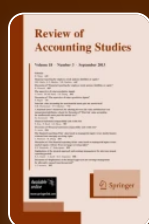



[Home](#) > [Review of Accounting Studies](#) > Article

# Stock option grant vesting terms: economic and financial reporting determinants



| Published: 16 November 2012

| Volume 18, pages 1159–1190, (2013) [Cite this article](#)[Review of Accounting Studies](#)[Aims and scope](#) →[Submit manuscript](#) →[Brian D. Cadman](#) <sup>1</sup>, [Tjomme O. Rusticus](#)<sup>2</sup> & [Jayanthi Sunder](#)<sup>3</sup> **3322** Accesses  **55** Citations [Explore all metrics](#) →

## Abstract

Option grant vesting terms are a contractual provision that is shaped by accounting standards and other economic factors. We examine the effect of accounting standards, specifically SFAS 123(R), on the vesting terms of stock option grants while also modeling other economic determinants of this contract feature. We document significant variation in stock option grant vesting periods and patterns suggesting that firms actively choose vesting terms. Consistent with financial reporting incentives influencing contract design, we find that firms simultaneously lengthen vesting periods and alter vesting patterns after the adoption of SFAS 123(R). The changes in vesting patterns are consistent with firms trying to defer recognition of the option expense, while limiting the incremental risk imposed on the CEO. In addition, we find that vesting schedules are longer in growth firms where lengthening the executive's investment horizon

is more important and that firms with more powerful CEOs and weaker governance grant options with shorter vesting periods.

 This is a preview of subscription content, [log in via an institution](#)  to check access.

Access this article

Log in via an institution →

Buy article PDF 39,95 €

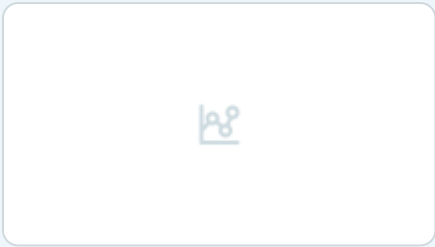
Price includes VAT (Poland)

Instant access to the full article PDF.

Rent this article via [DeepDyve](#) 

[Institutional subscriptions](#) →

Similar content being viewed by others



**Expensing performance-vested executive stock options: is there underreporting under IFRS 2?**

Article | 20 November 2019



**How the Design of CEO Equity-Based Compensation can Lead to Lower Audit Fees: Evidence from Australia**

Article | 06 October 2018



**Shedding light on foreign currency cash flow hedges: transparency and the hedging decision**

Article | Open access  
07 April 2024

Notes

1. We empirically examine how firms take vesting into account in determining the option expense. We use the variable OPTLIFE from Compustat (obtained from 10-K footnote disclosures) on the firm's expected life of the options for reporting purposes for the post 123R period. When we regress this expected life assumption on the *Vesting Duration* of the CEO's option grant we obtain a coefficient of 0.46 (t-stat 11.00). This result provides strong evidence that firms take vesting into account when they determine the option expense, and it is close to the simplified rule established in SAB 107.
2. In contrast to these models where extended vesting is seen as the critical contract feature that extends the horizon of managers and prevents myopia, Laux ([2012](#)) cautions that, if there is a risk that the CEO will get fired before the options vest, the cost of forfeiting these options may induce managers to myopically boost interim performance to prevent their being fired and losing all their options. His optimal contract separates the two roles of vesting: ownership transfer and the timing of exercisability. In the presence of long-term projects, it may be optimal to have a transfer of ownership of the options after only a short period, while still preventing option exercises until the uncertainty about the project has been resolved. Thus the prediction from this model for vesting terms is ambiguous.
3. Firms with considerable growth opportunities must make investment decisions about projects where the cash flows will not be fully revealed for longer periods and management has a considerable information advantage that cannot be credibly disclosed. Thus equity values may not fully reflect the expected value of the investment. The price adjusts to reflect the investment choices as information about investments is revealed over time.
4. For example, when Ford Motor Company hired Alan Mulally from Boeing, Ford paid him an \$18.5 million dollar bonus, which was largely composed of \$11 million to "make up for bonuses and stock options forfeited by leaving Boeing" (Ford 2006 proxy statement).

5. In contrast, direct monitoring and contractual provisions such as vesting periods could also act as substitutes. In that case, more closely monitored firms can allow executives to exercise their options earlier in the term, because these more closely monitored managers impose fewer agency costs.
6. We focus on stock option grants for several reasons. First, stock option grants are the largest component of (equity) pay during our sample period. Second, since our focus is on equity grants with service-based vesting, we would like to exclude any equity grants with performance vesting conditions. Gerakos et al. ([2007](#)) find that option grants with performance-based vesting restrictions are relatively rare, while Bettis et al. ([2007](#)) find that performance-based vesting awards are more common for restricted stock grants than they are for option grants.
7. Before August 2002, beneficial owners were not required to file their Form 4 until the 10th day of the month following the change in beneficial ownership. This leads to errors in the Form 4 files in the early part of the period. We begin our sample in 1997 because our ability to match ExecuComp grants with Form 4 filings significantly improves from this year.
8. Although SFAS 123(R) is not truly exogenous, it imposes option grant expensing on all firms. Thus it provides an opportunity to investigate how firms alter their contracts when required to recognize option grants as an expense. Nonetheless, we address this concern empirically when examining the change in the vesting periods in Sect. [4.5](#).
9. While we use this as our primary measure of growth opportunities, our results are consistent when we use the conventional market-to-book measure.
10. Abnormal cash compensation could alternatively be a proxy for CEO power as CEOs with higher bargaining power could negotiate higher current compensation. If this variable captures CEO power rather than retention

