

PAYING FOR RISK: BANKERS, COMPENSATION, AND COMPETITION

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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 nonexecutives into line—using incentives to manage risk taking—once their own pay is regulated. What these responses overlook is the effect on nonexecutive 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 nonexecutives due to the negative externality that arises from that competition.

Greater risk taking can increase short-term profits and, in turn, the amount a nonexecutive receives, potentially at the expense of long-term bank value. Nonexecutives, 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 nonexecutive 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 nonbanks that compete for talent. The ability of nonexecutives 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 nonexecutive 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 midlevel futures trader, was not yet thirty years old in 1995 when he incurred the \$1.3 billion in losses that blew up Barings Bank. In 1993, when Leeson's trading profits were 10 percent of Barings's annual income, he earned a bonus of £130,000 on a salary of £50,000.¹ Fabrice Tourre, then a twenty-nine-year-old vice president, was charged with fraud in Goldman Sachs's 2007 sale of its Abacus subprime collateralized 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 thirties 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 his 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.

¹ See Mark Roodhouse, *Leeson, Nick*, in 2 ENCYCLOPEDIA OF WHITE-COLLAR & CORPORATE CRIME 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>.

² See Steven Davidoff Solomon & 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/>; see also 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>.

³ See Harrington et al., *supra* note 2; 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 PERMANENT 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].

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 nonexecutive 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 nonbinding vote on compensation, but again, only on executive pay.⁹

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 the Appendix.

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.

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 24–32 (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 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, 361–63 (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. & QUANTITATIVE ANALYSIS 165 (2013) (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 Risk at Financial Firms* 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 Vallasca & Jens Hagendorff, *CEO Bonus*

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 nonexecutives¹⁰ into line—using incentives to manage risk taking—once executive pay is regulated.¹¹ Yet, as this Article describes, it was *nonexecutive* 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 the effect on compensation of the competition among financial firms to hire nonexecutives. 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

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 “nonexecutives” 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. These 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 133–35 and accompanying text. A handful of recent studies have begun to consider the effect of nonexecutive 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 nonexecutive 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 nonexecutives); 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-Executive Incentives and Bank Risk-Taking* (Wharton Fin. Insts. Ctr., Working Paper No. 13-18, 2013) [hereinafter Acharya et al., *Non-Executive Incentives*], available at <http://www.u.arizona.edu/~litov/NonExecIncentivesBankRisk.pdf> (demonstrating that incentives paid to bank nonexecutives in 2003–2006 were mainly driven by market factors and were related to higher bank risk and lower bank value during the financial crisis); 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) [hereinafter Acharya et al., *Seeking Alpha*], available at <http://www.nber.org/papers/w18891> (developing a theoretical model to analyze the negative externality created by bank competition for nonexecutive talent).

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-term¹⁴ bank profits and, in turn, the amount a nonexecutive is paid, potentially at the expense of long-term bank value.¹⁵ Nonexecutives, 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 nonexecutive, taking on greater risk becomes a win-win strategy. On the one hand, the nonexecutive is rewarded with higher pay due to her greater short-term performance, because employers are unable to assess (and discount) her risk-adjusted results.¹⁷ On the other hand, the consequences of the nonexecutive'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 because 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 differently,

¹³ See *infra* notes 42, 84 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 87–88 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 85, 99 and accompanying text.

¹⁸ See *infra* notes 53, 99, 104–05 and accompanying text.

¹⁹ See *infra* notes 96–99, 104–05 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 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 (Sept. 11, 2009), <http://www.ft.com/intl/cms/s/0/03988992-9e6a-11de-b0aa-00144feabdc0.html#axzz3HkdNkFb7>. 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

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 nonexecutives due to the negative externality that arises from the competition for talent.²⁰

In this account of compensation and competition, banks face an informational problem 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 nonexecutives. 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, some of a bank's nonexecutives 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" period²⁴ will increase the cost of departure, as well as permit successor employers to better assess a prospective hire's performance, helping to balance against a nonexecutive's incentives for short-term risk taking.²⁵ Third, banks should be required to include a long-term equity component in nonexecutive pay, with

the employees' activities posed to the organization." Compensation Guidance, *supra* note 6, at 36,396; accord FIN. STABILITY FORUM, FSF PRINCIPLES FOR SOUND COMPENSATION PRACTICES 1 (2009), available at http://www.financialstabilityboard.org/publications/r_0904b.pdf (describing consistent principles of the Financial Stability Forum, which was renamed the Financial Stability Board in April 2009) [hereinafter FSF PRINCIPLES].

²⁰ See *infra* note 169 and accompanying text.

²¹ See *infra* notes 85–86, 99, 153 and accompanying text.

²² See *infra* notes 87–88, 100, 154 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 and 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.

²⁵ See *infra* Part III.B.

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 nonexecutive 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 nonexecutives. Part II provides empirical support for our claim, setting out findings based on a model developed for a recent empirical study of bank nonexecutive compensation coauthored by one of us.²⁹ Those findings deliver two major results. First, they show that bank nonexecutive 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 nonexecutive 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

²⁶ See *infra* Part III.C.

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

²⁸ See *infra* notes 99–100, 104–05 and accompanying text.

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

³⁰ See *infra* notes 181–88 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 AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* 273 (1801).

allocate resources optimally.³³ Because information is complete, no employee has an interest in misbehaving—employers can observe whether the employee benefits the firm, making it irrational for her to act opportunistically.³⁴ Compensation is less important because 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 firm³⁷—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

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

³⁴ See Bengt Holmström, *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. 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

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 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

"risk choices." See Martin F. Hellwig, *A Reconsideration of the Jensen-Meckling Model of Outside Finance*, 18 J. FIN. INTERMEDIATION 495, 495 (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). A moral hazard arises because effort is costly to the agent, who may have incentives to act suboptimally. 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 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 had 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 29–30.

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 & Whinston, *supra* note 46, at 927–30.

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 pay⁵⁰ 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 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 nonexecutives to take on excessive risk in the short term without facing the longer-term consequences of their risk taking.⁵⁴

Next, in subpart A, we describe the industry setting within which bank nonexecutive 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. Subpart 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

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 (applying a model of price competition between firms in an oligopolistic market).

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).

⁵² See *infra* notes 79–83, 98–99, 104 and accompanying text.

⁵³ See *infra* notes 99, 104–05, 173 and accompanying text.

⁵⁴ See *infra* notes 87–88, 105 and accompanying text.

⁵⁵ See *infra* Part II.B.

⁵⁶ See *infra* Part II.C.

A. Competition in the Financial Markets

The backdrop to our analysis of bank nonexecutive pay is the shift in the financial markets that occurred over the last fifty years—moving from a divided marketplace to one that increasingly involves competition between banks and nonbanks. 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 between commercial and investment banking.⁵⁹ Twenty years later, the Bank Holding Company Act⁶⁰ 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

⁵⁷ Senator Carter Glass noted that speculation, fueled with funds from commercial banks, “chang[ed] the whole character of the banking problem.” CARTER GLASS, OPERATION OF THE NAT’L & FED. RESERVE BANKING SYSTEMS, COMM. ON BANKING & 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. Insts. 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) (describing the role and long-term growth of financial intermediaries); Gary Gorton, *Bank Regulation When ‘Banks’ and ‘Banking’ Are Not the Same*, 10 OXFORD REV. ECON. POL’Y 106, 106–07 (1994) (noting recent global trends of nonbanks engaging in banking activities); and Howell E. Jackson, *Regulation in a Multisectoral Financial Services Industry: An Exploratory Essay*, 77 WASH. U. L.Q. 319, 322–31 (1999) (conceptualizing financial arrangements on a continuum).

