

*Stock Unloading and Banker Incentives***STOCK UNLOADING AND BANKER INCENTIVES**

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*Congress has directed federal regulators to oversee banker pay. For the first time, these regulators are now scrutinizing the incentives of risk-takers beyond the bank's top executives. Like most public company managers, these bankers are increasingly paid in stock rather than cash. The ostensible reason is that stock-based pay aligns manager and shareholder interests. But portfolio theory predicts that managers will diversify away, or "unload," stock-based pay unless they are restricted from doing so. One way to deter unloading may be to require managers to disclose it, as investors and colleagues will assume that managers are unloading because they are unmotivated or think their stock is overvalued.*

*Using rare data on stock unloading at Goldman Sachs, this Essay provides the first empirical study of incentives throughout a bank's managerial hierarchy. I find that bankers paid in stock quickly sell a nearly equivalent amount, unless they have to disclose, in which case they sell much less. The findings suggest that regulators concerned about incentives need information on bankers' overall equity holdings, including the effects of unloading. They also suggest that pre-crisis disclosure rules encourage executives to maintain dangerously concentrated positions in their bank's stock.*

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**INTRODUCTION**

Part of Congress's reaction to the financial crisis was to direct federal regulators to oversee banker pay. In response, the regulators have

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looked for the first time at the incentives of risk-takers who are not among the bank's senior leaders but whose actions can still threaten systemic stability.<sup>1</sup> These bankers are increasingly paid in stock rather than cash, on the view that stock-based pay aligns manager and shareholder interests. But portfolio theory predicts that individuals prefer a diversified portfolio over concentrated exposure to one firm. Thus, bankers may diversify away, or "unload," their stock-based pay, for example by selling shares of stock. One way to deter unloading may be to require that it be disclosed, as colleagues and investors to whom unloading is revealed may conclude that the banker is unmotivated or thinks that the stock is overpriced. But no previous work has studied whether disclosure does, in fact, deter unloading. And little is known about unloading by the traders and other bankers who have recently become the focus of regulators' attention, because these managers, unlike "executives," are not covered by the standard disclosure rules in the Securities Exchange Act of 1934.

In this Essay, I provide the first empirical study of unloading throughout a bank's managerial hierarchy. The study analyzes stock compensation and unloading among hundreds of Goldman Sachs's senior managers, including both "executives" and other bankers whose activities may be systemically important. The evidence reveals two significant findings. First, Goldman managers do in fact unload most of their stock-based pay. Second, bankers who are required to disclose unload much less. The same managers unload less when they have to disclose than when they do not, and they unload more aggressively when they are not required to disclose but know they soon will be.

It would be imprudent to change regulatory policy based on

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<sup>1</sup> See, e.g., Scott G. Alvarez, General Counsel, Board of Governors of the Federal Reserve System, Testimony Before the House Committee on Financial Services (2010) ("[C]ompensation arrangements for executive *and* non-executive employees alike may pose safety and soundness risks if not properly structured" (emphasis in original)).

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findings at a single firm. Study of unloading at Goldman Sachs's competitors---and of non-bank public companies as well---is needed. To the extent, however, that unloading at Goldman is indicative of unloading generally---and there is good reason to believe that it is---these findings have important implications for policymakers and investors.

For one thing, regulators who are concerned with incentives need information on bankers' overall equity holdings, which incorporate the effects of unloading, rather than the aggregate amount of stock they are paid. Second, regulators should consider that the current disclosure regime may encourage excessive risk-taking by inducing bank executives to maintain large, undiversified positions in the bank's stock that allow the executives, like other bank shareholders, to internalize the profits from risk-taking while sharing losses with depositors and taxpayers.

More generally, shareholders and lawmakers who want to make stock-based pay a better device for aligning manager and owner incentives should consider whether non-executives should also have to disclose unloading. And because Section 16 of the Exchange Act already requires executives to disclose unloading, securities regulators should reassess its scope to ensure that its reach encompasses only those managers for whom stock ownership provides effective incentives.

The remainder of the Essay proceeds as follows. Part I describes stock compensation at public companies and the disclosure rules that govern its use. Part II presents evidence on stock unloading at Goldman Sachs. Part III discusses implications for bank regulators, shareholders and lawmakers concerned about the incentive effects of stock-based pay. Part IV concludes.

**I. STOCK COMPENSATION, UNLOADING AND DISCLOSURE**

In large, public corporations the interests of managers and owners

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frequently diverge.<sup>2</sup> Increasingly public companies attempt to address this divergence by paying managers in stock rather than cash.<sup>3</sup> But managers are risk-averse, and their salaries, along with their professional reputations, are already exposed to the fortunes of the firm.<sup>4</sup> Thus, portfolio theory predicts that they will respond to receiving pay in stock by diversifying away the risk associated with the stock (or “unloading”), for example by selling the shares, undermining the incentive effects that would otherwise be achieved by stock compensation.<sup>5</sup>

Most managers are free to unload without disclosing these transactions. But Section 16 requires all public companies to identify the managers who exercise policymaking authority at the firm as “executives” and disclose their unloading.<sup>6</sup> Previous work on Section 16 has focused almost exclusively on its merits as a means of regulating insider trading. In this Essay I examine a related, but unappreciated, consequence of

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<sup>2</sup> For the seminal articulation of the agency problem that arises from the separation of ownership and control over corporate decisionmaking, see Adolf A. Berle & Gardiner C. Means, *The Modern Corporation and Private Property* (1932); see also Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 *J. Fin. Econ.* 305 (1976).

<sup>3</sup> For example, according to one study, in 2008 alone the median large public company granted 1% of its shares outstanding to its employees in the form of stock compensation. Pearl Meyer & Partners, 2008 Equity Stake Study 3 (2008).

<sup>4</sup> See, e.g., John E. Core et al., *Executive Equity Compensation and Incentives: A Survey*, FRBNY Econ. Pol'y Rev., Apr. 2003, at 33 (summarizing research describing optimal incentive contracts given managers' natural risk aversion).

<sup>5</sup> See generally Harry M. Markowitz, *Portfolio Selection: Efficient Diversification of Investments* (1959).

<sup>6</sup> Although Section 16 itself refers to these employees as “officers,” the relevant regulations borrow the definition of this term from the definition of “executive officer” elsewhere in the Exchange Act, see infra note 17, and practitioners generally refer to these managers as “executives.” For ease of exposition, throughout this Essay I refer to those subject to Section 16 as “executives,” and to all other managers as “non-executives.”

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Section 16's disclosure rules. Because observers cannot distinguish between unloading motivated by managers' preference for diversification and unloading motivated by inside information, disclosure of managers' unloading sends costly signals to markets, colleagues and the public. Thus, Section 16's disclosure rules may deter diversification.

The majority of stock compensation at U.S. public companies is paid to non-executives like the traders and other bankers who do not serve as leaders of their firms.<sup>7</sup> But because their unloading is not disclosed, no previous work has evaluated whether non-executives unload in response to receiving stock-based pay. And, because data on unloading are limited to executives, no previous study has compared how the same managers unload when they are subject to Section 16 and when they are not.

#### A. Stock Compensation and Unloading

Stock compensation is paid in two principal forms: stock awards and stock options. Stock awards are actual shares of the firm's stock, which rise and fall in tandem with the stock price. Stock options, by contrast, give the manager the right to purchase a share at a specified exercise price. Both forms are now standard components of managers' pay at U.S. public companies in general and at large financial institutions in particular.<sup>8</sup>

Both stock awards and stock options expose the manager to unsystematic risk related to her employer's stock price, so portfolio theory predicts that receiving either will induce the manager to diversify by

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<sup>7</sup> Pearl Meyer & Partners, *supra* note 3, at 4 (noting that approximately 65% of stock compensation was paid to non-executives in 2008).

<sup>8</sup> See *id.* at 7 (noting that, among a sample of 200 large U.S. public firms, the median firm has reserved 6.0% of its shares for outstanding awards of stock-based pay); *id.* (the median securities firm has reserved 21.5% of its shares for this purpose).

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unloading. A manager can unload a stock award by selling an equivalent number of shares of the company's stock. If she has received stock options, the manager can unload by exercising the options and selling the shares she acquires. The extent to which stock compensation succeeds in aligning incentives depends on whether a manager's overall equity holdings increase after taking into account the effects of unloading.<sup>9</sup>

Because most public companies assert that the purpose of stock compensation is to align manager and shareholder interests, one might expect firms to adopt limitations on unloading by contract. In practice, such restrictions are rare.<sup>10</sup> Since portfolio theory indicates that unloading will undermine the incentive benefits of stock compensation, and firms do not generally contract around that result, an extensive literature argues that stock-based pay serves other purposes, such as preservation of liquidity, reducing costs of capital associated with adverse selection and obtaining tax benefits.<sup>11</sup> Nevertheless, most public companies assert that stock-based

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<sup>9</sup> For ease of exposition, throughout this Essay I refer to managers' holdings in the stock of their firms as the manager's "equity holdings."

<sup>10</sup> See, e.g., David Schizer, *Executives and Hedging: The Fragile Legal Foundation of Incentive Compatibility*, 100 Colum. L. Rev. 440, 461 (2000) (noting that, although some firms require senior managers to own minimum amount of firm's stock, "the press has reported that such ownership guidelines often are not enforced"); see also Lucian A. Bebchuk & Jesse M. Fried, *Paying for Long-Term Performance*, 158 U. Pa. L. Rev. 1915, 1934 (2010) (noting that the "target" amounts of stock ownership under these guidelines "have tended to be low," and "in many cases the targets were purely voluntary").

<sup>11</sup> See, respectively, John E. Core & Wayne R. Guay, *Stock Option Plans for Non-Executive Employees*, 61 J. Fin. Econ. 253, 276 & tbl.6 (2001), Eugene F. Fama & Kenneth R. French, *Financing Decisions: Who Issues Stock?*, 76 J. Fin. Econ. 549, 550--51 (2005), and Ilona Babenko & Yuri Tserlukevich, *Analyzing Tax Benefits From Employee Stock Options*, 64 J. Fin. 1797, 1799 (2009) (finding that, in a sample of public companies, paying an equivalent salary in lieu of stock options would increase the average firm's federal income tax liability by \$12.6 million). In addition to these firm-level benefits, contracts usually require managers to remain employed in order to earn

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pay is intended to link manager and shareholder wealth,<sup>12</sup> and in this Essay I focus on whether stock-based pay serves this purpose. Answering that question requires close study of unloading.

From the manager's perspective, the benefits of diversification depend on the magnitude of her existing holdings of stock as a proportion of her overall wealth. Thus, all things equal, we would expect managers with larger existing holdings of stock to unload more in response to stock-based pay than managers with little existing exposure.

Previous empirical study in this area has generally been limited to the executives who are required to disclose unloading.<sup>13</sup> This work confirms that executives unload in response to stock compensation, and

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stock compensation, serving an important retention function, see Christopher Ittner, *The Structure and Performance Consequences of Equity Grants to Employees of New Economy Firms*, 23 *J. Acctng. Econ.* 89, 90 (2003), and options give employees the ability to defer individual income taxation, see Schizer, *supra* note 10, at 469.

