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INTRODUCTION

Year after year, the senior managers of public companies in the U.S. receive a large chunk of their compensation in the form of company equity—stock and options—and year after year, managers exercise options and sell shares. Between the inflow and the outflow is an equity reservoir. It is well understood among economists that managerial incentives are shaped not just by grants of stock and options, but also by their overall holdings in those reservoirs.[1] The size and composition of these holdings are shaped by several factors, including firm choices regarding the amounts and types of equity compensation awarded, time- and sometimes performance-based vesting restrictions on equity awards, and, in the case of stock options, stock price performance, since options will not be exercised unless they are "in the money," that is, unless the current market price of the stock exceeds the price that a manager must pay to exercise the option. In some cases, firms impose explicit contractual equity retention obligations on their managers, as well.

In "*Stock Unloading and Banker Incentives*," Professor Jackson investigates whether public disclosure of stock sales by managers impacts the size of equity holdings.[2] Specifically, Jackson investigates the relationship between public disclosure and the magnitude of dispositions—which he refers to as "unloadings"—but what he is really

* Professor of Law, Maurice Poch Faculty Research Scholar, and Associate Dean for Academic Affairs, Boston University School of Law. I thank Robert Jackson for his Essay, for his insightful comments on this response, and for a number of fascinating and very enjoyable exchanges on this topic.

1. See John E. Core et al., Executive Equity Compensation and Incentives: A Survey, FRBNY Econ. Pol'y Rev., Apr. 2003, at 27.

2. Robert J. Jackson, Jr., Stock Unloading and Banker Incentives, 112 Colum. L. Rev. 951 (2012).

concerned about is the impact of disclosure on the size of the equity reservoirs. Jackson posits that public disclosure of stock sales by company executives subject to the reporting requirements of section 16(a)[3] of the Securities Exchange Act of 1934[4] may deter these individuals from selling, which would increase equity holdings, all else being equal.[5] The reason, in a nutshell, is that dispositions that are driven solely by diversification needs may be misinterpreted by the market, by colleagues, or by the financial press as signaling a lack of confidence in, or commitment to, the firm.

Next, utilizing a unique set of publicly available, but previously ignored data on stock sales by senior managers at Goldman Sachs, Jackson finds support for his theory.[6] He finds that in years in which they are subject to section 16(a) reporting requirements, Goldman executives sell less stock than in years in which section 16(a) disclosure is not required.[7] He also finds that managers anticipate section 16(a) disclosure obligations by selling more shares in the years immediately prior to their elevation to section 16(a) reporting status.[8] In addition, he finds that of the thirty-odd members of Goldman's management committee, section 16(a) reporters sell fewer shares than non-reporters.[9]

In the final portion of his Essay, Jackson considers the implications of the relationship he finds between disclosure and stock sales.[10] Here, the glass is both half-empty and half-full. On the one hand, Jackson is optimistic that expanding the reach of public disclosure of stock sales could be a means of increasing equity holdings by managers at public companies who are not subject to section 16(a), which might improve managerial incentives. But he finds the impact of public disclosure troubling in the context of financial institutions, where some worry that concentrated equity holdings by bank managers may fuel excessive risktaking. Given that concern, Jackson argues that bank regulators need information on reservoir size, not just information on inflows and outflows.[11]

Professor Jackson has embarked on an important project and has produced an excellent Essay. He should be particularly congratulated on his creativity and resourcefulness in identifying and analyzing a source of

3. 15 U.S.C. § 78p (2006).
4. Pub. L. No. 73-291, 48 Stat. 881 (codified as amended at 15 U.S.C. §§ 78a-78lll (2006)).
5. Jackson uses the term "executive" to refer to a section 16(a) reporter and "manager" to refer to executives and other senior managers. Jackson, supra note 2, at 952. I will adopt this terminology as well.
6. Id. at 970–72.
7. Id. at 970.
8. Id. at 971–72.
9. Id. at. 972.
10. Id. at 973.
11. Id. at 975.

data on equity dispositions by managers not subject to section 16(a) reporting requirements. To be sure, this data does present some formidable analytical challenges. The analysis is complicated by the potentially confounding effect of a heightened contractual equity retention obligation placed on a subset of the section 16(a) executives, but Jackson does all that one could do to isolate the impact of public disclosure, and I believe he marshals convincing evidence that public disclosure has affected stock sales by Goldman's managers.