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 (repealing §§ 20 and 32 of the Glass-Steagall Act and outlining authorized and proscribed activities of the Federal Reserve Board of Governors).

⁵⁹ See Banking Act § 16, 48 Stat. at 184–85 (current version at 12 U.S.C. § 24 (2012)); § 20, 48 Stat. at 188–89 (repealed 1999); § 21, 48 Stat. at 189 (current version at 12 U.S.C. § 378(a) (2012)); § 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) (noting that the Bank Holding Company Act strengthened the Glass-Steagall Act’s restrictions).

⁶² See Franklin Allen & Anthony M. Santomero, *The Theory of Financial Intermediation*, 21 J. BANKING & FIN. 1461, 1464–74 (1998) (summarizing the significant “increase in the breadth and depth of financial markets”); Donald C. Langevoort, *Statutory Obsolescence and*

That change accelerated in the 1970s and 1980s⁶³ 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 less-regulated competitors.⁶⁷ Regulators began to loosen their interpretation of permissible activities under the Glass-Steagall

the Judicial Process: The Revisionist Role of the Courts in Federal Banking Regulation, 85 MICH. L. REV. 672, 677–80 (1987) (describing the effect on banks of developments in technology and lending practices); Sorcher & Kini, *supra* note 61, at 232–33 (stating that banks' ability to earn "a good and relatively risk-free living off the spread between [relatively cheap] deposits and [low-risk, marketable] assets . . . began to change gradually commencing in the 1950s"); 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> (arguing that banks became "less special" during this time period).

⁶³ See KERRY COOPER & DONALD R. FRASER, *BANKING DEREGULATION AND THE NEW COMPETITION IN FINANCIAL SERVICES* 195–217 (1st ed. 1984) (attributing this acceleration to the quickening of "technological, organizational, and financial innovation"); see also ROBERT E. LITAN, *WHAT SHOULD BANKS DO?* 33–59 (1987) (noting the 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*, 26 BROOKINGS PAPERS ON ECON. ACTIVITY 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 Smoot, *supra* note 59, at 654–60 (noting increase in securitization and insurance revenue); Kevin J. Stiroh, *Diversification in Banking: Is Noninterest Income the Answer?*, 36 J. MONEY, CREDIT & BANKING 853, 853–55 (2004) (discussing increase in noninterest income).

⁶⁷ See Allen & Santomero, *supra* note 62, at 1466–74 (summarizing the rising significance of intermediaries in the financial markets); 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* 181, 187–88 (Viral V. Acharya et al. eds., 2011) (describing how credit institutions lost substantial market share to investment banks); Herring & Santomero, *supra* note 62, at 27–30 (noting that banks have become "less special" as providers of credit).

Act and the Bank Holding Company Act in order to permit banks to offer new products and services.⁶⁸

Banks and nonbanks 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.⁶⁹ 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.⁷⁰ They offer investors the convenience of a bank account, including checking services, toll-free telephone numbers, recordkeeping, and wire transfers, but with nominally higher returns than bank deposits.⁷¹ 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.⁷² 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.⁷³

Banks also began to change their business, partly to minimize regulatory costs. For example, during the twenty 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.⁷⁴ 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.⁷⁵ In

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 (describing the abandonment of historically narrow and “cautious interpretations” of the Glass-Steagall Act).

⁶⁹ See FRANKLIN R. EDWARDS, *THE NEW FINANCE: REGULATION AND FINANCIAL STABILITY* 16–19 (1996).

⁷⁰ See 17 C.F.R. § 270.2a-7 (2013); see also MONEY MKT. WORKING GRP., INVEST. CO. INST., *REPORT OF THE MONEY MARKET WORKING GROUP* 31–39 (2009), available at http://www.ici.org/pdf/ppf_09_mmmwg.pdf (describing regulation of MMFs).

⁷¹ See EDWARDS, *supra* note 69, at 16–17.

⁷² See JANE W. D’ARISTA & TOM SCHLESINGER, ECON. POL’Y INST., *THE PARALLEL BANKING SYSTEM* 3–4, 7–14 (1993), available at http://s1.epi.org/files/page/-/old/briefingpapers/1993_bp_parallel.pdf.

⁷³ See EDWARDS, *supra* note 69, at 73–74; D’ARISTA & SCHLESINGER, *supra* note 72, at 3–4, 7–14.

⁷⁴ See Aaron Unterman, *Innovative Destruction—Structured Finance and Credit Market Reform in the Bubble Era*, 5 HASTINGS BUS. L.J. 53, 57–60 (2009).

⁷⁵ 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., Remarks at The

addition, banks entered new business lines. Since the 1980s, for 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.⁷⁶ 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.⁷⁷

The financial markets continue to converge as banks and non-banks compete across traditional business lines.⁷⁸ Greater homogeneity in products and services has also sharpened the competition for the same employees, who increasingly overlap in skills and qualities.⁷⁹ The upshot, as described next, has been growth in the demand for talent as banks and nonbanks compete to hire the same people—and, like change in the financial industry generally, a shift in how banks hire and compensate nonexecutives.

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,

Economic Club of New York, New York City, Reducing Systemic Risk in a Dynamic Financial System (June 9, 2008), *available at* <http://www.newyorkfed.org/newsevents/speeches/2008/tfg080609.html>; *see also* Unterman, *supra* note 74, at 59–60. 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 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.

⁷⁶ *See* Saule T. Omarova, *The Merchants of Wall Street: Banking, Commerce, and Commodities*, 98 MINN. L. REV. 265, 292–94 (2013).

⁷⁷ 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*, 2007 BIS Q. REV. 53, 65–66 (describing the rise of financial investors in the commodities market); *see also* Omarova, *supra* note 76, at 297–307 (describing the growth of bank trading in commodities).

⁷⁸ *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 a private equity fund.” 12 U.S.C. § 1851(a)(1)(A)–(B) (2012).

⁷⁹ *See* Acharya et al., *Seeking Alpha*, *supra* note 12, at 4 (describing the skills of financial sector employees as being “highly fungible”).

because bankers were not expected to seek substantial returns.⁸⁰ That changed—with a rise in performance-based pay—as competition between banks and nonbanks grew.⁸¹ How compensation was set shifted 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.⁸² Individual banks adjusted what they paid in order to remain competitive.⁸³

Tying compensation to financial performance was designed to align employees' and employers' interests.⁸⁴ The change in pay structure, however, created two problems. First, it distorted an employee's

⁸⁰ See Kevin J. Murphy, *Regulating Banking Bonuses in the European Union: A Case Study in Unintended Consequences* 3–5 (Univ. of S. Cal. Legal Stud., Working Paper No. 13–8, 2013), available at <http://ssrn.com/abstract=2235395> (noting that performance incentives were less important “for decades, dating back to the days when investment banks were privately held partnerships”).

⁸¹ See *id.* at 4 (stating 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[, and u]ltimately, 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 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).

⁸² 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.

⁸³ 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.

⁸⁴ Nonexecutive 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 (claiming that compensation assists in aligning principal and agent interests).