<sup>12</sup> See, e.g., Assurant, Inc. Long Term Equity Incentive Plan § 1.1, *in Assurant, Inc.*, Schedule 14A (April 10, 2008) (“The purpose of this [plan is] to provide” “incentives directly linked to stockholder value”); Morgan Stanley Schedule 14A (April 14, 2011) (the company’s stock compensation plan “provides employees with long-term incentives that are aligned with shareholder interests”).

<sup>13</sup> See, e.g., Lucian A. Bebchuk et al., *The Wages of Failure: Executive Compensation at Bear Stearns and Lehman 2000-2008*, 27 *Yale J. Reg.* 257, 260 (finding that executives at two large financial institutions “regularly took large amounts of money off the table by unloading shares and options”) (2010); Sanjai Bhagat & Brian Bolton, *Bank Executive Compensation and Capital Requirements Reform* (unpublished manuscript, on file with author) (2011) (same, for a larger group of financial institutions). While other work has evaluated disclosures that public companies must provide on firm-wide stock-option plans, see 17 C.F.R. § 229.201(d), those disclosures do not provide individualized detail on unloading activity and hence are of limited use in evaluating individual employees’ incentives. See, e.g., Core & Guay, *supra* note 11, at 278 tbl. 7; see also Steven Huddart & Mark Lang, *Information Distribution Within Firms: Evidence from Stock Option Exercises*, 34 *J. Acctg. & Econ.* 3 (2003).

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that the magnitude of this effect depends on the executive's overall stock holdings.<sup>14</sup>

### B. Unloading and Disclosure

Most managers of large public companies are not required to disclose unloading. But Section 16 requires public companies to identify their executives and publicly and immediately disclose their unloading.<sup>15</sup> Managers' tendency to unload may be muted if they are required to disclose it. This is because disclosure of unloading imposes costs on managers, sending signals to both markets and colleagues that the executive has negative inside information. By making diversification more costly for executives, rules requiring disclosure of unloading may lead them to maintain concentrated exposure to their employer's stock. Thus, Section 16's disclosure rules may have previously unappreciated implications for managers' incentives.

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<sup>14</sup> See Eli Ofek & David Yermack, *Taking Stock: Equity-Based Compensation and the Evolution of Managerial Ownership*, 55 J. Fin. 1367, 1368 (2000); J. Carr Bettis et al., *Managerial Ownership, Incentive Contracting, and the Use of Zero-Cost Collars and Equity Swaps by Corporate Insiders*, 36 J. Fin. & Quant. Analysis 345 (2001).

<sup>15</sup> See supra text accompanying note 6. Section 16 also requires disgorgement from executives of any profit earned from "short-swing" purchases and sales of the firm's stock within a six-month period, 15 U.S.C. § 78p(b), and separately prohibits executives from selling their employer's stock "short," id. § 78p(c). Those provisions, and particularly Section 16(b)'s prohibition on short-swing profits, have been the focus of prior work on the influence of Section 16 on managerial incentives. Merritt Fox, *Insider Trading Deterrence Versus Managerial Incentives: A Unified Theory of Section 16(b)*, 92 Mich. L. Rev. 2088 (1994). In this Essay, however, I focus on the implications of Section 16's disclosure rules for incentives. See *infra* note 45.

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**1. Disclosure rules.** Section 16(a) of the Securities Exchange Act of 1934, a provision thought to regulate insider trading,<sup>16</sup> requires all public companies to identify managers who perform “policy-making” functions as executives.<sup>17</sup> The determination as to which managers will be deemed executives is generally left to the firms themselves.<sup>18</sup> Upon being identified as an executive, the manager must disclose her overall holdings of stock. Thereafter, she must disclose any transaction in the stock (including both types of unloading), and her resulting ownership, in the SEC’s public database and on the company’s website within two days.<sup>19</sup> Thus, executives’ unloading is immediately revealed; for other managers, unloading is generally never disclosed.

**2. Private costs of disclosure.** The merits of Section 16’s disclosure requirements as a means of regulating insider trading have been

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<sup>16</sup> See, e.g., Kern County Land Co. v. Occidental Petroleum Corp., 411 U.S. 582, 591 (1973) (noting that the preamble of Section 16(b) specifies that it was enacted “for the purpose of preventing the unfair use of information which may have been obtained by insiders” (quoting 15 U.S.C. § 78p(b))).

<sup>17</sup> Securities and Exchange Commission, Ownership Reports and Trading By Officers, Directors and Principal Security Holders, 56 Fed. Reg. 7,242 (Feb. 21, 1991) (Section 16 applies to each firm’s “president, principal financial officer, principal accounting officer . . . any vice-president . . . in charge of a principal business unit, division or function [or] any other officer who performs a policy-making function”).

<sup>18</sup> Cf. Peter J. Romeo & Alan J. Dye, Section 16 Treatise and Reporting Guide 72 § 2.01[f] (3d ed. 2011) (describing the case- and context-specific nature of the determination). Practitioners with significant experience in Section 16 matters could not recall a case after 1980 in which the SEC has formally challenged a firm’s Section 16 determinations, see Email from Alan Dye to Robert J. Jackson, Jr., December 20, 2010. (Even older cases in which the SEC pursued such a challenge are rare. See, e.g., Colby v. Klune, 178 F.2d 842 (2d Cir. 1949); John G. Gillis, Securities Law and Regulation: Inside Information Developments, 36 Fin. Analysts J. 78, 78 (1980) (citing SEC v. Dwork, Civ. Act. No. 79-2215, (D.D.C 1979))).

<sup>19</sup> Securities and Exchange Commission, Mandated Electronic Filing and Web Site Posting for Forms 3, 4 and 5, 68 Fed. Reg. 25,788 (May 13, 2003).

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the subject of considerable debate.<sup>20</sup> I focus on another consequence of these rules: that they deter executives from unloading. For three reasons, these rules make diversification far more costly for executives than for managers who are not subject to Section 16.

*a. Market signals.* Unloading reduces managers' exposure to losses if the firm decreases in value, so observers cannot distinguish unloading motivated by diversification from unloading motivated by negative inside information. Thus, while rules requiring disclosure of insiders' trades may convey valuable information to market participants, the rules simultaneously deter unloading.<sup>21</sup> Regardless whether a manager's unloading is motivated by the need to diversify or by inside information, disclosure of the transaction may signal to markets that the manager has negative information about the firm's future prospects.<sup>22</sup>

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<sup>20</sup> Compare, e.g., Henry G. Manne, *Insider Trading and the Stock Market* (1966) with James D. Cox, *Insider Trading and Contracting: A Critical Response to the "Chicago School,"* 1986 Duke L.J. 628.

<sup>21</sup> It is difficult for managers credibly to signal that a transaction is motivated solely by diversification. Recognizing this problem, the Securities and Exchange Commission recently promulgated Rule 10b5-1, SEC Rel. No. 33-7881, Fed. Sec. L. Rep. (CCH) 86,319, at 83,676, which creates a safe harbor from insider-trading liability for insiders who pre-commit to trades in their company's stock. These rules were intended to facilitate managers' diversification by insulating these trades from insider-trading liability. But there is evidence that insiders have used the rule to increase profits from informed trading, M. Todd Henderson, *The Uses and Abuses of Rule 10b5-1* (2010), at 33-35 (unpublished manuscript, on file with author), underscoring the difficulty, for both regulators and market participants, of distinguishing unloading motivated by diversification from unloading motivated by inside information.

<sup>22</sup> See Fox, *supra* note 15, at 2094 (arguing that a broad application of Section 16 will lead to inclusion of both transactions based on inside information and transactions not so based, causing managers to be less willing to accept pay in the form of stock and resulting in a "weakening of . . . incentives [that] is a social cost" of including these transactions within the reach of Section 16).

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Sending such a signal carries significant costs for executives. The signal may compromise the firm's competitiveness in product and labor markets, if customers, suppliers, or prospective employees infer that managers have negative information about the firm. These developments are costly for executives, whose economic and reputational capital remain tied to the firm. Moreover, disclosure of unloading may encourage a hostile takeover, threatening executives' private benefits of control. Thus, for executives, the diversification-related benefits of unloading are mitigated by the costs of the signals unloading sends to outsiders.

*b. Internal signals.* The signal arising from disclosure of an executive's unloading also imposes costs on the executive inside the firm. Colleagues, like outsiders, may infer that the executive has negative inside information, and hence the executive's unloading may lead to unloading by other employees. For the same reason, colleagues may be more likely to seek other employment, or may conclude that the executive herself is doing so. Thus, an executive who wishes to unload must consider the costs associated with the signal that unloading sends to her colleagues.

*c. Reputational costs.* Finally, disclosure of an executive's decision to diversify may have negative implications for her professional reputation. Although portfolio theory predicts that executives will prefer to diversify away risk related to the stock of their firms, the press has increasingly criticized unloading transactions as contrary to shareholder interests. Indeed, several executives have been publicly scolded for unloading that was permitted by the firm and contemplated by contract.<sup>23</sup> Executives may worry that disclosure of their unloading transactions will

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<sup>23</sup> For example, the exercise of stock options by a group of Goldman Sachs executives recently received significant media attention. Although the expiring term of the options required the executives either to exercise or forego gains already earned, several reports referred to these proceeds as a "windfall." See James Quinn, Goldman Sachs Boss Lloyd Blankfein Cashes in on Options, *The Telegraph*, Aug. 16, 2010.

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subject them to criticism of this kind. Such criticism would be less frequent, of course, if unloading were not disclosed.

For all of these reasons, Section 16 may deter executives from diversifying. While this effect has been unappreciated in a literature largely focused on insider trading,<sup>24</sup> it might not surprise the provision's Depression-era drafters. They were profoundly influenced by the scholarship of Adolf A. Berle and Gardiner C. Means, who had just published *The Modern Corporation and Private Property*. Berle and Means famously described the separation of ownership and control in the industrial firms of their time, noting that the leaders of these firms owned almost no stock the company.<sup>25</sup> For those, like Berle and Means, who thought this undesirable, requiring these managers to disclose unloading could help encourage a closer link between ownership and control in public companies. The authors' extensive intellectual and political influence at the time Section 16 was adopted has led some to argue that the provision was indeed intended to link managers' interests with those of owners.<sup>26</sup>

Whether or not its drafters intended to deter executives from diversifying, no previous work has examined whether Section 16 actually achieves that result. Because Section 16's disclosure rules apply only to executives, it has not previously been possible to compare how the same managers unload when they are required to disclose and when they are

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<sup>24</sup> For a rare exception, see Steve Thel, *The Genius of Section 16: Regulating the Management of Publicly Held Companies*, 42 Hastings L.J. 391, 419–20 (1991).

<sup>25</sup> Berle & Means, *supra* note 2, at 46 n.34 (while “the ultimate control of nearly half of industry [is] actually in the hands of a few hundred men . . . the larger the . . . company, the smaller is the proportion of stock held by management”).

<sup>26</sup> See Thel, *supra* note 24, at 420 (noting Berle was a member of a committee convened in 1933 to study stock exchange legislation and enjoyed considerable influence over President Roosevelt's views) (citing Steve Thel, *The Original Concept of Section 10(b) of the Securities Exchange Act*, 42 Stan. L. Rev. 385, 419 (1990)).