Professor Jackson's brief Essay raises many important issues, many of which I will not be able to address in this short response. Instead, I will focus on the relationship between public disclosure and managerial equity retention, which I believe lies at the heart of his analysis. Consistent with Jackson's organizational approach, I will begin with a section on theory and then discuss the data and its interpretation. In an effort to provide value to the reader of this response, I will highlight some of what I view as the limitations of the analysis and interpretation, but these points should not be read as suggesting fundamental disagreement with Jackson's approach or conclusions.

I. THE THEORETICAL LINK BETWEEN PUBLIC DISCLOSURE AND MANAGERIAL STOCK SALES

A. *Managerial Equity Reservoirs*

Let me return to the reservoir analogy, which I believe is apt for thinking about firm equity held by a "hired" manager. At most public companies, the size and composition of managerial equity holdings reflect a tension between the shareholders' interest in having managers hold sufficient equity to align the interests of the two groups and the managers' disinclination to hold so much firm equity that they become badly under-diversified. Since managers demand to be compensated for that under-diversification, company directors overseeing managerial equity reservoirs on behalf of the shareholders balance the interest alignment benefit against the cost of suboptimal managerial diversification.[12] Of course, this picture does not describe all executives. Some executives, often founders, hold sufficient equity to control the firm and see great value in that control. But the typical "hired" manager of a large public

12. The approach described in the text reflects the optimal contracting view of the executive compensation process that is generally adopted in the corporate finance literature. See Core, et al., supra note 1, at 32, 36. This view is basically uncontested in the context of junior managers. Some believe that senior executives have significant influence over their own pay and that outside directors fail to insist on senior executive pay arrangements that maximize shareholder value. See generally Lucian Arye Bebchuk et al., Managerial Power and Rent Extraction in the Design of Executive Compensation, 69 U. Chi. L. Rev. 751 (2002).

company will not aspire to controlling ownership and will tend to prefer smaller equity holdings, all else being equal.[13]

As Jackson describes, Goldman is relatively unique in applying direct contractual controls to managerial equity holdings.[14] The senior managers of Goldman are signatories to a shareholders' agreement that obligates them to hold at least 25% of the equity granted to them (calculated on an after-tax basis).[15] Very senior executives are obligated to hold at least 75% of after-tax equity.[16] At most firms, minimum equity holdings are determined indirectly by the vesting provisions that are placed on equity grants.[17] Despite this innovation, we can still think of managerial equity holdings at Goldman as reservoirs—reservoirs that grow by at least 25% of every new grant of stock or options.

The reservoir analogy should be helpful in thinking about the appropriate baseline relationship between new equity grants, equity holdings, and managerial incentives. At times, Jackson appears to adopt a baseline of complete retention of equity grants. Finding that Goldman managers sell 0.8 shares for each new share received, Jackson states that these managers "diversify away most of the incentive effects of their stock-based pay."[18] Jackson's statement is literally true. The incentives created by actual equity holdings are quite different than those that would be created by the same pattern of equity grants with no dispositions. But why is that the baseline? The implication is that greater retention would better align the incentives of managers with shareholders, but this assumes that grant decisions are made independently of disposition decisions, and, in fact, we know that they are not.[19] If managers retained

13. See, e.g., Core, et al., supra note 1, at 38 (noting that "a rational, risk-averse CEO would hold *no* stock in her firm (in the absence of private information)").

14. Goldman Sachs appears to be unique in binding a large number of managers to equity retention targets. Most large public companies have share ownership targets for their CEOs and sometimes other senior executives. See Frederic W. Cook & Co., Executive Stock Ownership Policies—Trends and Developments (Sept. 13, 2010), http://www.fwcook.com/alert_letters/09-13-10_Executive_Stock_Ownership_Policies_-_Trends_and_Developments.pdf (on file with the *Columbia Law Review*) (finding that 95% of the one hundred largest S&P 500 companies had a formal executive stock ownership policy in place).

15. See Amended and Restated Shareholders' Agreement, *in* Goldman Sachs Grp. Annual Report (Form 10-K) Ex. 10.6, art. II, § 2.1(a) (Feb. 26, 2010). The agreement excludes from the calculation sufficient shares to pay the tax due on vesting or option exercise and includes only the net shares received on option exercise. See id. art. I, § 1.1(h).