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.⁸⁵ 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.⁸⁶ The result is an overall increase in risk taking, which can boost short-term performance and pay but potentially at the expense of long-term bank value,⁸⁷ also referred to as a “tail-risk strategy.”⁸⁸

⁸⁵ See Bannier et al., *supra* note 12, at 655–56; Acharya et al., *Seeking Alpha*, *supra* note 12, at 3–4.

⁸⁶ 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), <http://online.wsj.com/article/SB123396915233059229.html#CX> (“You had to pay everyone 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 GRP., RISK MANAGEMENT LESSONS FROM THE GLOBAL BANKING CRISIS OF 2008, at 24–25 (2009), available at <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 MATIAS 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).

⁸⁷ See RAGHURAM G. RAJAN, FAULT LINES: HOW HIDDEN FRACTURES STILL THREATEN THE WORLD ECONOMY 137–39 (2010) [hereinafter RAJAN, FAULT LINES] (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) [hereinafter Rajan, *Financial Development*] (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 gains and losses” combined to encourage the undertaking of tail risk in the banking sector).

⁸⁸ Tail risk is less likely to occur than other risk, although its magnitude may be significant. See RAJAN, FAULT LINES, *supra* note 87, 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).

Consider the following example. During 2005–2007, JPMorgan’s bankers underwrote residential mortgage-backed securities (RMBS) totaling \$10.28 billion.⁸⁹ 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 obtain⁹⁰ or were unreliable.⁹¹ 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.⁹² Excluding them would have improved the credit quality of the RMBS, but too many exclusions would have caused the originators to do business elsewhere—potentially causing a drop in JPMorgan’s revenues.⁹³ Because 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.⁹⁴ 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.⁹⁵

Second, greater competition for talent lowered the natural constraint on risk taking created by long-term employment, increasing the possibility of employee moral hazard.⁹⁶ 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 employ-

⁸⁹ 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, JP MORGAN SETTLEMENT AGREEMENT, ANNEX 1: STATEMENT OF FACTS 1–2 & n.2 (2013), available at <http://www.justice.gov/iso/opa/resources/9432013119151031990622.pdf> [hereinafter STATEMENT OF FACTS].

⁹⁰ See COMMITTEE ON CAPITAL MARKETS REGULATION, THE GLOBAL FINANCIAL CRISIS: A PLAN FOR REGULATORY REFORM 146–48 (2009), available at [http://www.capmktreg.org/pdfs/TGFC-CCMR_Report_\(5-26-09\).pdf](http://www.capmktreg.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).

⁹¹ See, e.g., Christopher Papagianis, *Housing Market in Crisis*, e21 COMMENTARY SERIES (Nov. 19, 2010), available at <http://economics21.org/commentary/housing-market-crisis> (noting that the data accompanying RMBS is unreliable).

⁹² See STATEMENT OF FACTS, *supra* note 89, at 4.

⁹³ See THE FIN. CRISIS INQUIRY COMMISSION, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION OF THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 166 (2011), available at <http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf>.

⁹⁴ See STATEMENT OF FACTS, *supra* note 89, at 4–5.

⁹⁵ See *id.* at 5.

⁹⁶ See Acharya et al., *Seeking Alpha*, *supra* note 12, at 2–3.

ment that permits the employer to better assess an employee and, based on outcome, adjust her compensation and responsibilities.⁹⁷ 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 industry⁹⁸) 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.⁹⁹ 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.¹⁰⁰

Figure 1 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.¹⁰¹

⁹⁷ 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 . . .”).

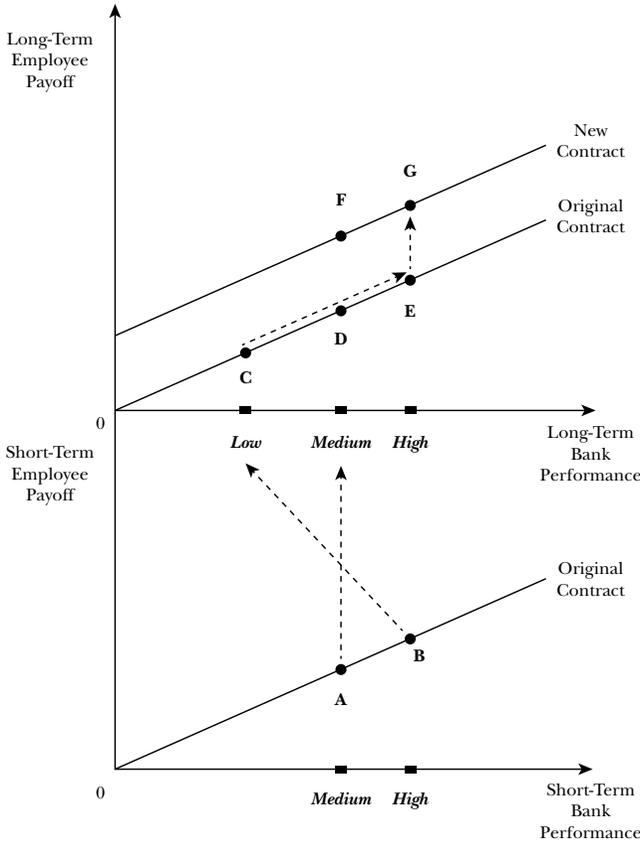
⁹⁸ See *supra* Part I.A.

⁹⁹ See *supra* notes 84–85 and accompanying text.

¹⁰⁰ See Thanassoulis, *supra* note 11, at 849–50; Acharya et al., *Seeking Alpha*, *supra* note 12, at 2–3; Roland Bénabou & Jean Tirole, *Bonus Culture: Competitive Pay, Screening, and Multitasking* 1–2 (Nat’l Bureau of Econ. Res., Working Paper No. 18,936, 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. STUD. 1971, 1971–72 (2012) (same). For empirical support, see generally 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); Ing-Haw Cheng, *Corporate Governance Spillovers* 1–5 (Apr. 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).

¹⁰¹ *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.

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 substandard loans into an RMBS pool, as JPMorgan’s bankers did¹⁰²) 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 substandard loans from an RMBS pool¹⁰³) 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 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

102 See *supra* notes 94–95 and accompanying text.

103 See *supra* note 92 and accompanying text.

less to *bank performance* in the *short-term* and, therefore, receive compensation at point A, corresponding to medium performance.

In a noncompetitive 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*.¹⁰⁴ 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).¹⁰⁵ 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, because a *low risk* strategy is more likely to underperform a *high risk* strategy in the *short-term*, and because *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

¹⁰⁴ See *supra* notes 81–83 and accompanying text.

¹⁰⁵ Thus, the competition for nonexecutives creates an adverse selection problem 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, 85–86, 99 and accompanying text.

compensation at points B and G.¹⁰⁶ Doing so, however, also increases the likelihood of greater bank losses over the *long-term*.¹⁰⁷

The upshot is that growing competition for financial talent has distorted the relationship between compensation and performance. Increased mobility provides nonexecutives 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, nonexecutive 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 nonexecutive compensation, the competition for talent, and risk taking. In this Part, we offer a reduced and modified version of a recent empirical study, coauthored by one of us, that investigates nonexecutive compensation in a sample of seventy-seven U.S. bank holding companies over the period 2003–2009.¹⁰⁸ This study delivers two major results that support our earlier explanation. First, it shows that bank nonexecutive 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).¹⁰⁹ Second, it demonstrates the impact of market factors—rather than individual choices by top executives—on nonexecutive incentives and, in turn, on bank risk and bank value.¹¹⁰ The result has been an industry-wide

¹⁰⁶ 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); see also *supra* notes 85–86 and accompanying text.