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not. In the next Part I provide the first evidence suggesting that Section 16's disclosure rules do in fact deter unloading—and, thus, have an unappreciated influence on managerial incentives at public companies.

**II. UNLOADING AND DISCLOSURE AT GOLDMAN SACHS**

Unloading can tell us a great deal about incentives at banks in particular and large public companies more generally. Do non-executives respond to stock compensation by unloading, diversifying away the incentive effects of stock-based pay? Do disclosure rules deter diversification? Here I present evidence offering the first empirical glimpse of the answers to those questions.

The firm I study here, Goldman Sachs, is the world's most profitable investment bank. A former partnership, the firm still refers to its senior managers as "partners." All of the partners are party to an agreement that limits their freedom to unload. Because of this agreement, the partners are required to file periodic schedules revealing details about the stock compensation paid to, and unloading by, all of the partners, including both executives and non-executives. These requirements are separate from Section 16, which applies only to Goldman's executives.

The schedules provide the first evidence on unloading by non-executives at a large financial firm. Thus, they allow us to analyze whether these managers unload their stock-based pay. They also permit us to examine the influence of Section 16's disclosure rules on unloading. Because the data are limited to a single company, it is far from clear that these findings apply to all public firms. The evidence does, however, offer two insights for regulators and investors concerned with the incentive effects of stock-based pay.

First, the evidence shows that each share of stock compensation the partners receive is associated with more unloading; indeed, the

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partners unload the bulk of the incentive effects of stock-based pay. Second, the data show that disclosure is associated with less diversification. The same individual executives unload less in years when they are subject to Section 16 than in years when they are not. And the partners appear to anticipate the application of Section 16, unloading more in the years immediately before and after the years when they are in the Section 16 spotlight. The data suggest that disclosure rules have an important effect on managerial incentives at large public companies.

#### A. Incentives and Organizational Structure

Until 1999, Goldman Sachs was Wall Street's last major partnership. In that year, Goldman's partners agreed to take the firm public in an initial public offering (IPO). The partners worried, however, that the IPO might compromise the firm's long-held culture of managerial ownership.<sup>27</sup> Thus, prior to the offering, the partners entered into an unusual agreement governing their incentives. This agreement, which limits each partner's freedom to unload, remains in place today.

The agreement specifies that a substantial portion of each partner's pay will consist of stock.<sup>28</sup> The partners agreed to limit their sales of the Goldman shares that they held at the time of the IPO for three years.<sup>29</sup>

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<sup>27</sup> See, e.g., Charles D. Ellis, *The Partnership: The Making of Goldman Sachs* 395--397(2008) (describing some partners' view that the partnership structure had been "the vital engine of the firm's continuing success," and their concern that an IPO would compromise the partnership's unique culture and incentives).

<sup>28</sup> See Plan of Incorporation of the Goldman Sachs Group, L.P., *in The Goldman Sachs Group, Inc., Amendment No. 2 to Form S-1 Ex. 2.1* (Apr. 30, 1999) [hereinafter Plan of Incorporation], Art. 4 ("Ongoing Equity Incentives": "existing [partners] are expected to participate in" programs providing for ongoing stock compensation).

<sup>29</sup> See *The Goldman Sachs Group, Inc., Shareholders' Agreement*, *in The Goldman Sachs Group, Inc., Amendment No. 2 to Form S-1 Ex. 10-26* (Apr. 30, 1999)

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Following the expiration of these “lockup” restrictions, each partner agreed to hold at least 25% of the number of Goldman shares granted to them as stock compensation for as long as they remained employed by the firm.<sup>30</sup> Since 2004, when the IPO restrictions lapsed, the partners have kept in place the unloading restriction on 25% of the number of shares that each partner receives in stock-based pay.<sup>31</sup>

Goldman’s daily operations are overseen by the group of approximately thirty partners who comprise the firm’s management committee.<sup>32</sup> All of Goldman’s Section 16 executives sit on this committee, along with other senior partners who represent the firm’s major business lines and regional operations. Every two years, the partners

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[hereinafter Original Shareholders’ Agreement] Art. II § 2.1 (incorporating by reference the requirements of Section 7 of Plan of Incorporation, *supra* note 28).

<sup>30</sup> See *id.* § 2.2. The restrictions apply to the number of shares received after necessary withholdings related to income taxation. *Id.* § 2.2(a).

<sup>31</sup> The firm recently imposed further limits on unloading for the members of its management committee. The Goldman Sachs Group, Inc., Goldman Sachs Compensation Practices 12 (2010). These changes, which were implemented in late 2009, are generally not reflected in the period I study. In addition, since 2004, certain executives have been subject to additional contractual restrictions on unloading requiring them to retain 75% of the shares they receive in stock-based pay. See Amended and Restated Shareholders’ Agreement *in* The Goldman Sachs Group, Inc., Amendment No. 54 to Schedule 13D (June 23, 2004), Art. II § 2.1(b). Because these restrictions apply only to selected executives, it is possible separately to control for the presence of these restrictions; thus, estimates of the relationship between stock-based pay and unloading presented in this Part separately control for these restrictions. See *infra* Appendix at note 116.

<sup>32</sup> See generally The Goldman Sachs Group, Inc., Report of the Business Standards Committee 51 (2011). Members of the management committee receive a greater proportion of their pay in stock than other partners. See The Goldman Sachs Group, Inc., Goldman Sachs Compensation Practices, *supra* note 31, at 12.

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elect a class of new partners; each new partner becomes party to the standard agreement limiting her freedom to unload stock-based pay.<sup>33</sup>

### B. Methodology

The partners' agreement permits the first study of unloading by non-executives. Because of the agreement, the partners as a group must file a securities schedule that is usually filed only by activist investors who hold large stakes in public companies.<sup>34</sup> Since these schedules do not usually provide information about unloading---such detail being the domain of Section 16---the forms have not attracted attention from market participants.<sup>35</sup> The schedules provide rich detail on unloading by each partner---both executives and non-executives.

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<sup>33</sup> See Section 1.1, Amended and Restated Shareholders' Agreement, *in* The Goldman Sachs Group, Inc., Form 10-K (filed Feb. 26, 2010) (noting that the agreement applies to all partners and "those who will become" partners of the firm).

<sup>34</sup> The agreement gives rise to a disclosure obligation under Section 13(d) of the Securities Exchange Act of 1934, 15 U.S.C. § 78m(d) (2011). The partners filed their first schedule at the time of the IPO and amended the schedule 75 times during the period examined here, each time providing additional detail on the partners' stock compensation and unloading activity. For further detail on these schedules and the assembly of the dataset, see *infra* Appendix at 40-41.

<sup>35</sup> A search of reports by equity analysts who analyze Goldman's stock revealed no mention of these schedules. See Thomson Research, Thomson ONE Banker Research Reports (last accessed August 1, 2011). Moreover, public sources describing managers' ownership at Goldman do not include these filings. For example, the Yahoo! Finance page that provides analysis of Goldman's stock and managers' holdings relies exclusively on Section 16 filings. Yahoo! Finance, The Goldman Sachs Group, Inc.: Insider Transactions, available at <http://finance.yahoo.com/q/it?s=GS> (last accessed August 4, 2011). Although these unusual filings recently became the subject of some media attention, see, e.g., Susanne Craig & Eric Dash, Study Points to Windfall for Goldman Partners, N.Y. Times (Jan. 18, 2011), those reports emerged two years after the period studied here.

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Using these schedules, I constructed a hand-drawn dataset including detail on each unloading transaction, consolidating them by individual partner and year.<sup>36</sup> The schedules also include information on the stock-based pay received by the partners as a group. I supplemented these data with information about each partner, including year of election, membership on the management committee and whether the partner is, in any particular year, subject to Section 16. Table I below summarizes the data for the entire partnership during the period I study:

	2000-2004	2005-2009
Total Number of Partners in Sample		753
Total Number of Unloading Transactions	20,205	4,962
Median Annual Shares Unloaded	40,250	5,012

TABLE I. SUMMARY STATISTICS

Stock sales related to the IPO may confound analysis of the partners' unloading. It is unsurprising that partners sold stock to the public in connection with the IPO; indeed, that was the purpose of the transaction. Table I shows that the partners engaged in much more unloading during the first four years after the IPO, as the IPO "lockup" restrictions on sales gradually lapsed.<sup>37</sup> In this Essay, I focus on the relationship between

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<sup>36</sup> I am especially grateful to Michelle Chen and Adrian Clevenot for their assistance in constructing this dataset.

<sup>37</sup> In light of the IPO-related restrictions on sales, the volume of transactions between 2001 and 2004 may seem striking. Note, however, that the agreements permitted a committee of partners to waive these restrictions. See Original Shareholders' Agreement, *supra* note 29, at § 7.3(b).

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stock-based pay and unloading.<sup>38</sup> Thus, in assessing unloading in this Part, I emphasize unloading that occurred after 2004.

As noted in Part I, both theory and evidence suggest that a manager's unloading activity will depend on the ratio of the value of her stock holdings to her overall wealth. The schedules do not, however, reveal each partner's holdings of Goldman shares. I therefore estimate the influence of the partners' holdings on unloading in two ways. First, I proxy by partner seniority: Because partners whose unloading is restricted by contract will tend to accumulate shares over time, I distinguish among Goldman's managers based upon the length of time since each became a partner. Second, using public reports on stock ownership for each partner at the time of the IPO, I estimate each partner's ownership over time.<sup>39</sup> Throughout this Part I control for both variables in assessing the partners' unloading.

### C. Stock Compensation and Unloading

Goldman's partners receive substantial pay in the form of stock compensation and are subject to rigorous contractual restrictions on unloading. Like all employees, however, the partners may be risk-averse individuals who prefer a diversified portfolio to concentrated exposure to Goldman's stock. Is the stock compensation provided to the partners associated with greater levels of unloading? After considering the effects of unloading, has stock-based pay strengthened the partners' incentives?

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<sup>38</sup> I also leave for future work potential implications of these data for study of insider trading. The results presented in this Part were unaffected by separate controls for changes in Goldman's stock price.

<sup>39</sup> I am especially grateful to Chapman Wong for assistance in assembling these estimates. For details on these estimates and related checks, see *infra* Appendix at 42–43.

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**1. Unloading.** One way to study the relationship between stock compensation and unloading is to compare the unloading of partners who are paid the most stock with unloading by those who are paid less. The members of Goldman's management committee, on average, receive a larger proportion of their pay in the form of stock than their colleagues, so their unloading may tell us something about the relationship between stock-based pay and unloading. Because the partners' seniority also influences their propensity for diversification, however, I limit my analysis only to those managers who were partners before the IPO. Table II below compares unloading by pre-IPO partners who are paid the most stock with unloading by other pre-IPO partners:

	Highest Proportion of Stock Compensation	All Other Pre-IPO Partners
Average Shares Sold Per Year	50,164	32,093**
Average Annual Proceeds from Sales	\$7,228,541	\$4,078,340**

**TABLE II. UNLOADING BY PROPORTION OF STOCK COMPENSATION, 2005—2009<sup>40</sup>**

Table II indicates that the partners receiving the greatest share of their pay in stock unload more than colleagues with similar tenure at the firm. Of course, it is still possible that these partners own different amounts of Goldman stock. Multivariate regression analysis controlling for these differences, however, is consistent with the results described in

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<sup>40</sup> Throughout this Part, I use the standard indicia of statistical significance: “\*\*\*” indicates significance at 99% confidence, “\*\*” indicates significance at 95% confidence, and “\*” indicates significance at 90% confidence. In Table II these indicia refer to the coefficient for a dummy variable indicating whether the partner was a member of the management committee in a regression also controlling for year and firm size. All dollar figures in this Part are presented in inflation-adjusted 2010 dollars.