16. See id. art. II, § 2.1(b).

17. This is also true at Goldman Sachs. Equity retention is a function both of contractual restrictions and vesting provisions.

18. Jackson, supra note 2, at 952–53.

19. See John Core & Wayne Guay, The Use of Equity Grants to Manage Optimal Equity Incentive Levels, 28 J. Acct. & Econ. 151, 152 (1999) (finding that firms actively manage the level of new CEO equity incentives in response to deviations between existing incentives and optimal incentives associated with economic determinants such as firm size, growth opportunities, and monitoring costs).

more equity from grants, equity grants might well be reduced to achieve the desired equity reservoirs.

Imagine a different approach to using equity to align incentives. Suppose that a firm hired a new CEO (Build and Hold) and for the first five years of her tenure paid her largely in equity that she was required to retain until she left the company. Suppose after five years Build and Hold held 1% of the company's shares. In subsequent years, suppose the company paid Build and Hold with cash only—not simply "pay for pulse" salary—but a combination of salary, annual bonus, and long-term incentive pay, all in cash.[20]

Compare Build and Hold to her more typical peer who receives annual equity grants throughout his career (In and Out). Suppose that those annual grants are calibrated so that In and Out holds 1% of firm equity after five years and continues to hold 1% afterwards. In this case, after the end of the five-year ramp up period, In and Out's equity sales would match his grants.

Build and Hold, who sells no shares during her tenure, cannot be accused of undermining incentives by divesting. In and Out can be so accused, but he should not be. The incentives created in the two cases are the same.[21] They simply reflect different approaches to managing equity reservoirs.

Goldman is typical in the sense that firm equity constitutes a large fraction of the annual compensation of senior managers throughout their careers, and the fact that the large majority of the shares received are disposed of should not be viewed in itself as undermining or diminishing incentives. This is simply how Goldman, like most firms, has decided to manage equity reservoirs.[22]

20. Although rarely seen, this approach is not completely hypothetical. In fact, as a condition of making a major investment in Goldman during the height of the financial crisis, Warren Buffett required that the CEO, COO, and CFO of Goldman continue to hold 90% of the equity held by them at the time of his investment for the duration of his investment. Christine Harper, Goldman Executives Restrained from Stock Sales in Buffett Deal, Bloomberg, (Oct. 3, 2008), http://www.bloomberg.com/apps/news?pidnewsarchive&sida1 I3DK.6XgxY (on file with the *Columbia Law Review*).

21. Or largely the same. For a perfectly rational actor, incentives should be a function of equity reservoir size, not whether the reservoir is maintained with constant inflow and outflow or is simply filled and held. It is possible, however, that more recently acquired equity is more salient to the holder and creates stronger incentives than "old" equity. This might be one reason that most firms choose to maintain equity reservoirs through the constant inflow and outflow method.

22. Exactly why the In and Out approach dominates the Build and Hold approach is, to my knowledge, a largely unidentified and unexplored question. I believe it is an important question and potentially fertile ground for further research.

B. *Relationship Between Public Disclosure and Equity Disposition*

Per section 16(a), executives of public companies are required to report transactions in company shares within two days of their trades and this trading data is immediately disclosed to the public.[23] Jackson surmises that section 16(a) reporting discourages managerial equity sales and tends to boost equity holdings. He discusses three private costs associated with public disclosure of stock sales. Disclosed sales may signal negative information about firm prospects to the market, signal a negative outlook within the firm, and subject executives to criticism in the press.[24]

My view of the likely impact of public disclosure on managerial stock sales is somewhat different than Jackson's. In thinking about this relationship, we need to consider several dimensions—individual versus firm-level incentives, differences in impact on managers at different levels within the hierarchy, and permanent versus temporary effects of disclosure requirements.