¹⁰⁷ See *supra* notes 87–88 and accompanying text.

¹⁰⁸ 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, *Financial Development*, *supra* note 87, at 315–17; Murphy, *supra* note 80, 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 80, at 4.

¹⁰⁹ See *infra* Tables 1, 2 and accompanying text.

¹¹⁰ See *infra* Tables 3, 4 and accompanying text.

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.

A. Nonexecutive Incentives and Bank Performance

Public data on bank nonexecutive pay are limited. The Bank Regulatory database of the Federal Reserve Bank of Chicago,¹¹¹ which collects quarterly data on, among other items, bank balance sheets and income statements, only provides information on total compensation (for executives and nonexecutives). Unlike data on top management compensation, which are available from the ExecuComp database,¹¹² no dedicated database exists for nonexecutive pay.

The solution is to derive changes in nonexecutive pay from changes in total bank compensation. Nonexecutive 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 cumulative changes in pay¹¹³ 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 nonexecutive 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 2003–2006:¹¹⁴ (i) CASH COMP. INCENT.—computed as the quarterly cumulative variation in total salary, bonus, and net benefits granted to each bank's nonexecutives

¹¹¹ 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.” 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 Bd. OF GOVERNORS OF THE FED. RESERVE SYS., FORM FR Y-9C (last updated Dec. 19, 2014), <http://www.federalreserve.gov/apps/reportforms/reportdetail.aspx?sOoYJ+5BzDaI8cbqnRxZRg==>.

¹¹² The ExecuComp database provides information on executives at S&P 1000 firms, including information on salaries, bonuses, and stock options since 1992. Note that, because the ExecuComp database only provides data on an annual basis, the data are prorated in the estimates employed in Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 7–8.

¹¹³ Quarterly cumulative changes in pay are computed as the pay a nonexecutive receives in a given year until quarter t (inclusive) *minus* the pay she received until quarter $t-1$ (also inclusive).

¹¹⁴ For the technical specifications of these measures, see Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 9 (Equation 1).

relative to the quarter's variation in bank profits; (ii) STOCK COMP. INCENT.—computed as the quarterly cumulative variation in total payments in stock granted to each bank's nonexecutives relative to the quarter's variation in bank profits; and (iii) TOTAL COMP. INCENT.—computed as the quarterly cumulative variation in total salary, bonus, net benefits, and stock granted to each bank's nonexecutives relative to the quarter's variation in bank profits.

Identifying the distinct roles played by market-wide and firm-specific effects in setting nonexecutive incentives is also critical. Nonexecutive cash incentives (CASH COMP. INCENT.) were divided into two components, one for market effects (CASH COMP. INCENT. (MARKET)) and the other for firm effects (CASH COMP. INCENT. (FIRM)).¹¹⁵ The market-effects component measures the quarterly cumulative 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.¹¹⁶ The firm-effects component measures the quarterly cumulative cash compensation variation for each bank relative to the quarter's variation in *individual bank* profits *after* market effects are taken into account.¹¹⁷

TABLE 1. DESCRIPTIVE STATISTICS FOR MAIN VARIABLES

	<u>Mean</u>	<u>Standard Deviation</u>
<u>Independent Variables (2003–2006)¹¹⁸</u>		
CASH COMP. INCENT.	0.98	0.75
STOCK COMP. INCENT.	0.89	1.10
TOTAL COMP. INCENT.	0.97	0.07
CASH COMP. INCENT. (MARKET)	1.00	0.09
CASH COMP. INCENT. (FIRM)	0.07	4.46
<u>Dependent Variables (2007–2009)</u>		
Bank Risk	0.07	0.04
Bank Value	1.05	0.17

¹¹⁵ For a more detailed discussion of the specific econometric technique employed to separate market effects and firm effects, see *id.* at 10 (Equation 2).

¹¹⁶ For example, Citigroup's peer group includes five other bank holding companies headquartered in New York: JPMorgan Chase & Co., Metlife Inc., Bank of New York Mellon Corp., M&T Bank Corp., and New York Community Bancorp Inc. See *id.* at 11–12 (describing in more detail the construction of peer groups).

¹¹⁷ As compared to CASH COMP. INCENT. (MARKET), 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.

¹¹⁸ The statistical data on independent variables in 1 are based on a sample of eighty-eight U.S. bank holding companies, while the regressions described in the text are based on a sample of seventy-seven U.S. bank holding companies. Regressions were not possible for eleven U.S. bank holding companies that went out of business during 2007–2009.

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 cumulative 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 cumulative 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 only a 7¢ increase (decrease) in cumulative bank employee cash compensation. This suggests, consistent with our earlier analysis,¹¹⁹ that the bulk of the effect on employee compensation was tied to changes in market profits rather than individual bank earnings. Compensation for nonexecutive employees was essentially driven by market-wide results rather than by how well a specific bank performed relative to the industry.

B. Nonexecutive Incentives and Bank Risk Taking

In subpart A, we showed that nonexecutive 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 nonexecutive incentives promoted riskier strategies whose results emerged during the financial crisis.¹²⁰ *Bank risk*, therefore, was estimated as aggregate risk during 2007–2009,¹²¹ 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, the greater a bank's nonexecutive 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

¹¹⁹ See *supra* notes 80–82, 104 and accompanying text.

¹²⁰ See *supra* notes 87–88, 106–07 and accompanying text.

¹²¹ It is unlikely that high bank risk during the financial crisis determined precrisis nonexecutive pay, since this would imply that banks and the market for nonexecutives were able to anticipate the effects of the financial crisis before they occurred and adjust nonexecutive pay in anticipation of those effects. Measuring nonexecutive 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 (“[I]t is reasonable to assume that financial markets and financial firms were unable to properly anticipate the effects of the crisis and adjust nonexecutive incentives to reflect such anticipation.”).

in setting employee pay (2003–2006), without adjusting it to account for risk taking and longer-term (2007–2009) outcomes.¹²²

TABLE 2. BANK RISK AND COMPENSATION INCENTIVES¹²³

Independent Variables (2003–2006)	Bank Risk (2007–2009)		
	(1)	(2)	(3)
CASH COMP. INCENT. <i>t-stat</i>	0.0516*** (3.98)		
STOCK COMP. INCENT. <i>t-stat</i>		-0.0005* (1.75)	
TOTAL COMP. INCENT. <i>t-stat</i>			0.066*** (3.03)
<i>Percentage Effect</i> ¹²⁴	30.5%	-4.3%	37.7%
Observations	231	231	231
Adjusted R-squared	41%	40%	41%

Table 2 shows that all nonexecutive incentives had an impact on *bank risk* that is statistically significant, but the direction of the impact varied. Specifically, for CASH COMP. INCENT. (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*

¹²² See *supra* notes 85–86, 99–100 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 INST. OF INT’L FIN., COMPENSATION IN FINANCIAL SERVICES: INDUSTRY PROGRESS AND THE AGENDA FOR CHANGE 2, 10 (2009), available at 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 GRP., OBSERVATIONS ON RISK MANAGEMENT PRACTICES DURING THE RECENT MARKET TURBULENCE 7 (2008), available at 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), available at <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); Grant Kirkpatrick, *The Corporate Governance Lessons from the Financial Crisis*, 2009 FIN. MARKET TRENDS 61, 72–76 (2009) (stating that remuneration and incentive systems played a key role in favoring excessive bank risk taking).