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Table II.<sup>41</sup> The evidence shows that partners whose pay structures include more stock-based pay unload more than their colleagues.

By comparing the stock-based pay received by individual partners with that partner's unloading, we can measure the relationship between stock compensation and unloading more directly. The filings do not provide detail on individuals' compensation, but the number of shares each partner receives in stock-based pay can be estimated by allocating stock compensation received by the entire partnership to individuals.<sup>42</sup> Based on these estimates, econometric analysis allows us to estimate the relationship between stock-based pay and unloading. The analysis shows that each share a partner receives in stock-based pay is associated with statistically and economically significantly greater amounts of unloading, controlling for differences in the partners' seniority and stock holdings.<sup>43</sup>

**2. Equity holdings.** Whether stock compensation succeeds in aligning incentives depends on whether managers' overall equity holdings increase after we account for unloading. Financial economists typically evaluate equity holdings by measuring the impact of a 1% change in firm value on the employee's overall wealth.<sup>44</sup> The evidence allows us to examine how this measure has changed over time at Goldman. Has stock

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<sup>41</sup> See infra Appendix at 43 & tbl. VI.

<sup>42</sup> For details on the allocation and related checks, see infra Appendix at 40--41.

<sup>43</sup> See infra Appendix at 44 & tbl. VII.

<sup>44</sup> See generally Brian J. Hall & Jeffrey B. Liebman, Are CEOs Really Paid Like Bureaucrats?, 113 Q. J. Econ. 653 (1998). This measure is calculated by dividing the stock price by 100, multiplying by the number of shares and options the employee holds, and weighting the latter by option "delta" to reflect the fact that the value of stock options changes by less than \$1 for each \$1 change in stock price. Id. The averages in Table III were calculated using this method and assuming an option delta of 0.9, the estimated average delta of options granted to the partners in 2005 and 2006 based on the historical volatility of Goldman Sachs's stock price.

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compensation strengthened the link between firm value and the average partner's personal wealth since 2004?

Comparing equity holdings at Goldman over time is complicated by the shifting population of the partnership. In 2005, 80 out of the firm's 221 pre-IPO partners, who held significant endowments of Goldman stock, were still with the firm. By 2009, only 45 of these partners remained. Nevertheless, one might expect that the firm's use of stock compensation would strengthen, or keep constant, the average partner's overall equity holdings during the period studied here.

	2005	2006	2007	2008	2009
Average Change in Personal Wealth Due to 1% Change in Firm Value	\$319,550	\$279,896	\$307,627	\$121,826	\$218,940

TABLE III. AVERAGE PARTNER EQUITY HOLDINGS, 2005-2009

As Table III shows, the average Goldman partner's equity holdings fell between 2005, when the IPO lockup expired, and 2009. In 2009, the average partner would have experienced a smaller change in personal wealth due to a change in Goldman's stock price than in 2005. Of course, it is far from clear that the level of the average partner's equity holdings in 2005 was optimal from shareholders' point of view.<sup>45</sup> What is clear, however, is that, despite receiving substantial grants of stock compensation during the five years that followed, the average partner's equity holdings provided less motivation to increase Goldman's value than

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<sup>45</sup> Cf. John E. Core et al., Is U.S. CEO Compensation Inefficient Pay Without Performance?, 103 Mich. L. Rev. 1142, 1168 (2005) (although it is difficult to discern the optimal level of managerial equity ownership, observing the trend of ownership over time may provide a helpful comparative basis for measurement of managers' incentives to maximize firm value).

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they had in 2005.<sup>46</sup> Although stock-based pay during this period may have served other important functions,<sup>47</sup> on average it does not appear to have strengthened the partners' incentives to maximize shareholder value.

#### D. Unloading and Disclosure

By comparing managers' unloading in years when they are subject to Section 16 to their unloading in years when they are not, the data also permit us to consider the influence of Section 16's disclosure rules on incentives.<sup>48</sup> Do Goldman's partners unload differently when they are

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<sup>46</sup> It bears repeating that in late 2009 Goldman imposed additional limits on unloading for the members of its management committee, see *supra* note 31 and source cited therein, and that the effects of these restrictions unlikely to be reflected in Table III, which includes only observations through the end of 2009. More recent filings suggest that the partners' ownership has increased in the two years following the adoption of these provisions. Compare The Goldman Sachs Group Inc., Schedule 13D/A, Amendment No. 78 (December 1, 2011) (indicating that, as of the end of 2011, the partners as a whole owned 13.78% of the firm's stock) with The Goldman Sachs Group Inc., Schedule 13D/A, Amendment No. 75 (December 9, 2009) (indicating that, as of the end of 2009, the partners as a whole owned 8.60% of the firm's stock).

<sup>47</sup> For example, the arrangements may have helped the firm retain employees, because recipients of stock compensation are generally not entitled to receive shares and options unless they remain employed by the firm during a specified period. For examples of other purposes of stock-based pay unrelated to the alignment of manager and owner incentives, see *supra* note 11 and sources cited therein.

<sup>48</sup> As I have previously noted, see *supra* note 15, Section 16(b) separately requires executives to disgorge "short-swing" profits obtained from a purchase and sale of the company's stock during a six-month period, see 15 U.S.C. § 78p(b). It might be argued, then, that any differences in Goldman executives' unwinding activity identified here could be attributable to restrictions on short-swing trading rather than Section 16's disclosure requirements. For three reasons, however, the application of Section 16(b)'s restrictions on short-swing profits is unlikely to have an effect on the unwinding activity of Goldman's partners. First, the partners receive the bulk of their shares of Goldman stock in the form of stock-based pay, and "in nearly every instance," Peter J. Romeo &

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required to disclose it?

Before proceeding, I note that, because of the partners' agreement, in this case the unloading of *both* executives and non-executives is eventually made public in the schedules described here. But, as previously noted, unloading by Goldman's non-executives has generally not been scrutinized because market participants do not expect that unloading information will be included in filings of the type studied here.<sup>49</sup> By contrast, as noted in Part I, investors closely study Section 16 filings for information on executives' unloading.<sup>50</sup>

To be sure, non-executives at Goldman are likely aware that their unloading will be included in these schedules, and their behavior may be influenced by that knowledge. But, as explained below, notwithstanding any such effects Goldman's Section 16 executives unload much less than their non-executive counterparts. Thus, even where unloading by non-

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Alan J. Dye, Section 16 Treatise and Reporting Guide 1127 § 10.12 (3d ed. 2011), stock-based pay can be structured to be exempt from Section 16(b) pursuant to an SEC rule designed for that purpose, see 17 C.F.R. § 240.16b-3. Second, stock compensation at Goldman is subject to contractual restrictions that make it highly unlikely that shares sold in connection with stock-based pay could generate "short-swing" profits. See, e.g., The Goldman Sachs Group Inc., Form DEF14A (filed April 1, 2010), at 24 (noting that stock-based pay for executives is subject to such restrictions over a period of years exceeding the six-month period covered by Section 16(b)). Third, the schedules used to assemble the dataset studied here, see *supra* note 33, also include disclosure of purchases of shares by all Goldman partners, including both executives and partners not subject to Section 16(b). A comparison of transactions by non-executives revealed no purchases that were associated with matching sales that would have implicated Section 16(b) had the partner been an executive.

<sup>49</sup> See *supra* note 35 (noting that these filings have not been the focus of analyst reports describing Goldman shares or public information on insider ownership).

<sup>50</sup> See, e.g., George Benston & Robert L. Hagerman, Determinants of Bid-Asked Spreads in the Over-the Counter Market, 1 J. Fin. Econ. 353, 359 (1974) (market-makers expand bid-ask spreads based in part on frequency of Section 16 disclosure).

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executives is subject to some disclosure, Section 16 is associated with lower levels of unloading.

**1. Unloading and Section 16.** For partners who have served as one of Goldman's Section 16 executives, the data include information *both* on unloading in years in which the partner was subject to Section 16 and years in which the partner was not. Table IV below compares unloading by the same individual partners for years in which that partner's unloading was required to be disclosed under Section 16 and years in which it was not:

	Disclosure Years	Non-Disclosure Years
Average Shares Unloaded	34,028	149,497***
Average Cash Proceeds From Shares Unloaded	\$4,276,596	\$16,766,667***

TABLE IV. UNLOADING AND DISCLOSURE<sup>51</sup>

Table IV shows that the application of Section 16's disclosure rules is associated with lower levels of unloading. The data show that, for the *same individual partners*, unloading varies significantly depending on whether the partner is subject to Section 16's disclosure mandate. Econometric analysis permits further testing of these findings, including controls for individual-partner fixed effects.<sup>52</sup> The results in Table IV are robust to those tests.<sup>53</sup>

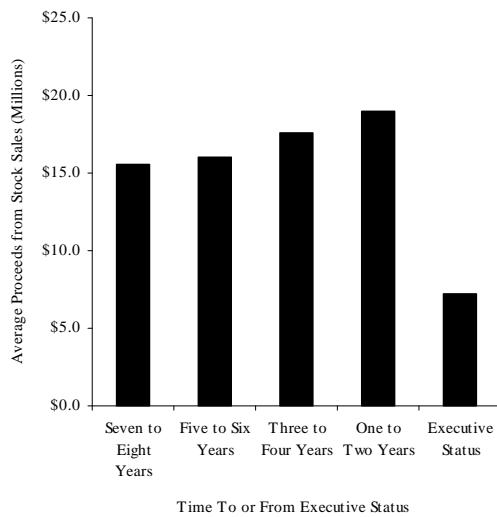
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<sup>51</sup> “Shares unloaded” refers to the sum of the number of shares of stock the partner sold and the number of options the partner exercised. Indicia of significance refer to a dummy variable for whether the partner was designated as a Section 16 executive in a regression also controlling for year and firm size.

<sup>52</sup> In this context, individual-partner fixed-effects tests permit comparison of unloading activity for an individual partner depending on whether the partner is, in a given year, an executive subject to Section 16. The approach thus permits us to control

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**2. Anticipatory unloading.** To the extent that managers are able to anticipate that they will become subject to Section 16 in the future, they may respond by unloading ahead of time. A closer look at the data suggests that the partners may anticipate the application of Section 16. Figure I summarizes the average proceeds from stock sales for partners who served as Section 16 executives based on the number of years until, or after, years in which the partner was a Section 16 executive:



**FIGURE I: UNLOADING IN ANTICIPATION OF DISCLOSURE**

Figure I shows that unloading increases as the partner gets closer to the Section 16 spotlight.<sup>54</sup> Anecdotal evidence on individual executives is

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for all stable characteristics of the individual partners, preventing those characteristics from biasing analysis of the relationship between disclosure and unloading activity. See, e.g., Paul D. Allison, *Fixed Effects Regression Methods for Longitudinal Data* (2005).