1. *Market Signals*. — As Jackson notes, if disclosed, stock sales by managers can be read by the market as an indication of negative inside information.[25] Of course, informed observers will realize that large annual equity grants will be offset to a large extent by regular sales. They will understand that the input and output taps of managerial equity reservoirs are constantly on. As such, regular equity sales by managers paid in equity should not send negative market signals. Nonetheless, there will always be some difficulty in distinguishing uninformed sales that simply represent rebalancing from informed sales One would think that adverse inferences could be avoided by committing to hands-off pre-programmed selling arrangements, but, as Jackson notes, there is evidence that even these arrangements are susceptible to informed trading.[26]

But in what way does the creation of an adverse market signal represent a *private* cost for managers? The impact of a negative market signal is on the firm in the first instance. The firm may lose clients, customers, lenders, or potential employees that fear instability, and these losses could prove costly for a company. Of course, there is an indirect cost for the managers who have a significant fraction of their capital invested in their companies, but this cost is quite diffuse. Sales by one manager have a small impact on the value of all the firm's shares, including that manager's shares. A manager enjoys 100% of the diversification benefit of selling shares and only a small fraction of the cost. There is an obvious collective action problem, and reason to doubt that unconstrained

23. SEC Mandated Electronic Filing and Web Site Posting for Forms 3, 4 and 5, 68 Fed. Reg. 25,788 (May 13, 2003) (codified in scattered parts of 17 C.F.R.).

24. Jackson, supra note 2, at 959.

25. Id.

26. Id. at 958 n.24 (citing M. Todd Henderson, The Uses and Abuses of Rule 10b5-1 33–35 (2010) (unpublished manuscript) (on file with the *Columbia Law Review*)).

managers would avoid diversification sales to protect against the possibility of a negative impact on share price.

Moreover, the potential for adverse market reaction is not uniform. Access to information is not equally distributed among managers; so, the market will more closely scrutinize some managers' trades than others.[27] And, of course, the impact of a share price decline on a manager's wealth will depend on the amount of human and financial capital invested in the firm, which will vary. For example, traders, who, for good or ill, provided a major source of revenue for banks pre-crisis, tend to have little human capital invested in a particular bank and are exposed to a potential decline in firm value primarily through their equity holdings, whereas a senior manager of a manufacturing firm may have a much greater human capital investment.[28] Jackson also mentions the increased likelihood of a takeover triggered by a share price decline induced by insider stock sales.[29] Again, the cost of that greater threat would not be uniform. Presumably the most senior managers enjoy the largest private benefits of control and have the most to lose if that remote threat were to materialize.

2. *Internal Signals*. — Disclosed stock sales also send signals within a firm with respect to a manager's level of confidence and commitment and may convey inside information that is not widely available within the firm.[30] However, one would think that in a company in which equity compensation represents a large fraction of compensation for all senior managers, insiders would be even more sensitive to the need for managing personal stock holdings through regular dispositions. Moreover, one would think that signals would be less ambiguous inside a firm given on-going relationships and improved information. Colleagues who know that your twins were just accepted at Yale are unlikely to read a large stock sale as signaling a lack of confidence or commitment.

Jackson also argues that even if sales don't provide a negative signal with respect to *current* confidence or commitment, these sales "convey[] to colleagues that the executive has less of a financial interest in the firm's long-term value" going forward.[31] But less of an interest compared to what? Of course, sales of stock result in less ownership than retaining 100% of equity grants, but as I have suggested above, that is not a realistic baseline. As long as a given manager is selling equity on a regular basis to

27. See, e.g., Matthew T. Bodie, Aligning Incentives with Equity: Employee Stock Options and Rule 10B-5, 88 Iowa L. Rev. 539, 575 (2003) (noting that "high-level managers and executives have much greater proximity and access to the type of information that affects the price of the company's stock").

28. See Lynne L. Dallas, Short-Termism, the Financial Crisis, and Corporate Governance, 37 J. Corp. L. 265, 316 (2012) (describing trading cultures and their emphasis on profit-making skills, short-term results, and self-interested behavior).

29. Jackson, supra note 2, at 959.

30. Id at 958.

31. Id at 959.

maintain his reservoir in a manner similar to his colleagues, these sales do not signal any reduction in commitment going forward.

3. *Reputational Costs*. — Jackson argues that some executives may be deterred from selling shares because public disclosure of those sales may lead to an adverse reaction in the financial press.[32] While I agree in general that executives are sensitive to press coverage,[33] the impact in this case may be limited. First, only extremely large sales result in any significant press coverage, and large sales can be avoided through adopting a regular program of stock sales.[34] Second, even if executives bunch their sales, only the most senior executives are likely to sell sufficient stock at one time to attract press coverage. Again, to the extent that there is an impact, it seems likely to be limited to the most senior executives.