¹²³ 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.

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 (the measures of nonexecutive 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).

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. (column 2), there was a negative effect on *bank risk*—meaning that the more sensitive nonexecutive 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, nonexecutive *cash* compensation failed to reflect the resulting increase in risk-taking incentives.¹²⁵ *Stock* compensation, however, involves different dynamics, especially in the 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.¹²⁶

In our sample of banks, stock compensation accounted on average for only 2 percent of total compensation, with the remaining 98 percent comprised of cash.¹²⁷ The principal reliance on cash compensation explains the overall effect of nonexecutive pay in increasing *bank risk*. It is also consistent with the influence of market demand on how nonexecutive 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.¹²⁸

¹²⁵ See *supra* notes 85–86, 99–100 and accompanying text. As financial regulators reported in the wake of the financial crisis, “[h]istorical 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 GRP., *supra* note 86, at 24.

¹²⁶ 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 nonexecutive compensation be tied to long-term equity. See *infra* Part III.C.

¹²⁷ 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).

¹²⁸ 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*, 68 HARV. BUS. REV., 138, 149 (1990) (describing how talented workers may shun

Earlier we noted that nonexecutive pay is largely tied to market profits.¹²⁹ Based on that finding, we suspected that the effect of nonexecutive incentives on *bank risk* was primarily driven by their market component. The empirical results in Table 3 below support our view.

TABLE 3. BANK RISK AND CASH COMPENSATION INCENTIVES:
MARKET AND FIRM¹³⁰

Independent Variables (2003–2006)	Bank Risk (2007–2009)
CASH COMP. INCENT. (MARKET)	0.0635***
<i>t-stat</i>	(4.99)
CASH COMP. INCENT. (FIRM)	-0.00031
<i>t-stat</i>	(1.19)
<i>Percentage Effect</i> ¹³¹	40.0%
	-10.9%
Observations	231
Adjusted R-squared	43.3%

We focus here on nonexecutive cash compensation (CASH COMP. INCENT.), because, as noted earlier, this was the dominant component of nonexecutive pay before the financial crisis.¹³² 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.

the corporate sector because of the weak relation between pay and performance). 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 8 percent drop in Wall Street cash bonuses in 2010, but the overall increase in pay—largely comprised of deferred compensation—by 6 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>.

¹²⁹ See *supra* note 119 and accompanying text.

¹³⁰ The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. See *supra* note 123.

¹³¹ 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).

¹³² See *supra* note 127 and accompanying text.

Finally, we note that the results in Table 3, as well as in Table 4 that follows, were controlled for executive incentives (measured over the same period as nonexecutive incentives, 2003–2006) and the results persisted¹³³—meaning that executive incentives can be excluded as an explanation of the effects on *bank risk* shown in those tables.¹³⁴ Importantly, this confirms our claim that changes in executive pay had limited effect on changes in nonexecutive risk taking. Greater homogeneity in the financial markets¹³⁵ caused nonexecutive 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.¹³⁶

C. Nonexecutive Incentives and Bank Value

So far we have considered the impact of bank nonexecutive incentives on risk taking without analyzing whether they were efficient or inefficient. Bank compensation that promotes riskier strategies is not necessarily inefficient,¹³⁷ for example, if it is associated with a high

¹³³ 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, 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 because 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 tbl.2.

¹³⁴ 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).

¹³⁵ See *supra* notes 78–79 and accompanying text.

¹³⁶ See *supra* notes 81–83 and accompanying text.

¹³⁷ In fact, the main concern with managerial risk choices has long been that undiversified managers may have incentives to select projects that are too conservative 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.”). Conservative projects have the opposite effect of increased risk taking, expropriating wealth from diver-

(long-term) expected return.¹³⁸ Our claim, however, is that the negative externality that results from the competition for bank talent caused bank nonexecutive incentives to be inefficient.¹³⁹ Greater employee mobility limited the banks' ability to structure nonexecutive 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).¹⁴⁰

Empirically, our claim can be tested by relating bank nonexecutive incentives before the financial crisis (2003–2006) to *bank value*, measured as the bank's average *Tobin's Q* (the ratio of the bank's market value of assets over its book value of assets)¹⁴¹ during the financial crisis (2007–2009). Again, the empirical evidence confirms our

sified shareholders to the benefit of fixed claimants, including wage-compensated managers. See Jensen & Meckling, *supra* note 37, at 353.

¹³⁸ 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).

¹³⁹ See *supra* notes 87–88, 100 and accompanying text.

¹⁴⁰ See *supra* notes 104–05 and accompanying text.

¹⁴¹ 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, 47 (1995) ("Tobin's *q*-ratio is also widely used in studies examining how the level of firm value varies with firm structure."); Larry H. P. Lang & René M. Stulz, *Tobin's Q, Corporate Diversification, and Firm Performance*, 102 J. POL. ECON. 1248, 1250 (1994) ("Comparing the Tobin's *q* of diversified firms to the Tobin's *q* of specialized firms, we find that . . . single-industry firms are valued more highly by the capital markets than diversified firms."); Randall Morck et al., *Management Ownership and Market Valuation: An Empirical Analysis*, 20 J. FIN. ECON. 293, 294 (1988) (describing Tobin's *Q* as "our proxy for market valuation of the firm's assets"); David Yermack, *Higher Market Valuation of Companies with a Small Board of Directors*, 40 J. FIN. ECON. 185, 186 (1996) (finding an "inverse relation between firm market value, as represented by Tobin's *Q*, and the size of the board of directors"). 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 F. 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, 9 (1981) ("The value of *q* only provides an upper bound to monopoly power; a firm may have a true index below the bound."). 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*, 118 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. See, 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 . . .").

explanation. Table 4 shows that bank employee compensation had a negative effect on *bank value*, suggesting that the risk taking that resulted from precrisis nonexecutive incentives was inefficient and, hence, so were the incentives.¹⁴²

TABLE 4. BANK VALUE AND COMPENSATION INCENTIVES¹⁴³

Independent Variables (2003–2006)	Bank Value (2007–2009)		
	(1)	(2)	(3)
CASH COMP. INCENT. <i>t-stat</i>	-0.095*** (4.52)		
STOCK COMP. INCENT. <i>t-stat</i>	0.0036*** (3.46)		
TOTAL COMP. INCENT. <i>t-stat</i>		-0.0873*** (10.91)	
CASH COMP. INCENT. (MARKET) <i>t-stat</i>			-0.1024** (3.37)
CASH COMP. INCENT. (FIRM) <i>t-stat</i>			0.0008 (0.69)
<i>Percentage Effect</i> ¹⁴⁴	-14.4% 8.0%	-12.8%	-16.6% 7.2%
Observations	231	231	231
Adjusted R-squared	57.3%	57.0%	58.0%

In particular, column 2 shows that total nonexecutive 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 nonexecutive pay, with CASH COMP. INCENT. (column 1) accounting for an average reduction in value of 14.4 percent during the financial crisis. By contrast, the stock component of nonexecutive pay, STOCK COMP. INCENT. (also column 1), had a statistically significant positive impact on *bank value*, accounting for an average increase of 8 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.¹⁴⁵ Neverthe-

¹⁴² 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 in *supra* note 133. The results remained unchanged when the controls were included. See Acharya et al., *Non-Executive Incentives*, *supra* note 12, app. at tbl.11.

¹⁴³ The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. See *supra* note 123.

¹⁴⁴ 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 nonexecutive 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).