<sup>53</sup> See *infra* Appendix at 45 & tbl. VIII.

<sup>54</sup> Because unloading in the years after a manager's designation as a Section 16 executive may be influenced by proximity to retirement, I recalculated the estimates in

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consistent with that finding.<sup>55</sup> Thus, the data suggest that Goldman's managers anticipate the application of Section 16, diversifying during periods when unloading will not be disclosed.<sup>56</sup> On the whole, the evidence suggests that disclosure rules influence unloading by Goldman's executives.

It may be the case, however, that executives would unload less even if they were not required to disclose it. For example, there may be cultural norms dictating that managers selected as Section 16 executives should not sell the stock of their firms. If true, this hypothesis would suggest that disclosure does not influence executives' unloading activity. To analyze this possibility, I compared unloading by members of Goldman's management committee, who exercise a similar leadership role to that of executives, with unloading by Goldman's Section 16 executives.<sup>57</sup> Table V below summarizes this comparison:

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Figure I including only data from years before the manager was designated an executive. The recalculated trend was consistent with the trend in Figure I.

<sup>55</sup> For example, the firm's current chief executive officer was not designated an executive until 2002. In 2000 and 2001, his diversification activity generated more than \$62 million in proceeds. While a Section 16 executive from 2002 to 2009, by contrast, the schedules examined here revealed only \$40 million in proceeds.

<sup>56</sup> Because Section 16 requires disclosure of an employee's overall equity holdings when she is designated as an executive, the diversification-related benefits of anticipatory unloading may be mitigated by the costs associated with disclosing lower levels of overall holdings. Note, however, that Section 16 does not require disclosure of the relationship between the executive's holdings and her overall wealth. Thus, it may be difficult for observers to infer from disclosure of the executive's overall holdings whether those holdings were reduced by unloading in anticipation of Section 16.

<sup>57</sup> See *supra* note and text accompanying note 32 (noting that the committee oversees the firm's operations and that all of Goldman's executives sit on the committee).

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	Management Committee Members Subject to Disclosure	Management Committee Members Not Subject to Disclosure
Average Shares Sold	60,327	81,906***
Average Proceeds	\$7,223,632	\$9,502,678***

**TABLE V. LEADERSHIP ROLES AND UNLOADING<sup>58</sup>**

The data show that, on average, management committee members unload at significantly higher rates than Section 16 executives do. These managers are all in similarly senior management roles, but only executives are required to disclose their unloading. When I subject these findings to econometric analysis controlling for differences in the partners' ownership stakes, I find that the results in Table IV are robust to those controls.<sup>59</sup>

On balance, the evidence suggests that cultural norms related to executives' leadership roles cannot fully explain the differences between unloading by executives and unloading by other senior Goldman managers. Instead, disclosure itself is associated with less unloading.

### **III. IMPLICATIONS FOR POLICYMAKERS AND INVESTORS**

The use of stock-based pay to improve the incentives of managers at financial institutions, and at public companies more broadly, has drawn considerable recent attention from lawmakers. The evidence presented in this Essay suggests that managers unload most of their stock-based pay—but that managers required to disclose unload much less.

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<sup>58</sup> Indicators of significance refer to a dummy variable indicating whether the partner was a Section 16 executive in a particular year in a regression also controlling for year, firm size, and the partners' seniority.

<sup>59</sup> See *infra* Appendix at 47 & tbl. IX.

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This Part describes implications of these findings for current policy debates over the use of stock compensation. The evidence offers two important lessons for the regulators who must now monitor banker pay. First, these regulators should require banks to report detail on bankers' equity holdings, taking into account the effects of unloading, rather than the amounts of stock-based pay the bankers receive. Second, the regulators should be wary that Section 16's disclosure rules will cause bank executives to accumulate large, undiversified holdings of company stock, potentially encouraging them to pursue excessive risk.

To the extent that unloading at Goldman is indicative of unloading at public companies more generally, shareholders and lawmakers who seek to make stock compensation more effective at aligning incentives should consider disclosure as a mechanism for limiting unloading. And lawmakers may need to reconsider the boundaries of Section 16 in light of the relationship between disclosure and unloading activity.

Before proceeding, it bears repeating that, because the evidence presented in this Essay is limited to one firm, there is reason for caution in extending its conclusions to other public companies. But the evidence suggests that the lessons of these data may apply with at least equal force at other firms. Even at Goldman, which imposes unusual contractual limits on unloading, stock-based pay is quickly unloaded; thus, stock compensation is likely unloaded even more quickly at public companies that do not limit unloading by contract. And even at a firm that provides some public information about unloading by non-executives, managers unload less when they are subject to Section 16 than when they are not. We would expect the effects of disclosure to be even more pronounced at those public companies where non-executives are never required to disclose unloading. Although further study is needed before implications can be drawn for other public companies, there is reason to expect that the dynamics uncovered here are not limited to Goldman Sachs.

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### A. Banker Incentives

Federal regulators have been given the difficult task of monitoring banker incentives in the wake of the financial crisis. To the extent that the evidence at Goldman is indicative of the practices of other large financial institutions,<sup>60</sup> the evidence presented here offers these regulators two potential insights about stock-based pay at these firms.

**1. Regulatory analysis of incentives.** Federal regulators have repeatedly emphasized the importance of incentives for bankers and traders outside the group of executives.<sup>61</sup> This emphasis may reflect the fact that many of the employees responsible for risktaking that contributed to the crisis were not executives. For example, none of the traders at American International Group's Financial Products division, the unit that contributed to the insurer's decline, was an executive. Perhaps taking their cues from the crisis itself, regulators have for the first time looked to the incentives of non-executives in their efforts to supervise bankers' pay.

New legislation requires large banks to report "the structures of all incentive-based compensation arrangements" to these regulators.<sup>62</sup> To implement this directive, a group of federal agencies recently proposed

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<sup>60</sup> Goldman is among the world's most well-known financial institutions, and its compensation practices, including the application of contractual unloading restrictions to non-executives, appear to have influenced the practices of other major financial institutions. Compare The Goldman Sachs Group Inc., *supra* note 34 (describing requirement that certain senior managers retain 75% of the shares they receive in stock-based pay) with Citigroup, Inc., Schedule 14A (March 12, 2010), at 16 (noting members of Citigroup's senior management are required to "retain at least 75% of the equity awarded to them as incentive compensation").

<sup>61</sup> See, e.g., Office of the Comptroller of the Currency, et al., Guidance on Sound Incentive Compensation Policies, at 8 (2010); see also Alvarez, *supra* note 1, at 3.

<sup>62</sup> Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376, § 956(a) (2010).

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rules that would require banks to provide “narrative” descriptions of compensation for non-executives.<sup>63</sup> The reports would tell regulators whether bankers are paid in stock, but would provide no information about their unloading activity.

The evidence from Goldman suggests that such descriptions will not give regulators a full picture of banker incentives. Non-executives, the evidence suggests, are likely to unload most of their stock compensation, and indeed unload far more than the bank executives that have been the focus of previous empirical study.<sup>64</sup> The influence of stock-based pay on incentives, we have seen, depends on whether it leads to an increase in a manager’s overall equity holdings *after* taking unloading into account. To the extent regulators seek to understand the incentives of the non-executive traders who take risk at large banks, they should require financial firms to report these managers’ overall holdings of company stock.<sup>65</sup>

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<sup>63</sup> Office of the Comptroller of the Currency, Department of the Treasury, et al., Proposed Rule, Incentive-Based Compensation Arrangements (Feb. 4, 2011), at 26, available at <http://www.fdic.gov/news/board/2011rule2.pdf> (last accessed Feb. 14, 2011).

<sup>64</sup> See, e.g., Bebchuk et al., *supra* note 13, at 260 (documenting “large” amounts of unloading of stock-based pay by executives at Bear Stearns and Lehman Brothers); Bhagat & Bolton, *supra* note 13 (same, across a broader group of firms). The evidence presented in this Essay suggests that non-executives at those firms likely engaged in even more unloading than the executives subject to Section 16’s disclosure requirements.

<sup>65</sup> It might be argued that regulators could simply assume, consistent with portfolio theory, that bankers will unload to the extent permitted by contract. At Goldman, however, the partners as a whole currently hold more shares than is required by their agreement. See The Goldman Sachs Group Inc., Schedule 13D/A, Amendment No. 74 (November 29, 2009) at 1, 11 (noting that, although Goldman’s contractual restrictions required the partners to own 3.3 million shares as of the end of 2009, at that time the partners owned more than 16.2 million shares). Thus, a uniform prediction that bankers will unload to the extent that doing so is permitted by contract will not give regulators a full picture of the incentive effects of stock-based pay.

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The design of these reporting requirements, however, should draw on our understanding of the effects of disclosure on incentives. The signals produced by Section 16's highly salient public disclosures, we have seen, are associated with lower levels of diversification activity. That result may well be consistent with the policy considerations that motivated the drafters of Section 16. By contrast, bank regulators may not wish to facilitate signaling of this kind, which may encourage non-executives to hold undiversified portfolios of the bank's stock.

Importantly, regulators are in a position to keep information about bankers' overall equity holdings confidential.<sup>66</sup> Thus, there is relatively little risk that these reports will send costly signals to markets, for example by suggesting that managers have unfavorable inside information. Instead, the information can be used solely for fulfilling the regulators' task of monitoring bankers' incentives.<sup>67</sup>

**2. Risktaking by bank executives.** It is now well-accepted that, for at least two reasons, shareholders in large banks prefer that the bank take excessive risk. First, shareholders capture the full upside from such risk-taking, while some of the downside of bank failures is borne by the government, both as an insurer of deposits and as a provider of bailout financing. Second, shareholders do not internalize costs related to the systemic effects of bank failures.<sup>68</sup> Thus, bank shareholders do not internalize all of the costs of the bank's risktaking activity.

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<sup>66</sup> Office of the Comptroller of the Currency, *supra* note 56, at 28 (the regulators will "maintain the confidentiality of [information requested under their authority to regulate incentives at financial institutions], and the information will be nonpublic").

<sup>67</sup> The regulators could also keep this information confidential inside the firm to avoid transmitting signals among bankers and their colleagues. See *id.*

<sup>68</sup> See generally Lucian Bebchuk & Holger Spamann, *Regulating Bankers' Pay*, 98 Geo. L.J. 247, 284-85 (2010).

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Based upon these insights, in the short time since the crisis an extensive literature has emerged on optimal incentives for bank executives.<sup>69</sup> Although proposals for improving banker incentives vary considerably, most commentators agree that, because shareholders prefer that the bank take socially excessive risk, there is some danger in requiring bank executives to hold large amounts of the firm's stock. The problem is that these holdings give bank executives, like shareholders, reason to prefer that the bank take too much risk.