C. *Timing Issues and Other Caveats*

In sum, I agree with Jackson that there is a theoretical basis for anticipating that public disclosure would impact equity disposition by managers. However, any disincentive would seem to be greater for the most senior executives than for more junior managers who are less likely to be influenced by private benefits of control or to fear adverse press coverage.

There is, moreover, a question of timing. Would we expect public disclosure to have a greater impact on equity sales and equity holdings in steady state or on the timing of sales by managers who can anticipate becoming subject to these obligations? Shifting of stock sales outside of section 16(a) reporting periods seems more likely than long-term deterrence. Ratable sales may be optimal for a manager receiving ratable grants, but bunching sales prior to becoming subject to public disclosure obligations or deferring sales for a year or two until the obligation lapses would seem to be much less costly than deferring sales for the entire period that a manager may be subjected to a public disclosure requirement.

Note, moreover, that bunching sales prior to or just following a period of required disclosure is only partially in the individual manager's interest. It is largely in the firm's interest. Given the possibility that insider stock sales may be misinterpreted by the market and given the firm-level costs mentioned above, firms would have an interest in minimizing

32. Id.

33. See Bebchuk, et al., supra note 12, at 786–88.

34. See Peter J. Romeo & Alan L. Dye, Insider Trading Under Rule 10b5-1 and 10b5-2, SHO13 ALI-ABA 893, 902 (2002) (noting that pre-programmed stock sales plans that are encouraged under SEC Rule 10b5-1 "make it possible to spread sales and other transactions over a lengthy period of time, thereby reducing their potential for an adverse market impact").

publicly disclosed sales of stock by insiders. One legal way of doing so would be to encourage executives to bunch diversification-based sales in the period prior to their becoming subject to public disclosure requirements. Firms would also encourage executives who are soon to retire and leave public disclosure status to defer diversification sales until they are no longer subject to the disclosure requirements.

These two points—the differential effect of equity disposition disclosure on managers at different levels of the hierarchy and the timing question—should be borne in mind as we consider the evidence of the impact of section 16(a) disclosure on dispositions at Goldman and the implications thereof. Also, before we turn to the data, it is worth a reminder here that Goldman binds its senior managers to a shareholders' agreement that both restricts their sales of Goldman stock and results in disclosure of trades by a large number of managers—not section 16(a) disclosure, but internal disclosure that is ultimately reported on Schedule 13D.[35] Jackson argues that, given the uniqueness of this arrangement and the obscurity of the 13D filings, the market does not respond to this information in the same way that it responds to section 16(a) filings, and he has evidence to back this up.[36] Even if that is right, however, there is no reason to think that the internal Goldman market ignores these disclosures. All of these Goldman managers disclose their own sales, know how and where this information is reported, and realize that the same information is available for their colleagues in the same place. It is hard to imagine that section 16(a) filings provide any new information within the hallways of Goldman.[37] If that is right, the internal market signaling story is off the table at Goldman, and differences between stock sales of section 16(a) reporters and other managers (subject to 13D but not section 16(a)) that are discussed in the next section can only be attributed to the market signaling and reputational effects described by Jackson (or to other causes not explored).

II. SECTION 16(A) DISCLOSURE AND STOCK SALES AT GOLDMAN

In an unusual arrangement for a public company, several hundred of Goldman's senior managers are signatories to a shareholders' agreement obligating each of them to retain 25% of equity grants and to report sales

35. See supra note 15 and accompanying text.
36. Jackson, supra note 2, at 984.
37. There is undoubtedly a timing difference. Schedule 13D reports are not filed as soon after trades as the reports required by section 16(a). Compare SEC Rule 13d-2(a), 17 CFR § 240.13d-2 (2011) (requiring amended schedules 13D to be filed "promptly"), with SEC Mandated Electronic Filing and Web Site Posting for Forms 3, 4 and 5, 68 Fed. Reg. 25,788 (May 13, 2003) (codified in scattered parts of 17 C.F.R.) (requiring section 16(a) disclosure of trades within two days). But unlike external market signals that are used for trading and that quickly become stale, the internal reputational market does not require such fresh information.

information that is aggregated in the Schedule 13D that is filed for this group.[38] A subset of these senior managers (currently twenty-nine individuals) serve on the firm's Management Committee and oversee daily operations.[39] Currently, ten members of the Management Committee are subject to section 16(a) reporting obligations as the executive officers of Goldman.[40]