¹⁴⁵ See *supra* note 126 and accompanying text.

less, as we observed earlier, stock compensation accounted on average for only 2 percent of total nonexecutive pay, explaining why the overall effect on *bank value* was negative, driven largely by nonexecutive cash compensation.¹⁴⁶ This also explains the lower effect of TOTAL COMP. INCENT. on *bank value*, compared to CASH COMP. INCENT., because total nonexecutive compensation included the marginal effect of stock compensation.

Finally, column 3 shows the effect on *bank value* of the market and firm-specific components of cash compensation. Similar to our prior results,¹⁴⁷ 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.¹⁴⁸ Specifically, we demonstrate the following:

- (i) Market factors were primarily responsible for setting bank non-executive incentives that largely focused on short-term performance.¹⁴⁹
- (ii) Those incentives promoted employee strategies that increased *bank risk* prior to the financial crisis.¹⁵⁰
- (iii) Increasing *bank risk* was inefficient, causing a significant decline in *bank value* during the financial crisis.¹⁵¹

As a result, competitive payoffs rose as each bank sought to hire the same talent, reinforcing an industry-wide increase in compensation.¹⁵² Underlying the run-up were an informational problem and a coordination problem. The informational problem arose from each bank's inability to assess the employees' risk-adjusted results in the short term.¹⁵³ The coordination problem arose from each bank's natural interest in hiring the same nonexecutives—in the process, rewarding employees who enhanced short-term performance at the

¹⁴⁶ See *supra* note 127 and accompanying text.

¹⁴⁷ See *supra* notes 119, 129–32 and accompanying text.

¹⁴⁸ See *supra* notes 87–88, 100 and accompanying text.

¹⁴⁹ See *supra* note 119 and accompanying text.

¹⁵⁰ See *supra* Table 2 and notes 125–27, 132 and accompanying text.

¹⁵¹ See *supra* notes 142–46 and accompanying text.

¹⁵² See *supra* notes 81–83 and accompanying text.

¹⁵³ See *supra* notes 85–86, 99 and accompanying text.

expense of riskier strategies and longer-term losses.¹⁵⁴ 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.

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.¹⁵⁵ Much of financial regulation induces banks to internalize those costs, reducing externalities by restricting the amounts and types of risk a bank can bear.¹⁵⁶ In general, it does so by circumscribing a bank's investment assets and capital structure¹⁵⁷ and through rules regarding net worth, capital, and surplus that effectively cap risk-taking activities.¹⁵⁸ Together, they moderate risk by regulating the asset and liability sides of a bank's balance sheet.¹⁵⁹

Those rules also affect bank profitability and employee compensation.¹⁶⁰ 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 decisionmakers.¹⁶¹ The

¹⁵⁴ See *supra* notes 87–88, 100 and accompanying text.

¹⁵⁵ 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).

¹⁵⁶ 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).

¹⁵⁷ 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).

¹⁵⁸ 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).

¹⁵⁹ See Clark, *supra* note 156, at 47.

¹⁶⁰ See Thanassoulis, *supra* note 11, at 853.

¹⁶¹ See *supra* notes 5–9 and accompanying text.

presumption that, by regulating executive pay, each bank's managers will appropriately set nonexecutive incentives is consistent with an approach to regulation that, to date, largely considers each bank separately.¹⁶² At odds with that approach is the market-wide competition for the best employees. Higher pay can encourage a nonexecutive to pursue a tail-risk strategy if she can sidestep the long-term consequences by switching jobs.¹⁶³ 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.¹⁶⁴ The result has been a decline in the ability of any one bank to set compensation that efficiently balances performance and risk taking.¹⁶⁵

Of course, regulating executive pay can increase an executive's interest in monitoring (and controlling) nonexecutive 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.¹⁶⁶ Employees may also minimize their managers' ability to supervise their activities and assess their performance.¹⁶⁷ Moreover, supervisors themselves may be interested in incurring greater risk to the extent a subordinate's better performance enhances their own compensation.¹⁶⁸

¹⁶² See MARKUS 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), available at <http://www.bis.org/speeches/desp000921.htm> (“The quintessential micro-prudential dictum is that ‘financial stability is ensured as long as each and every institution is sound.’” (emphasis omitted)). 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.”).

¹⁶³ See *supra* notes 96–99, 104–05 and accompanying text.

¹⁶⁴ See Eric Dash, *Effort to Rein in Pay on Wall St. Hits New Hurdle: The Guaranteed Bonus*, N.Y. TIMES, Aug. 10, 2009, at A1 (describing competition for talent among firms subject to “pay czar” oversight and those that are not).

¹⁶⁵ 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* fig.1 and accompanying text.

¹⁶⁶ See U.S. SENATE REPORT, *supra* note 4, at 14, 52, 66–67 (explaining Bruno Iksil’s role in JPMorgan trades); JOHN E. MARTINSEN, *RISK TAKERS: USES AND ABUSES OF FINANCIAL DERIVATIVES* 219–22 (Denise Clinton et al. eds., 2d 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).

¹⁶⁷ See *supra* notes 37–42, 86 and accompanying text.

¹⁶⁸ 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 per-

The more radical insight is that executives may not be able to set efficient nonexecutive 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 nonexecutives due to the negative externality that arises from the competition for talent.¹⁶⁹

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 nonexecutives to move from a bank to another financial firm; and third, requiring some portion of nonexecutive 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.¹⁷⁰

formance 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).

¹⁶⁹ The concern is not merely theoretical. In 2011, Goldman Sachs’s 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’s employees. See *In re The Goldman Sachs Grp., Inc. S’holder Litig.*, No. 5215-VCG, 2011 WL 4826104, at *5 (Del. Ch. Oct. 12, 2011). In particular, they claimed that because the directors “consistently based compensation 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 nonexecutive compensation practices that are largely determined by the market’s demand for talent over which they have only limited control.

¹⁷⁰ This Article’s principal focus has been on nonexecutive pay in light of the significant contribution of nonexecutives 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 133–36 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 166–68 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 nonexecutive talent, is incomplete. See *supra* notes 10–16 and accompanying text.

A. Assessing Competition and Compensation

Reflecting change in the financial markets,¹⁷¹ 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.¹⁷² 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.¹⁷³ Those employers are not limited to banks.¹⁷⁴ 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.¹⁷⁵

The need to match what others pay is well known to bank executives.¹⁷⁶ 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.¹⁷⁷ Analyzing compensation in a vacuum fails to reflect the competitive labor market within which incentives are assessed by the employees themselves.¹⁷⁸

¹⁷¹ See *supra* Part I.A.

¹⁷² See Compensation Guidance, *supra* note 6, at 36,398. See the Appendix for a description of the Compensation Guidance's core principles.

¹⁷³ See *supra* notes 99, 104–05 and accompanying text.

¹⁷⁴ Our proposal differs from others that 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.”).

¹⁷⁵ See *supra* notes 81–83 and accompanying text.

¹⁷⁶ See Tett, *supra* note 19; Smith, *supra* note 86.

¹⁷⁷ 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), pt. 236 (Fed), pt. 372 (FDIC), pt. 563h (OTS), pts. 741, 751 (National Credit Union Administration (NCUA)), 17 C.F.R. pt. 248 (Securities and Exchange Commission (SEC)), 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 the Appendix.