The evidence presented here suggests that Section 16 exacerbates this problem. If disclosure rules discourage bank executives from unloading, they will hold large, undiversified positions in their employer's stock, encouraging them to pursue excessive risk.<sup>70</sup> Indeed, many have

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<sup>69</sup> Id. (to address bank shareholders' incentives to pursue excessive risk, regulators should require that bank executives' compensation depend both on the value of the firm's equity and the value of its debt); Jeffrey R. Gordon, Executive Compensation and Corporate Governance in Financial Firms: The Case for Convertible Equity-Based Pay 2 (2010) (unpublished manuscript, on file with author) (executives' undiversified exposure to financial institutions' stock gave them reason to pursue excessive risk and resist needed recapitalizations); Frederick Tung, Pay for Banker Performance: Structuring Executive Compensation for Risk Regulation, 105 Nw. U. L. Rev. \_\_ (2011) (bank executives should be compensated in subordinated debt of their firms, which is repaid only after depositors and general creditors are repaid in full); see also Richard Squire, Shareholder Opportunism in a World of Risky Debt, 123 Harv. L. Rev. 1152, 1202 (2010) (costs related to shareholders' preference for correlation between asset values and contingent liabilities are exacerbated by stock-based pay).

<sup>70</sup> In light of the evidence that Goldman's partners unload in anticipation of the application of Section 16, see *supra* text accompanying notes 53-54, it might be argued that such unloading diversifies executives' portfolios, reducing executives' incentives to seek out excessive risk. While anticipatory unloading may indeed have this effect, the extent to which managers can diversify before becoming executives is limited by Section 16's requirement that newly appointed executives immediately disclose their overall stock ownership, see *supra* note 56. Moreover, even if a manager succeeds in fully

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argued that, during the financial crisis, bank executives with concentrated stock holdings resisted steps that, while bad for bank equityholders, might have reduced the systemic consequences of the crisis.<sup>71</sup> At public companies generally, Section 16's effects on managerial incentives may well be laudable. At banks, however, federal regulators should be wary that Section 16 has the unintended consequence of encouraging executives to hold dangerously undiversified positions in the stock of large financial firms.<sup>72</sup>

Taken together, these findings suggest that regulators should pay close attention not only to *whether* bankers' incentives are disclosed, but *to whom*. On the one hand, disclosure of non-executives' equity holdings to regulators may provide critical information on the incentives of risk-takers at large financial institutions. On the other, disclosure of executives' unloading activity to the public may lead executives to hold undiversified portfolios that lead to excessive risk-taking. Regulators should carefully

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diversifying away her exposure to the company's stock before her appointment as an executive, her receipt of stock-based pay, in tandem with the disclosure requirements of Section 16, may lead to a substantially undiversified position, giving rise to incentives to take excessive risk. See *supra* note 55 (noting that, despite substantial unloading before his appointment as an executive, Goldman Sachs's chief executive officer has accumulated a substantial position in the company's stock).

<sup>71</sup> See Gordon, *supra* note 61, at 2 ("[T]he critical point from the perspective of systemic risk mitigation was that [as] firms ran into financial difficulty, the[ir] executives' large equity stakes created an ever-widening gap between their interests and the interests of non-managerial shareholders (as well as the social interest).").

<sup>72</sup> Of course, executives might not hold undiversified positions of this kind if they were simply paid in cash rather than stock. Shareholders prefer that executives be paid in stock, however, and regulators have indicated that they look favorably upon stock-based pay for financial-institution executives. See Office of the Comptroller of the Currency, *supra* note 65, at 44. To the extent that stock compensation remains a standard feature of banker pay, the evidence presented here shows that regulators should be wary of the effects of Section 16 on executives' freedom to diversify.

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consider these effects when designing the disclosure rules that govern bankers' incentives.

### B. Incentives at Public Companies

To the extent that unloading at Goldman is indicative of unloading at public companies more generally,<sup>73</sup> the evidence presented here offers lessons for investors and lawmakers seeking to make stock-based pay more effective at aligning incentives. Most stock compensation at large public companies is given to non-executives. The evidence from Goldman suggests that non-executives unload most of their stock-based pay. The data also, however, point to disclosure as a potentially important new mechanism for counteracting managers' tendency to unload.

In addition, the evidence suggests that Section 16 has an important and overlooked effect on incentives. By encouraging managers to hold a concentrated position in the company's stock, Section 16's disclosure rules may influence the relationship between ownership and control at all public firms. To the extent that the rules have this effect, lawmakers should reconsider their boundaries to ensure that they capture information

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<sup>73</sup> Particularly because there is some evidence that industry structure influences compensation practices and incentives, see, e.g., Antonio Falato & Dalida Kadyrzhanova, *Optimal CEO Incentives and Industry Dynamics* 7 (2007) (unpublished manuscript, on file with author) (firm and industry heterogeneity affect the optimal level of CEO incentives), the evidence from Goldman may be more indicative of pay practices at other banks than at other public firms more generally. However, as I have previously noted, Goldman is unusual among public companies in that it contractually restricts unloading and features disclosure of unloading by non-executives—yet the evidence shows that its employees quickly unload stock-based pay and unload less when they are required to disclose. These dynamics may be even more prevalent at most other public firms; in general, these firms neither contractually limit unloading nor require disclosure of unloading by non-executives.

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on unloading only for those managers for whom stock ownership is an effective incentive alignment device.

**1. Disclosure and incentive alignment.** Several commentators have recently criticized managers' freedom to unload stock compensation. They argue that unloading undermines the incentive benefits that stock-based pay could otherwise confer upon shareholders.<sup>74</sup> Although paying employees in stock rather than cash may have benefits unrelated to incentives,<sup>75</sup> these commentators claim that public companies instead use stock-based pay as camouflage, convincing shareholders that managers' and owners' interests are aligned while allowing employees to unload.<sup>76</sup> Thus, they have encouraged shareholders to pressure corporate boards to restrict unloading by contract.<sup>77</sup>

The evidence from Goldman suggests that disclosure may be an alternative mechanism for limiting unloading. Although disclosure is a comparatively blunt tool, it may have some advantages over contractual arrangements that restrict unloading, which, as other commentators have noted, appear to be expensive to negotiate and enforce.<sup>78</sup> Thus, shareholders seeking to align manager and owner incentives could advocate that companies disclose non-executives' unloading.<sup>79</sup> This

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<sup>74</sup> See, e.g., Bebchuk & Fried, *supra* note 10, at 1923.

<sup>75</sup> These benefits include, for example, preservation of the firm's liquidity, reducing costs of capital related to adverse selection, and corporate tax benefits. See *supra* note 11 and sources cited therein.

<sup>76</sup> See, e.g., Lucian Bebchuk & Jesse Fried, *Pay Without Performance* 178 (2004) (describing the "inconspicuous diversification benefits" obtained by unloading).

<sup>77</sup> See, e.g., Bebchuk & Fried, *supra* note 6, at 1928.

<sup>78</sup> See Schizer, *supra* note 10, at 461 (describing public reports noting that stock-ownership requirements are frequently not enforced at large public companies).

<sup>79</sup> It might be argued that, rather than provide such disclosure, boards of directors will simply opt to pay non-executives in cash rather than stock. Note, however,

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information would allow investors to evaluate whether stock-based pay aligns managers' and owners' interests—or serves as camouflage, as its critics contend.<sup>80</sup>

Moreover, disclosure of non-executives' unloading would permit directors and shareholders alike to meaningfully monitor incentives. Within a particular firm, directors could better assess whether contractual restrictions on unloading are calibrated appropriately, leaving employees with the portfolio of company stock that is optimal from shareholders' perspective. In addition, investors could compare unloading across firms to determine whether employees at competing companies have comparable incentives to maximize firm value.

To the extent that shareholders lack incentives to insist that directors require disclosure of this type,<sup>81</sup> lawmakers convinced of the need for mandatory rules could consider two modifications to existing law. First, securities rules already require public companies to disclose detailed information on company-wide stock compensation, including the total amount of stock paid to all employees.<sup>82</sup> The rules do not, however, require disclosure of the employees' unloading.<sup>83</sup> Such disclosure is

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that directors commonly pay executives in stock despite the fact that executives' unloading is subject to Section 16's rigorous disclosure regime.

<sup>80</sup> Of course, to the extent that shareholders of public-company banks pursue this disclosure, banking regulators should pay careful attention to the influence of disclosure on bankers' undiversified holdings of company stock. See *supra* Part III.A.2.

<sup>81</sup> For the seminal discussion on the limitations of shareholder oversight in public companies, see John C. Coffee, Jr., *Liquidity Versus Control: The Institutional Investor as Corporate Monitor*, 91 Colum. L. Rev. 1277, 1281 (1991).

<sup>82</sup> See, e.g., 17 C.F.R. § 229.201(d)(1) (requiring disclosure of, *inter alia*, the number of securities issuable to employees pursuant to equity compensation plans and the weighted-average exercise price of outstanding options).

<sup>83</sup> While it is possible to estimate the number of options exercised each year by non-executives with information that must be provided under current disclosure rules, see

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unlikely to be administratively expensive<sup>84</sup> and may offer shareholders valuable information about the effectiveness of stock-based pay. Second, the major securities exchanges have long required that shareholders vote to approve stock compensation plans.<sup>85</sup> These rules force companies to disclose the terms of the plan but not restrictions on unloading. Requiring firms to disclose such restrictions—or the lack thereof—might give shareholders important information on the value of stock-based pay.

Of course, there would also be costs to forcing non-executives to hold concentrated positions in public companies' stock. For one thing, we can expect these employees to demand higher wages to compensate for the additional risk these arrangements would require them to bear. There may be firms in which these costs outweigh the incentive-related benefits of managerial stock ownership. For firms in which the benefits of incentive alignment outweigh these costs, however, the evidence presented in this Essay suggests that disclosure may offer an effective means of restricting unloading.

**2. Scope of Section 16.** Section 16 requires public firms to identify a few top “executives” and publicly disclose their unloading. The provision, developed as part of the Securities and Exchange Act of 1934, was influenced by a model of industrial organization that was prominent at

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Core & Guay, *supra* note 11, at 278, these disclosures provide no information on the number of shares sold by this group of employees, making it impossible to evaluate unloading activity.

<sup>84</sup> Most firms are party to stock compensation agreements that permit low-cost monitoring of unloading of shares and options acquired in connection with stock-based pay. See, e.g., Schizer, *supra* note 10, at 449.

<sup>85</sup> See, e.g., New York Stock Exchange, NYSE Listed Company Manual § 303A(8), available at <http://www.nyse.com/pdfs/finalcorpgovrules.pdf> (last accessed July 8, 2011).

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that time.<sup>86</sup> In this model, a few managers exercise centralized control over public-company resources. This model may not reflect the distribution of control at public companies today.<sup>87</sup> Yet the evidence presented here suggests that the model continues to influence the link between ownership and control in large public companies.

To the extent that Section 16's disclosure rules are underinclusive, failing to capture managers who exercise control, the rules will not deter these managers from unloading. To be sure, firms could simply limit unloading by these managers by contract. And contract may offer the important advantage of allowing managers to engage in the amount of unloading that is optimal for the particular manager and firm. But, as noted above, there is evidence that these contracts may be costly to develop and enforce.<sup>88</sup> Disclosure may offer a lower-cost means of aligning shareholder and manager interests.