Jackson's principal empirical strategy is to utilize sales data for managers not subject to section 16(a) reporting requirements to investigate the impact of section 16(a) disclosure on sales activity.[41] Jackson has two approaches. First, because the membership of the section 16(a) executive group changes over time, Jackson can compare sales by the same individuals during periods in which they are and are not subject to section 16(a) reporting requirements. Jackson finds a statistically significant relationship between section 16(a) reporting status and sales, with these individuals selling four times as much stock when not subject to section 16(a) reporting.[42] Jackson also finds that Goldman managers "unload" shares in anticipation of becoming subjected to section 16(a) reporting. For example, he finds that average sales in the two years prior to attaining executive officer status are about three times greater than in the subsequent section 16(a) reporting years, and this difference is significant at a 99% confidence level.[43]

Jackson's second approach to unpacking the impact of section 16(a) disclosure on sales is to compare sales by members of the firm's management committee who are section 16(a) reporters to sales by non-reporters. Again, Jackson finds that section 16(a) reporters sell significantly fewer shares and that the difference is both statistically and economically significant. Jackson shows that in the period from 2000 through 2009, section 16(a) reporters sold shares worth $7.2 million on average while non-reporters sold $9.5 million on average.[44] This data, Jackson argues, can be taken as evidence that section 16(a) reporting status inhibits sales.

38. See supra note 15 and accompanying text.

39. The Goldman Sachs Grp., Inc., Management Committee, http://www.goldmansachs.com/who-we-are/leadership/management-committee/index.html (on file with the *Columbia Law Review*) (last visited June 16, 2012).

40. The Goldman Sachs Grp., Inc., Executive Officers, http://www.goldmansachs.com/who-we-are/leadership/executive-officers/index.html (on file with the *Columbia Law Review*) (last visited June 16, 2012).

41. Jackson, supra note 2, at 961. Jackson also provides data on the relationship between equity grants and sales at Goldman, patterns in managerial ownership over time, and differences in sales between managers who receive relatively more and relatively less equity-based pay. In this response, I focus on his evidence concerning the relationship between public disclosure and equity dispositions, which I believe to be the key contribution of the Essay.

42. Id at 970 tbl.IV.

43. Id at 971 fig.I.

44. Id at 972 tbl.V.

These are impressive results, but as Jackson realizes, there is a potentially confounding factor. Some of the section 16(a) reporters are also Designated Senior Officers (DSOs) who are contractually obligated to retain 75% of equity granted to them instead of the more broadly applicable 25%.[45] Currently, six of the firm's section 16(a) reporting executive officers—the firm's CEO, COO, CFO, and three Vice Chairmen—are DSOs.[46] So the challenge for Jackson is to show that public disclosure inhibits equity disposition independently of the sometimes overlapping heightened contractual retention obligation. The differences in sales for disclosure and non-disclosure years,[47] the ramp up in sales prior to the imposition of a disclosure obligation,[48] and the differences in sales by management committee members who are and are not subject to section 16(a)[49] reflect the influence of both factors, since the DSO population is a subset of the section 16(a) reporting population.

In his appendix, Jackson reports results of an analysis of ten years of disposition data for the twenty-three Goldman partners who were section 16(a) reporters at some point during that period.[50] His dependent variable is sales and he includes two dummy variables—one for the presence of a section 16(a) reporting obligation; the other for DSO status and the attendant heightened contractual retention obligation. Controlling for DSO status, Jackson finds that the relationship between the section 16(a) reporting obligation and sales is significant at the 99% confidence level.[51] This is the key evidence that public disclosure dampened equity disposition at Goldman during the study period, independently of contractual retention obligations.