¹⁷⁸ 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”

One alternative to monitoring compensation is to impose a compensation cap¹⁷⁹ that limits the amount a firm can pay. The European Union proposed a pay ceiling, although it has not been implemented.¹⁸⁰ Compensation caps are intended to minimize 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 nonexecutive incentives.

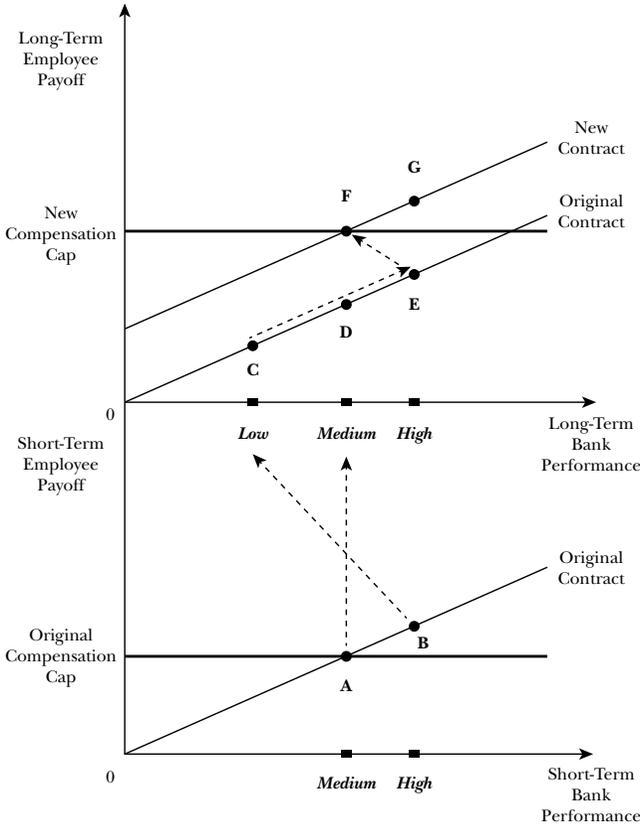
Consider again competition's effects on risk taking and compensation, originally diagramed in Figure 1 but now illustrated in Figure 2 with a compensation cap.

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 177, 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.

¹⁷⁹ 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 rearranged 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 80, 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 nonexecutives. See *id.* at 852.

¹⁸⁰ In February 2013, the European Union 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 80, at 1, but is subject to continuing review, see EUROPEAN BANKING AUTHORITY, *EBA FINAL DRAFT REGULATORY TECHNICAL STANDARDS ON CRITERIA TO IDENTIFY CATEGORIES OF STAFF WHOSE PROFESSIONAL ACTIVITIES HAVE A MATERIAL IMPACT ON AN INSTITUTION'S RISK PROFILE UNDER ARTICLE 94(2) OF DIRECTIVE 2013/36/EU 5 (2013)*, available at <http://www.eba.europa.eu/documents/10180/526386/EBA-RTS-2013-11+%28Onidentified%29.pdf/>. A robust cap, or the adoption of any cap, may be in doubt. See Baptiste Aboulian, *EU Bonus Cap Could Be Scrapped*, FIN. TIMES, (June 9, 2013), <http://www.ft.com/intl/cms/s/0/d983fb2e-cf6f-11e2-be7b-00144feab7de.html#axzz2WD359gql>.

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.¹⁸¹ The *compensation cap* is not a static number. Instead, it is set in 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*).¹⁸² 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

¹⁸¹ 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 sizes can still provide employees with an incentive to incur risk if the resulting improvement in short-term performance enhances their ability to move to a larger bank with a higher bonus cap. See *supra* notes 99, 104–05 and accompanying text.

¹⁸² 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 180 and accompanying text.

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*.¹⁸³ 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.¹⁸⁴ 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.¹⁸⁵ 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 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.¹⁸⁶

¹⁸³ See *supra* note 106 and accompanying text (discussing potential distortions in the incentives of talented and less-talented *low risk* Employees arising from competition).

¹⁸⁴ See *supra* note 105 and accompanying text.

¹⁸⁵ 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, because 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 then to move to a new employer to avoid the resulting consequences.

¹⁸⁶ 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, because 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,

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 nonexecutive'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 ($(50\% \times \$10 \text{ million})$ minus $(50\% \times \$5 \text{ million})$). 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.¹⁸⁷

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.¹⁸⁸

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 noneconomic reasons for choosing to find a new job. They include personal factors, work satisfaction, satisfaction with supervision, coworkers, 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.

¹⁸⁷ Although a drop in the *compensation cap* may result in a decline in risk taking, see *supra* note 185, the potential effect on risk taking that is valuable to the bank is likely to be greater as well.

¹⁸⁸ 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. Because a higher fixed salary increases the amount the Employee will earn, without regard to the results of her risky strategy, she may incur greater risks in light of the potential increase in bonus (subject to the *compensation cap*), but

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.¹⁸⁹ 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 nonexecutives 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.¹⁹⁰

In response, new regulation should limit the ability of a bank's nonexecutives to move to another financial employer (including other banks, insurance companies, broker-dealers, and hedge funds). Regulation is required because, as noted before,¹⁹¹ 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 nonexecutive employment contracts to include terms that make continuing employment more valuable than outside job opportunities. A mandatory garden leave¹⁹² 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 nonexecutive could receive by exploiting the competition for talent.¹⁹³ The new

without being fully exposed to the potential loss in light of the higher fixed salary. See Murphy, *supra* note 80, at 15–16.

¹⁸⁹ 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).

¹⁹⁰ See *supra* notes 96–99, 104–05 and accompanying text.

¹⁹¹ See *supra* note 100 and accompanying text.

¹⁹² See *supra* note 24 and accompanying text.

¹⁹³ 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, e.g., 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

requirement would not be an 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,¹⁹⁴ 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 nonexecutives who are responsible for material business lines or whose activities may expose the bank to material amounts of risk.¹⁹⁵ 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.¹⁹⁶

The new regulation should also apply only to employees who depart a bank for another financial firm, because our focus is on bank risk. It should not extend to employees who move from one nonbank employer to another, from a nonbank to a bank, or (presumptively)

Henderson, *What Do Managers Do?*, in THE HANDBOOK OF ORGANIZATIONAL ECONOMICS 680, 698 (Robert Gibbons & John Roberts eds., 2013).

¹⁹⁴ See Howard J. Rubin & Gregg A. Gilman, *Will Garden Leaves Blossom in the States?*, 33 EMP. REL. L.J. 1, 3–4 (2007). 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*, WEALTHMANAGEMENT.COM (Mar. 7, 2011), <http://wealthmanagement.com/practice-management/no-hardball-garden-leave-merrill-krawcheck-tells-advisors>; Joe Rauch, *BofA's U.S. Trust Adding "Garden Leave" for Some*, REUTERS (Feb. 18, 2011), <http://www.reuters.com/article/2011/02/18/us-bankofamerica-ustrust-idUSTRE71H4OZ20110218>.

¹⁹⁵ 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.

¹⁹⁶ 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 fifty to ninety 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 194, at 7–8. Advisors in Bank of America's U.S. Trust unit were required to stay at U.S. Trust for sixty days and avoid soliciting clients for eight months after resigning. See Byrne, *supra* note 194.

from a bank to a nonfinancial firm.¹⁹⁷ 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.