To the extent that Section 16 is overinclusive, it may deter unloading by managers for whom stock-based pay is not an effective means of aligning incentives.<sup>89</sup> Thus, the rules may impose unnecessary costs on shareholders, who will be forced to compensate the manager for

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<sup>86</sup> See supra text accompanying notes and notes 24--26(describing the influence of Berle and Means's observations on the drafters of Section 16).

<sup>87</sup> To draw one example from the case studied in this Essay, Goldman Sachs's organizational structure suggests that its management committee exercises control over the firm's resources. See supra text accompanying note 32. Fewer than half of the thirty members of the committee, however, are executives subject to Section 16.

<sup>88</sup> See supra note 10 and sources cited therein (describing reports that policies requiring executives to own minimum specified amounts of the firm's stock are rarely enforced and require relatively low levels of stock ownership).

<sup>89</sup> Although the decision as to which managers will be deemed executives is generally left to firms, see supra note and text accompanying note 18, the rules specify some roles in large public companies that are required to be included within Section 16's scope, see Securities and Exchange Commission, *supra* note 19, at 7242.

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holding a large stake in the company even though the incentive-related benefits of that stake are limited.<sup>90</sup>

For present purposes, it is not important whether the scope of Section 16 accurately reflects the distribution of control at all public companies. What is important is that, to the extent that its disclosure rules discourage unloading, choices about the scope of Section 16 are likely to have implications for incentive alignment at public companies. Thus, lawmakers should reassess the scope of Section 16 in light of these implications. Of course, any such assessment should consider Section 16's traditional role as a means of regulating insider trading.<sup>91</sup> In particular, the rules may provide market participants with an important source of information about insiders' views of the firm's value.<sup>92</sup> The proposed

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<sup>90</sup> It might be argued that the firms could simply choose to compensate these executives in cash rather than stock to avoid creating a portfolio of shares that will be costly for the manager to diversify. But the decision not to pay the manager in shares will, like unloading, itself be subject to disclosure, and the firm and manager would risk signaling and reputational costs similar to those that arise in connection with unloading.

<sup>91</sup> Many commentators have forcefully argued that, because none of its provisions turns on the use or possession of material nonpublic information, Section 16 is an ineffective deterrent to insider trading. See, e.g., Robert C. Clark, *Corporate Law* 264 (1986), § 8.6, at 295. Whether or not Section 16 provides valuable regulation of insider trading activity, however, the evidence presented here suggests that its disclosure provisions have important implications for managerial incentives.

<sup>92</sup> The literature is divided with respect to whether disclosures of this kind provide markets with valuable information that contributes to efficient securities prices. For the seminal empirical work concluding that insider trading carries unique informational value, see Myron Scholes, *The Market for Securities: Substitution Versus Price Pressure and the Effects of Information on Share Prices*, 45 J. Bus. 179, 180 (1972). With respect to Section 16 disclosures in particular, compare Ji-Chai Lin & Michael S. Rozeff, *The Speed of Adjustment of Prices Private Information: Empirical Tests*, 18 J. Fin. Res. 143 (1995) (empirical tests suggest that insider trading conveys important information to markets) with Joseph Lakonshek & Immoo Lee, *Are Insider Trades*

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reassessment, however, would focus not on whether managers are “executives” but instead whether they actually exercise control over the corporation. Thus, lawmakers should be able to preserve the information-production benefits of Section 16 while also considering the potential effects of its disclosure rules on managerial incentives.<sup>93</sup>

**IV. CONCLUSION**

The federal regulators who oversee banker pay have come to appreciate the importance of incentives for bankers beyond the small group that pre-crisis rules identify as “executives.” Although these non-executive managers and traders receive much of their pay in the form of stock, little is known about whether they unload. And no previous empirical study has analyzed the effects of disclosure rules on unloading.

This Essay has presented the first empirical study of unloading by all of the senior managers of a large financial firm. The study shows that bankers paid in stock quickly unload. The data also show that bankers unload much less in years in which they are required to disclose than in years in which they are not.

To the extent that bankers at other firms unload in the same way—and there is good reason to believe that they do—regulators need to adjust. First, their current focus on raw stock compensation is incomplete. To understand incentives, what regulators really need is information about

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Informative?, 14 Rev. Fin. Stud. 79, 107 (2001) (empirical tests suggest that insider trading does not convey meaningful price signals).

<sup>93</sup> The SEC last considered the scope of Section 16 in 1992, see Securities and Exchange Commission, *supra* note 19, at 7,242. In determining the scope of the rules, the Commission did not include incentive alignment among the considerations that firms should use in determining whether a particular manager should be included among the group of executives. See *id.*

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bankers' overall equity holdings, including the effects of unloading. And the regulators should be wary that Section 16 may induce bank executives to have dangerously concentrated positions in their bank's stock, which encourages excessive risktaking. More generally, investors and lawmakers should consider that disclosure may be an effective alternative to contract as a mechanism for limiting unloading. And regulators should reconsider the boundaries of Section 16, requiring disclosure only for managers for whom stock ownership is an effective means of aligning incentives.

The evidence presented here also points toward broader insights about stock-based pay that go beyond the work of bank regulators. Previous scholarship has argued that unloading at the lower levels of the firm may help convey operational information to executives.<sup>94</sup> For example, high levels of unloading in a single division may tell a large firm's executives something about the division's performance or future prospects. Similarly, unloading by mid-level managers may also serve a useful internal-governance function, as managers who unload less than their colleagues may thereby reveal their commitment to the firm. This may be especially important at firms, like banks, in which the decisions of lower-level managers can result in significant destruction of firm value. Further empirical study is needed to evaluate these hypotheses. This Essay has, however, offered a first glimpse of what can be learned by studying unloading throughout the firm's managerial hierarchy.

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<sup>94</sup> See, e.g., Henry G. Manne, *Insider Trading: Hayek, Virtual Markets, and the Dog that Did Not Bark*, 31 Iowa J. Corp. L. 167, 174 (2005); see also Huddart & Lang, *supra* note 13, at 4.

*Stock Unloading and Banker Incentives***APPENDIX****I. Data**

Because they collectively own more than 5% of the stock of their firm, the partners of Goldman Sachs are required to file schedules under Section 13(d) of the Securities Exchange Act of 1934.<sup>95</sup> The partners filed their first Schedule 13D in 1999 and amended it 74 times during the period studied here. All seventy-five filings used to assemble the dataset are available on the Securities and Exchange Commission website, and all of the data used in this study are available upon request.

**A. Dataset Assembly**

**1. Unloading.** Data on unloading transactions were drawn by hand from the partners' Schedule 13D and subsequent amendments. To avoid errors in attributing transactions to partners, I excluded transactions involving trusts, such as those established to settle litigation or divorce proceedings, and transactions conducted by groups of partners. These exclusions involved less than 5% of all transactions described in the filings during my sample period. Until mid-2004 the filings included transactions by both partners and non-partner employees called managing directors. For consistency across the entire ten-year sample, I excluded transactions by managing directors from the dataset.

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<sup>95</sup> 15 U.S.C. § 78m(d) (2011). Section 13(d) requires a report to be filed by any “person” owning more than five percent of a registered equity security, and an amendment to be filed upon any material change in the facts underlying the report, id. § 78m(d)(2); two or more persons acting as a group “for the purpose of acquiring, holding, or disposing of” the security are deemed a single “person,” id. § 78m(d)(3). The partners own more than 5% of Goldman’s stock and act as a group with respect to its disposition, so they are required to file a Schedule 13D. The firm knew that the agreement would implicate Schedule 13D; the agreement itself anticipates the disclosures. Goldman Sachs Group, Inc., Shareholders’ Agreement § 6.3(a), in The Goldman Sachs Group, Inc., Amendment No. 2 to Form S-1 Ex. 10-26 (Apr. 30, 1999).

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The partners' Schedule 13D must be amended “[i]f any material change occurs in the facts set forth in the [prior] Schedule 13D,” “including, but not limited to, any material increase or decrease in the percentage” of their ownership.<sup>96</sup> The schedules include “any [unloading] transactions” “that were effected during the past sixty days or since the most recent filing on Schedule 13D, whichever is less.”<sup>97</sup> The 60-day limitation results in the exclusion of some unloading that occurs after one amendment but less than sixty days before the next.

A comparison between the schedules and the Section 16 information filed for the firm's executives showed that the dataset included approximately 70% of the executives' unloading during the sample period.<sup>98</sup> Thus, the dataset likely omits some unloading transactions, and therefore underestimates the total number of shares unloaded by the partners as a whole. It is unlikely, however, that these omitted transactions bias analysis of the relationship between stock-based pay and unloading.<sup>99</sup> There is also no reason to expect that these omissions bias the dataset with respect to the relationship between disclosure and unloading activity. As a check, however, I recalculated my analysis of that relationship using Section 16 data (which includes all transactions) for periods during which the partners served as executives, but Schedule 13D

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<sup>96</sup> 17 C.F.R. § 240.13d-2(a).

<sup>97</sup> Securities and Exchange Commission, Form of Schedule 13D, Item 5.

<sup>98</sup> For purposes of this analysis, the Section 16 data were drawn from the proprietary Thomson Reuters dataset. See Thomson Reuters, Insider Filings—Table 1, Stock Transactions, available at <http://wrds.wharton.upenn.edu>.

<sup>99</sup> To the contrary, periods during which partners simultaneously receive stock-based pay and unload might be particularly likely to be omitted from the dataset, because the offsetting transactions might yield no “material increase or decrease in the percentage” of the partners' ownership, see *supra* text accompanying note 91. Thus, the finding that greater levels of stock-based pay is associated with higher levels of unloading included in the dataset is particularly striking.

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data (which omits some transactions) for periods during which the partners did not serve as executives. Although this approach necessarily biases the analysis against the hypothesis that disclosure is associated with lower levels of unloading (because Section 16 data include all transactions while Schedule 13D disclosures do not), the results were unchanged.

**2. Partner characteristics.** Detail on the number of years each individual has been a partner was drawn by matching the partners listed in Schedule 13D to the partners identified in the signature pages of the partners' initial agreement<sup>100</sup> or the firm's biannual announcements of partnership elections.<sup>101</sup> The members of the management committee were identified by reference to the list published on the firm's website.<sup>102</sup> Section 16 executives were identified from the firm's annual reports.<sup>103</sup> Because unloading activity may be influenced by the proximity of a partner's retirement, I created a separate variable approximating the number of years until the partner's retirement.<sup>104</sup> The results described below were unchanged when I controlled for this variable.

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<sup>100</sup> See Original Shareholders' Agreement, *supra* note 29, at 26–32.

<sup>101</sup> See, e.g., The Goldman Sachs Group, Inc., Goldman Sachs Announces New Partnership Pool (Oct. 18, 2000), available at <http://www2.goldmansachs.com/our-firm/press/press-releases/archived/2000/2000-10-18.html> (last accessed July 20, 2011).

<sup>102</sup> See The Goldman Sachs Group, Inc., Leadership, available at <http://www2.goldmansachs.com/our-firm/our-people/leadership/management-committee.html> (last accessed July 31, 2011).

<sup>103</sup> See, e.g., The Goldman Sachs Group, Inc., Form 10-K (2001), at 24, available at <http://sec.gov/Archives/edgar/data/886982/000095012302001815/y57552e10-k405.htm#013> (February 2, 2002).