Of course, it is impossible to completely segregate the effects of public disclosure and contractual retention obligations at Goldman. It is possible, for example, that Goldman's executives are better able to anticipate the application of one or the other and that the lags between anticipatory selling and the two changes in status differ. Also, although the heightened retention obligation on DSOs was not put in place until 2004, it is possible that the very top executives were subject to informal constraints on selling during the 2000–2004 post-IPO lockup period that were not felt by other Goldman managers.[52] As long as some members of the section 16(a)

45. See supra note 16 and accompanying text.
46. The Goldman Sachs Grp., Inc., Proxy Statement for 2012 Annual Meeting of Shareholders, at 25 (Apr. 13, 2012).
47. Jackson, supra note 2, at 970 tbl.IV.
48. Id. at 971 fig.I.
49. Id. at 972 tbl.V.
50. Id. at 990 tbl.VIII.
51. Id.
52. Id. at 964. The Goldman Sachs IPO occurred in 1999. Senior managers were subjected to additional restrictions on selling shares during a "lockup" period that extended into 2004. Id. However, as Jackson notes, lockup restrictions could be waived and were waived during this period, id. n.41, raising the possibility of differing treatment of top

reporting group are subject to retention obligations that are not shared (or shared to a lesser extent) by non-section 16(a) reporters, there will always be some uncertainty regarding the influence of public disclosure per se.

Nonetheless, I am convinced that 1) Jackson has provided solid evidence for the dampening effect he theorizes and 2) he has done everything possible to isolate that effect. In conversations I had with Jackson in preparing this response, I learned of other robustness tests that he conducted that are not discussed in the Essay. For example, in one analysis, Jackson limited the sample to individuals who were sometimes subject to section 16(a) but never subject to heightened contractual holding obligations. Even for this more limited sample, Jackson found a statistically significant relationship between public disclosure and equity dispositions.[53]

Given the potential confounding effect of DSO retention obligations at Goldman, I would have liked to have seen more robustness tests described in the Essay, but I understand that all law journals and authors face page constraints. I would encourage Jackson to create an on-line appendix where interested readers could go to find more detailed regression results, further discussion of robustness tests, and more detail on the sample. For example, while DSOs account for 60% of Goldman's section 16(a) reporters currently, I understand that over the entire ten-year period investigated (which ended with 2009), DSOs accounted for only about 25% of section 16(a) reporters, on average.[54] Intuitively, as the number of individuals subject to heightened contractual retention obligations falls relative to the overall section 16(a) reporting population, one's concern about the DSO confounding effect diminishes. Thus, I believe many readers would find descriptive data such as this to be quite helpful.

III. INTERPRETATION OF RESULTS

Does public disclosure dampen equity dispositions? Jackson provides convincing evidence that the answer is yes. This is a significant step forward, but unfortunately the Goldman data cannot resolve two important questions that arise in attempting to interpret that result. First, is the dampening effect an ongoing, steady-state phenomenon or a one-

managers and managers further down in the hierarchy.

53. E-mail from Robert J. Jackson, Jr., Assoc. Professor of Law, Columbia Law Sch., to David I. Walker, Professor of Law, Maurice Poch Faculty Research Scholar, and Assoc. Dean for Academic Affairs, Bos. Univ. Sch. of Law (May 16, 2012, 8:51 PM EDT) (on file with author). Jackson does not report this data in the Essay because the section 16(a) executives who are not DSOs generally are not bankers, but are legal, HR, compliance, or similar supporting personnel, and his primary interest is in the responsiveness of Goldman's banking leaders to disclosure.

54. Id.

time shifting of sales? Second, are equity dispositions by lower level managers who are not currently covered by section 16(a) likely to be influenced by public disclosure in the same way as sales by Goldman's top executives? And is Goldman different? In other words, how far and in what direction can we extrapolate from this data?

A. *A Steady-State Effect?*

As discussed above, it would be in the firm's interest for managers to bunch share sales in periods prior to or following section 16(a) reporting status in order to minimize any potential adverse market signal arising from section 16(a) reports.[55] It is not clear how much of the difference in equity dispositions observed by Jackson reflects time-shifting of sales and how much reflects steady-state reduction. To put the issue more sharply, it is not clear whether public disclosure affects aggregate dispositions by executives or simply the timing of those dispositions. Jackson provides evidence that managers anticipate elevation to section 16(a) status and increase sales in the years prior. It is possible, then, that the effect is simply one of shifting and bunching and that disclosure does not affect average holdings over the entire period. Presumably, one would need data over a much longer period during which some managers are consistently subject to section 16(a), while others move into or out of that status, in order to determine whether there are steady-state effects.