incentives, we would expect a negative relation with vesting terms because powerful CEOs would not want to be constrained by longer vesting terms.

11. Industry homogeneity is calculated using a two-factor regression model of a firm's stock return on the returns for the industry and the overall stock market. The measure is the average across all firms in the two-digit SIC industry of the partial correlation coefficient on the industry return index. Industries where returns are more correlated are considered more homogenous.
12. In cases where the CEO is not the highest paid executive, we measure the difference between CEO compensation and the highest paid executive, which yields a negative value. Recent work by Bebchuk et al. ([2011](#)) uses a slightly different but related metric, namely CEO total pay scaled by the total pay of the top five executives; they find that CEOs with a large pay slice tend to be associated with greater agency problems. They include equity pay, long-term incentive payouts, and other compensation in their metric. Because equity pay is linked with the vesting term, it is important to exclude this from our measure of CEO power, and we therefore use the measure in Hayward and Hambrick ([1997](#)) and Chatterjee and Hambrick ([2007](#)).
13. Our tests examining the influence of CEO power on vesting terms has potentially differential predictions for the CEO versus other top executives, while all the other determinants suggest variations across firms rather than across executives within a firm. A within-firm comparison has the advantage of using the firm as its own control. However, a significant drawback is that, in about 75 % of firm-years, the vesting schedules are identical for other executives. Nevertheless, we compare the average vesting of the CEO versus the CFO using a paired  $t$  test for all firm years in our sample where the CFO also received options and data could be matched between ExecuComp and Thomson Financial, as discussed in Sect. [3.1](#). We pick CFOs for the comparison to keep the executive role constant and because most companies have a CFO and the position can be easily identified in ExecuComp. While

the difference between CEOs and CFOs is not statistically significant in the overall sample, CEOs have lower *Vesting Duration* relative to the CFO in the sub-sample of powerful CEOs; this difference is significant at the 5% level.

14. In untabulated tests, we repeat the analysis in Table 5 using *Vesting Period* as the dependent variable. The results are generally similar. In particular, the two reporting variables and the measure of growth opportunities are still positive and statistically significant. The effect of CEO Power is positive and significant. Similar to the result in Table 5, the main effect and the interaction effect of the monitoring index are positive, although now the main effect is significant and the interaction effect is not. In contrast to the results in Table 5 using *Vesting Duration*, the retirement indicator is negative and significant, while the coefficient on ROA is no longer significant.
15. For example, an executive may be indifferent between an option grant that vests ratably over 6 years and one that cliff vests at the end of 4 years. This is because the equal vesting grant has a lower probability of forfeiture of the full grant and affords the executive opportunities to exercise portions of the grant earlier.
16. Note that for cliff-vesting grants the vesting period and the *Vesting Duration* should be the same since the full grant vests at the end of the vesting period. In this table, the two are not always identical because we have firms that have multiple cliff-vesting grants in the same year. In that case, the *Vesting Duration* is the weighted average of the grants, but the vesting period is the maximum of the vesting periods. Results are similar if we exclude those observations.

## References

---

Aboody, D., Barth, M., & Kasznik, R. (2006). Do firms understate stock option-based compensation expense disclosed under SFAS 123? *Review of Accounting*

[Article](#) [Google Scholar](#)

Armstrong, C., Gow, I. D., & Larcker, D. F. (2010). *Consequences of shareholder rejection of equity compensation plans*. Working Paper.

Armstrong, C., Jagolinzer, A., & Larcker, D. F. (2007). *Timing of employee stock option exercises and the cost of stock option grants*. Working Paper.

Balsam, S., & Miharjo, S. (2007). The effect of equity compensation on voluntary executive turnover. *Journal of Accounting and Economics*, 43, 95–119.

[Article](#) [Google Scholar](#)

Barth, M., Beaver, W., & Landsman, W. (1998). Relative valuation roles of equity book value and net income as a function of financial health. *Journal of Accounting and Economics*, 25(1), 1–34.

[Article](#) [Google Scholar](#)

Bebchuk, L. A., Cremers, M., & Peyer, U. (2011). The CEO pay slice. *Journal of Financial Economics*, 102, 199–221.

[Article](#) [Google Scholar](#)

Bebchuk, L. A., & Fried, J. (2004). *Pay without performance: The unfulfilled promise of executive compensation*. Cambridge: Harvard University Press.