An alternative means to limit mobility is to adopt some form of Pigouvian tax,¹⁹⁸ such as, for example, a tax on the compensation a bank employee receives from her new employer.¹⁹⁹ To date, however, efforts to manage conduct and compensation through direct taxation have met with limited success. For example, in response to the take-over 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.”²⁰⁰ 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).²⁰¹ Imposing a new tax, therefore, caused

¹⁹⁷ A bank employee’s ability to move to a nonfinancial 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.

¹⁹⁸ A Pigouvian tax is a cost-internalizing tax on an activity that reduces the negative externalities generated by that activity. See Acharya et al., *Non-Executive Incentives*, *supra* note 12, at 33.

¹⁹⁹ See Acharya et al., *Seeking Alpha*, *supra* note 12, at 39 (“[P]olicies that discourage managerial mobility—say, taxing managers who switch jobs at a higher rate than loyal ones—can improve efficiency . . .”).

²⁰⁰ 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. 587.

²⁰¹ 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) (noting that many companies reimburse executives for the extra taxes they incur). 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, 469–71. 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 M. Schizer, *Executives and Hedging: The Fragile Legal Foundation of Incentive Compatibility*, 100 COLUM. L. REV. 440, 468 (2000) (noting section 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*:

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 nonexecutive'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 provide the nonexecutive with an incentive to remain with her employer.²⁰² Similar to a mandatory garden leave, this will reduce the incentives for excessive risk taking by making it more likely a nonexecutive 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

Using the Tax Code to Influence CEO Compensation 23 (Nat'l Bureau of Econ. Res., Working Paper No. 7842, 2000), available at <http://www.nber.org/papers/w7842> (suggesting firms near cap may have restrained salary increases).

²⁰² 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 126 and accompanying text. At the same time, because a stock option holder receives the full benefit of an increase in stock price, but does not bear the full cost of a loss, see Bebhuk & 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 86 (“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 compensation—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 87–88, 102 and accompanying text. The challenge, therefore, is to design a pay package that balances the risk-reducing and risk-enhancing effects of equity compensation.

explored in the industrial organizational literature.²⁰³ 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 nonexecutives in 2003–2006 were correlated with lower bank risk and higher bank value during 2007–2009.²⁰⁴

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 forgoes, 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”).²⁰⁵ In that case, the nonexecutive 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.²⁰⁶

Some portion of our concern is addressed by our prior proposal to limit bank employee mobility.²⁰⁷ By imposing a garden leave, a nonexecutive 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

²⁰³ See generally Armen A. 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 Russell, *Employee Ownership and Internal Governance*, 6 J. ECON. BEHAV. & ORG. 217, 228 (1985) (noting that conventional modes of organization are inappropriate where “performance is hard to meter, and [where] differences in labor quality are hard to identify and control”).

²⁰⁴ See *supra* note 127 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 nonfinancial firms employing ESOPs to remunerate nonexecutives 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* 12–14 (Rotman Sch. of Mgmt., Working Paper No. 2297996, 2014), 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).

²⁰⁵ See Compensation Guidance, *supra* note 6, at 36,401, 36,410.

²⁰⁶ See *supra* notes 99, 105 and accompanying text.

²⁰⁷ See *supra* Part III.B.

banks to assess whether golden handshakes materially weaken efforts to constrain risk taking.²⁰⁸ Because nonbank employers may offer them, it notes that bank supervisors should continue efforts to coordinate with other financial regulators.²⁰⁹ We believe that new regulation must go further and apply equally to nonbank financial firms. Restricting a new employer—whether a bank or a nonbank—from offsetting the costs of a risky strategy will reinforce the benefits of compensation that is tied to long-term performance.²¹⁰

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 nonexecutives into line by 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 nonbanks to hire nonexecutives—with changes in pay in response to the demand for talent creating incentives for bank nonexecutives to incur greater risk.²¹¹

In effect, the greater competition for products and services, which benefited consumers by enhancing financial market efficiency,²¹² 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.²¹³ In this Article, we proposed three ways in which regulation could step in—greater coordination across bank and nonbank

²⁰⁸ See Compensation Guidance, *supra* note 6, at 36,410.

²⁰⁹ 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 (citation omitted).

²¹⁰ As noted earlier, one means to coordinate efforts among bank and nonbank financial regulators is to use the FSOC’s authority to identify financial market risks and recommend new regulation. See *supra* note 178.

²¹¹ See *supra* notes 104–05 and accompanying text.

²¹² See Whitehead, *supra* note 157, at 37–39.

²¹³ See *supra* notes 87–88, 100 and accompanying text.

regulators,²¹⁴ a mandatory garden leave,²¹⁵ and requiring banks to include a long-term equity component in nonexecutive pay, with subsequent employers being restricted from compensating for any losses an employee incurs related to her prior work.²¹⁶ Those new requirements could be introduced together with, or in lieu of, a compensation cap.²¹⁷

One regulatory solution we have not explored is forcing financial firms back into the traditional business categories in which they operated.²¹⁸ Doing so would limit the competition for products and services and, in turn, lower the competition for nonexecutives. We are wary, however, of such an approach, because it moves against the trend toward convergence in the financial markets we have seen over the last five decades.²¹⁹ New regulation should reflect the benefits of that convergence, but it must also take account of the new costs.

²¹⁴ See *supra* Part III.A.

²¹⁵ See *supra* Part III.B.

²¹⁶ See *supra* Part III.C.

²¹⁷ We analyze how a compensation cap could work at *supra* notes 181–89 and accompanying text.

²¹⁸ See *supra* notes 57–61 and accompanying text.

²¹⁹ See *supra* notes 62–78 and accompanying text.

APPENDIX: 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.²²⁰ 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 person is likely to do so).²²¹ 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.²²² 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.²²³ 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").²²⁴ CAMELS is often criticized for failing to identify troubled banks,²²⁵ and so its effectiveness in policing bank activities is open to question.²²⁶

Section 956 of the Dodd-Frank Act²²⁷ 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 Rules regarding incentive pay for a much broader range of financial institutions. The proposed rules contain standards that are consistent with the Com-

²²⁰ See Compensation Guidance, *supra* note 6, at 36,399.

²²¹ *Id.* at 36,407.

²²² *Id.* at 36,398; see also FSF PRINCIPLES, *supra* note 19, at 2–3; FIN. STABILITY BD., FSB 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).

²²³ See Compensation Guidance, *supra* note 6, at 36,406.

²²⁴ See *id.*; DIV. OF BANKING SUPERVISION & REGULATION, BD. OF GOVERNORS OF THE FED. RESERVE SYS., COMMERCIAL BANK EXAMINATION MANUAL § A.5020.1, at 1–2 (1997), available at <http://www.federalreserve.gov/boarddocs/supmanual/cbem/cbem.pdf>.

²²⁵ See, e.g., Kathryn Judge, *Interbank Discipline*, 60 UCLA L. REV. 1262, 1314 (2013).

²²⁶ See Simone M. Sepe, *Regulating Risk and Governance in Banks: A Contractarian Perspective*, 62 EMORY L.J. 327, 393–94 (2012).

²²⁷ Dodd-Frank Wall Street Reform and Consumer Protection Act § 956, 12 U.S.C. § 5641 (2012).

pensation 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.²²⁸ The new rules also would prohibit pay that is unreasonable or disproportionate to the amount, nature, quality, and scope of services performed.²²⁹ 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 nonexecutives who have the ability to expose the firm to substantial losses.²³⁰

228 *See id.*

229 *See* Jointly Proposed Incentive Rules, *supra* note 177, at 21,170.

230 *See id.* at 21,173.