to the amount, nature, quality, and scope of services performed.[221] In addition, for larger firms, a portion of incentive pay would be deferred for executives, and the board would be required to identify and approve incentive pay for non-executives who have the ability to expose the firm to substantial losses.[222]

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[213] *Id.* at 36,407.

[214] *Id.* at 36,398; *see also* FSF PRINCIPLES, *supra* note 19, at 2-3; FINANCIAL STABILITY BOARD, FSF PRINCIPLES FOR SOUND COMPENSATION PRACTICES: IMPLEMENTATION STANDARDS 2-5 (2009), *available at* http://www.financialstabilityboard.org/publications/r_090925c.pdf (setting out high-level guidance on implementing principles).

[215] *See* Compensation Guidance, *supra* note 6, at 36,406.

[216] *See id.*; DIV. OF BANKING SUPERVISION AND REGULATION, BD. OF GOVERNORS OF THE FED. RESERVE SYS., COMMERCIAL BANK EXAMINATION MANUAL Sec. A.5020.1 1-2 (2013), *available at* http://www.federalreserve.gov/boarddocs/supmanual/supervision_cbem.htm.

[217] *See, e.g.*, Kathryn Judge, *Interbank Discipline*, 60 UCLA L. REV. 1262, 1314 (2013).

[218] *See* Simone M. Sepe, *Regulating Risk and Governance in Banks: A Contractarian Perspective*, 62 EMORY L. J. 327, 393-94 (2012).

[219] Dodd-Frank Wall Street Reform and Consumer Protection Act, 12 U.S.C. § 5641 (2012).

[220] *See id.*

[221] *See* Jointly Proposed Incentive Rules, *supra* note 170, 76 Fed. Reg. at 21,170.

[222] *See id*., 76 Fed. Reg. at 21,173.

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