<sup>104</sup> The variable measures the number of years remaining until the individual no longer appears on the firm's Schedule 13D. This variable is an imperfect proxy for partners' actual retirement because some Goldman managers who lose their status as partners remain employed by the firm, see Susanne Craig, *At Goldman, Partners Are Made, and Unmade*, N.Y. Times, Sept. 12, 2010, at A1. This phenomenon appears to be relatively rare, however. See *id.*

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## B. Estimated Variables

**1. Individuals' stock compensation.** Schedule 13D specifies the number of shares delivered, or options vested, for the partners as a group in respect of previously granted stock-based pay. I estimate the pay received by each partner by allocating the shares and options received by the entire group to individuals. According to the firm's compensation policies, members of its management committee receive the highest proportion of their compensation in stock-based pay.<sup>105</sup> Thus, in allocating shares and options received by all partners, I weigh the firm's executives and management committee members most heavily, assuming that these partners receive three shares or options for each share or option received by other partners, who are assumed to receive an equal share.<sup>106</sup>

Because the data only permit approximations of individual partners' stock compensation, as a robustness check I ran the analysis below using a wide range of assumptions about the ratio between the stock-based pay received by executives and management committee members and by other partners. The results described below are robust to any integral ratio greater than one—that is, any assumption under which the number of shares and options received by executives and management committee members is greater than that received by other partners.

It might be argued that an allocation of stock and options favoring management committee members is likely to generate a correlation

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<sup>105</sup> See The Goldman Sachs Group Inc., *supra* note 31, at 3.

<sup>106</sup> I am grateful to compensation consultants and attorneys who suggested this approach during confidential interviews. For filings prior to mid-2004, when non-partner managing directors were included in Schedule 13D, each managing director was also allocated one-third of a share or option for each share or option allocated to partners who were not executives or management committee members.

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between stock-based pay and unloading because the data show that members of the management committee generally unload more than other partners.<sup>107</sup> But the distribution is also weighted toward Section 16 executives, who unload less, which would tend to undermine the relationship.<sup>108</sup> Moreover, these partners represent less than 12% of the partner-years in the sample. On balance, it is unlikely that these estimates bias analysis of the relationship between stock-based pay and unloading.

**2. Individuals' stock ownership.** The Schedule 13D does not reveal individual partners' ownership levels. I constructed an estimate of each partner's ownership based upon public reports of individuals' ownership at the time of the IPO<sup>109</sup> and changes to that ownership during the sample period through receipt of stock compensation (additions) and unloading (subtractions).<sup>110</sup>

No such report is available for partners elected after the IPO, so I use an alternative method for these managers. First, I estimate the average initial ownership for each class of newly elected partners based on changes in the total ownership of all of the partners described in Schedule

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<sup>107</sup> See, e.g., *supra* text accompanying note 40 & tbl. II.

<sup>108</sup> See, e.g., *supra* text accompanying note 51 & tbl. IV.

<sup>109</sup> Susanne Craig, Ben Protess and Evelyn M. Rusli, *The Goldman Sachs Diaspora*, N.Y. Times, May 16, 2011, at B1 (documenting the approximate ownership of each partner at the time of Goldman's IPO).

<sup>110</sup> For purposes of these estimates I treat a share of stock and a stock option each as providing one share of ownership in the firm, and the sale of a share of stock and exercise of an option each as reducing a partner's ownership in the firm by one share. Although options provide less marginal exposure to changes in firm value than shares of stock, see Hall & Liebman, *supra* note 44, at 671--72, since historical option delta at Goldman is approximately 0.9, see *supra* note 44, this difference is unlikely to have a significant effect on my results.

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13D.<sup>111</sup> I then estimate the elected partners' ownership each year using the same method, adding my estimate of the number of shares the partner receives in stock-based pay and subtracting shares the partner unloads.

This estimate of partners' ownership is likely to be imprecise. For one thing, average estimates of the partners' ownership at the time of their election likely under- or over-estimate an individual partner's actual ownership. For another, to the extent that the schedules omit unloading transactions, the ownership variable may overestimate a partner's ownership. These errors may, particularly in the later years in the sample, result in significant over- or underestimation of partners' ownership. Thus, in the analysis described below, I include both the estimated ownership variable and dummy variables controlling for partner seniority in an effort to capture the effect of each partner's ownership on unloading.

## II. Analysis

Below I present the results of econometric analysis that estimates the statistical relationships described in the Essay. Tables VI through IX provide correlation coefficients and measures of statistical significance from ordinary least squares regressions using the panel data described above. Standard errors are given in parentheses. These models, which were chosen for simplicity,<sup>112</sup> include two types of longitudinal controls:

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<sup>111</sup> By comparing the ownership of the entire partnership in the schedule immediately following an election with ownership in the year immediately preceding that election, and subtracting where necessary the estimated ownership of any departed partners, I estimate the average ownership of a newly elected partner. Because there is no evidence that any partner was short Goldman shares during my sample period, I made adjustments to ensure that no partner reached negative levels of ownership.

<sup>112</sup> The results presented here are robust to more extensive models controlling for variables reflecting current and future stock returns, which could capture effects of the partners' expectations about changes in future stock prices on unloading activity. The results are also robust to models separately controlling for changes in the partnership's

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First, models without year fixed effects include controls for year, equity volatility and the firm's changing size (measured as the log of firm assets); second, each table reports the results of a model including year fixed effects.<sup>113</sup> In the tables below, mean values for dependent variables are also given in parentheses.

#### A. Compensation Structure and Unloading

To estimate the relationship between compensation structures that feature more stock-based pay and unloading, I specify a multivariate regression model in which the dependent variable is the number of shares sold by a partner. In models (a) and (b), my analysis is limited to pre-IPO partners; models (c) and (d) include all partners, with separate controls for partner seniority. My analysis is limited to the years 2005-2009 to address potentially confounding effects of unloading restrictions related to the IPO. "Highest Proportion of Pay in Stock" is a dummy variable reflecting whether the partner is on the management committee.<sup>114</sup> All models include a separate control for partner seniority and each partner's estimated ownership of Goldman stock; these variables attempt to capture the effects of a partner's existing inventory of shares on unloading.

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overall level of stock ownership, which may capture changes in the partners' mutual expectations about unloading activity by their colleagues.

<sup>113</sup> In unreported analysis I constructed an alternative dataset, this time consolidating each line of data on a quarterly rather than annual basis. I then repeated each analysis described below, replacing year fixed effects with quarterly fixed effects as a longitudinal control. The results were unchanged.

<sup>114</sup> This variable is of interest because members of the management committee receive a higher proportion of their pay in stock than do other partners, see *supra* note 32 and source cited therein. In addition, because some, but not all, of the members of the management committee are also Section 16 executives, the models below can separately estimate the relationship between the proportion of compensation paid in stock and unloading on the one hand and the relationship between the application of Section 16 and unloading on the other.

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	Shares Sold (37,423) (a)	Shares Sold (37,423) (b)	Shares Sold (11,810) (c)	Shares Sold (11,810) (d)
Highest Proportion of Pay in Stock	24,463** (10,789)	24,711** (10,781)	13,770*** (3,390)	13,773*** (3,392)
Section 16 Executive	-36,054** (14,834)	-36,254** (14,822)	-34,869*** (5,832)	-34,874*** (5,833)
Year Fixed Effects?	No	Yes	No	Yes
Observations	307	307	1,823	1,823
Adjusted R <sup>2</sup>	0.06	0.06	0.16	0.16

TABLE VI. COMPENSATION STRUCTURE AND UNLOADING

### B. Stock Compensation and Unloading

To estimate the relationship between stock-based pay and unloading, I again limit my analysis to the 2005-2009 period and specify a multivariate model in which the total amount of unloading (including both shares sold and options exercised) by the partner is the dependent variable. “Shares Delivered” reflects an estimate of the number of shares given to each partner in stock-based pay. All models include separate controls for partner seniority and the partner’s estimated ownership of Goldman stock.

	Shares Unloaded (11,810) (a)	Shares Unloaded (11,810) (b)
Shares Delivered	0.8*** (0.2)	0.8*** (0.2)
Section 16 Executive	-33,027*** (6,588)	-33,329*** (6,588)
Year Fixed Effects?	No	Yes
Observations	1,823	1,823
Adjusted R <sup>2</sup>	0.18	0.18

*Stock Unloading and Banker Incentives***TABLE VII. STOCK COMPENSATION AND UNLOADING<sup>115</sup>****C. Unloading and Disclosure**

To assess the relationship between unloading and disclosure, I include all ten years in the sample period but limit my analysis to the twenty-three partners who were Section 16 executives for at least one year during that period. The dependent variable in all three models, as in Table VII, is the total number of shares unloaded by each partner in a particular year. “Year Required to Disclose” reflects a dummy variable indicating whether the partner was a Section 16 executive in a particular year. Because certain executives have been subject to additional contractual restrictions on unloading since 2004, all three models include controls for a dummy variable indicating whether the individual partner was subject to these restrictions in a particular year.<sup>116</sup> All models include controls for estimates of each partner’s overall ownership of Goldman shares. Because Goldman discloses the age of its executives, I include separate controls for age in all models. In the final model (c), I code each partner with a separate identifier and control for partner-specific fixed effects.

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<sup>115</sup> In these models, the correlation coefficient for options delivered to each partner is positive but statistically insignificant. When these models are applied to a separate dataset aggregated on a quarterly rather than annual basis, see *supra* note 113, coefficients for both shares delivered and options delivered are positive and statistically significant at the 99% confidence level.

<sup>116</sup> These restrictions require the executives to retain 75% of the shares they receive in stock-based pay. See *supra* note 31 and sources cited therein.

*Stock Unloading and Banker Incentives*

	Shares Unloaded (103,073) (a)	Shares Unloaded (103,073) (b)	Shares Unloaded (103,073) (c)
Year Required to Disclose	-71,893*** (18,492)	-70,661*** (18,439)	-35,776* (20,714)
Year Fixed Effects?	No	Yes	Yes
Individual Partner Fixed Effects?	No	No	Yes
Observations	175	175	175
Adjusted R <sup>2</sup>	0.17	0.18	0.35

**TABLE VIII. UNLOADING AND DISCLOSURE**

#### D. Unloading, Disclosure and Leadership

Below I consider the possibility that the norms associated with executives' leadership positions, rather than disclosure itself, accounts for the relationship between disclosure and unloading. Again I include all ten years in the sample period, but now I include any partner who was a Section 16 executive or member of the firm's management committee during the sample period. The dependent variable in each model is the number of shares sold by the partner in each year.

As in Table VIII, "Year Required to Disclose" reflects a dummy variable indicating whether the partner is a Section 16 executive. Both models include dummy variables reflecting the partners' seniority as well as controls for each partner's overall ownership of Goldman shares.

*Stock Unloading and Banker Incentives*

	Shares Sold (76,143)	Shares Sold (76,143)
Year Required to Disclose	-42,526*** (13,706)	-41,500*** (13,670)
Year Fixed Effects?	No	Yes
Observations	352	352
Adjusted R <sup>2</sup>	0.15	0.16

**TABLE IX. UNLOADING, DISCLOSURE AND LEADERSHIP**