To be sure, evidence that firms and/or individuals manage the timing of share sales to minimize section 16(a) reported sales would be important. Assuming that shifting behavior is widespread, analysts looking at section 16(a) reports to assess trading by executives would need to realize that they are seeing only part of the picture and that with respect to newly appointed executives or executives near retirement reported sales may be only the tip of the iceberg.[56] However, if it turns out that section 16(a) has little or no impact on aggregate equity holdings, that would suggest that public disclosure may have little impact on managerial incentives over the long haul.

B. *Extrapolation to Lower Level Managers (and Beyond Goldman)?*

Professor Jackson's research is partly motivated by the following idea: If it can be shown that public disclosure inhibits equity disposition by managers, increasing the reach of that disclosure could potentially be a useful corporate governance tool, a way of encouraging managers not currently subject to section 16(a) to hold more shares, which would better

55. See supra Part I.C.
56. Evidence that public disclosure encourages executives to defer sales until just after retirement might also heighten concerns regarding earnings management or manipulation of information near the end of an executive's tenure.

align the interests of those managers with their shareholders.[57]

Setting aside the shifting issue addressed above and assuming for now that public disclosure has had a steady-state impact on equity dispositions and equity holdings by Goldman's section 16(a) reporting executives, can we extrapolate to more junior managers? Goldman Sachs has an unusual management structure with a management committee of twenty-nine overseeing daily operations. Perhaps all of those individuals should be designated as executives subject to section 16(a) reporting. But more generally as one moves beyond the executive suite of most public companies, one observes a qualitative change in roles, responsibilities, benefits of control, and exposure to the press. As discussed above, the firm-level costs of publicly disclosed sales are likely to be borne by individual managers in relation to the levels of financial and human capital they have invested in the firm.[58] Similarly, reputational costs of disclosed selling are likely to be limited to top executives who sell chunks of equity that are material in the context of a particular firm. Perhaps the internal signaling story is most plausibly applied to lower level managers, although, as I have suggested, I do not think that the Goldman results can be explained by an internal signaling mechanism because all of the information was readily available within the firm. For all of these reasons, it seems likely that the top executives who are already subject to section 16(a) reporting at their companies would be much more sensitive to public disclosure of sales than their non-reporting underlings.

Finally, suppose that public disclosure requirements were to be expanded to cover more managers. And suppose that these requirements made share sales less attractive to the newly covered managers and resulted, in the first instance, in increased equity holdings by these managers. Is there any reason to think that firms could not or would not offset this effect by reducing equity pay and increasing performance-based cash compensation? Most observers believe that the top executives generally share the stockholders' interest in optimizing incentives below the executive suite.[59] Thus, if equity holdings are suboptimally high or low at the junior executive level, one would think that the senior executives would address this problem by increasing or decreasing reliance on equity pay, adjusting vesting requirements, or through other contractual modifications. In short, even if public disclosure is shown to be a useful tool for improving incentives at the top, it is not clear that we should or can use expanded public disclosure requirements as a means of improving

57. Jackson, supra note 2, at 977–78.
58. See supra Part I.B.1.
59. See, e.g., Lucian A. Bebchuk & Jesse M. Fried, Paying for Long-Term Performance, 158 U. Pa. L. Rev. 1915, 1921 (2010) (noting "when top executives' compensation is tied to long-term shareholder value, these executives will have a powerful incentive to adopt arrangements that similarly tie lower-level executives' pay to long-term shareholder value").

managerial incentives below the executive suite.

There is another, separate extrapolation question. The Goldman data only exist because equity retention by the partners was such an ingrained part of the firm's culture that the partners entered into a shareholders' agreement to perpetuate that culture within the newly public company. That difference alone may cause some to wonder whether we can extrapolate from Goldman to other companies. Perhaps public disclosure of stock sales would have less of an impact on managerial behavior at firms less imbued with such a strong internal ownership norm. I'm afraid Professor Jackson will have to come up with an even more clever strategy to answer that one.

CONCLUSION

The relationship between public disclosure of stock sales and managerial equity retention is an important one, and Professor Jackson has provided us with a fascinating look at the relationship at one important company—Goldman Sachs. Jackson deserves tremendous credit for identifying and exploring this unique source of data and for overcoming—to the extent humanly possible—the potentially confounding effect of differential contractual retention obligations. Naturally, there are open questions regarding the interpretation of the results and our ability to extrapolate from them, but one hopes that Jackson (and others) will follow up on this outstanding initial foray with similarly clever research strategies that will further our understanding of the connection.

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