[Google Scholar](#)

Bettis, J. C., Bizjak, J. M., Coles, J., & Kalpathy, S. (2007). *Equity grants with performance-based vesting conditions*. Working Paper.

Bolton, P., Scheinkman, J., & Xiong, W. (2006). Executive compensation and short-termist behavior in speculative markets. *Review of Economic Studies*, 72, 577–610.

[Article](#) [Google Scholar](#)

Brickley, J. A. (2003). Empirical research on CEO turnover and firm-performance: a discussion. *Journal of Accounting and Economics*, 36(1–3), 227–233.

[Article](#) [Google Scholar](#)

Brisley, N. (2006). Executive stock options: Early exercise provisions and risk-taking incentives. *Journal of Finance*, 61, 2487–2509.

[Article](#) [Google Scholar](#)

Bushee, B. J. (1998). The influence of institutional investors on myopic R&D investment behavior. *The Accounting Review*, 73(3), 305–333.

[Google Scholar](#)

Cadman, B., & Sunder, J. (2011). *The role of investor horizon on compensation horizon*. Working Paper.

Carter, M. E., Lynch, L. J., & Tuna, A. I. (2007). The role of accounting in the design of CEO equity compensation. *Accounting Review*, 82, 327–357.

[Article](#) [Google Scholar](#)

Chatterjee, A., & Hambrick, D. C. (2007). It's all about me: Narcissistic CEOs and their effects on company strategy and performance. *Administrative Science Quarterly*, 52, 351–386.

[Google Scholar](#)



Chi, J. D., & Johnson, S. A. (2009). *The value of vesting restrictions on managerial stock and option holdings*. Working Paper.

Choudhary, P., Rajgopal, S., & Venkatachalam, M. (2009). Accelerated vesting of employee stock options in anticipation of FAS 123-R. *Journal of Accounting Research*, 47, 105-146.

[Article](#) [Google Scholar](#)

Dahiya, S., & Yermack, D. (2008). You can't take it with you: Sunset provisions for equity compensation when managers retire, resign, or die. *Journal of Corporate Finance*, 14(5), 499-511.

[Article](#) [Google Scholar](#)

Dechow, P., Hutton, A., & Sloan, R. (1999). An empirical assessment of the residual income valuation model. *Journal of Accounting and Economics*, 26, 1-34.

[Article](#) [Google Scholar](#)

Dechow, P., & Sloan, R. (1991). Executive incentives and the horizon problem: An empirical investigation. *Journal of Accounting and Economics*, 14, 51-89.

[Article](#) [Google Scholar](#)

Edmans, A., Gabaix, X., Sadzik, T., & Sannikov, Y. (2011). *Dynamic CEO compensation*. Working Paper.

Fee, C. E., & Hadlock, C. J. (2003). Raids, rewards, and reputations in the market for managerial talent. *Review of Financial Studies*, 12, 1311-1353.

[Google Scholar](#)

Fu, X., & Ligon, J. A. (2010). Exercises of executive stock options on the vesting

date. *Financial Management*, 39, 1097-1126.

[Google Scholar](#)

Gerakos, J., Goodman, T. H., Ittner, C. D., & Larcker, D. F. (2007). *Compensation objectives and non-cash pay: An investigation of benefits and broad-based equity grants*. Working Paper.

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics*, 118, 107-155.

[Article](#) [Google Scholar](#)

Gopalan, R., Milbourn, T., Song, F., & Thakor, A. V. (2011). *The optimal duration of executive compensation: Theory and evidence*. Working Paper.

Graham, J., Harvey, C., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40, 3-73.

[Article](#) [Google Scholar](#)

Hall, B., & Murphy, K. (2002). Stock options for undiversified executives. *Journal of Accounting and Economics*, 33, 3-42.

[Article](#) [Google Scholar](#)

Hartzell, J. C., & Starks, L. T. (2003). Institutional investors and executive compensation. *Journal of Finance*, 58, 2351-2374.

[Article](#) [Google Scholar](#)

Hayward, M. L. A., & Hambrick, D. C. (1997). Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. *Administrative Science Quarterly*, 42, 103-127.

Hodge, F., Rajgopal, S., & Shevlin, T. (2009). Do managers value stock options and restricted stock consistent with economic theory? *Contemporary Accounting Research*, 26, 899-932.

[Article](#) [Google Scholar](#)

Huddart, S., & Lang, M. (1996). Employee stock option exercises: An empirical analysis. *Journal of Accounting and Economics*, 21, 5-43.

[Article](#) [Google Scholar](#)

Kole, S. R. (1997). The complexity of compensation contracts. *Journal of Financial Economics*, 43, 79-104.

[Article](#) [Google Scholar](#)

Lambert, R. A. (2010). Discussion of “Implications for GAAP from an analysis of positive research in accounting”. *Journal of Accounting and Economics*, 50, 287-295.

[Article](#) [Google Scholar](#)

Lambert, R. A., Larcker, D. F., & Verrecchia, R. E. (1991). Portfolio considerations in valuing executive compensation. *Journal of Accounting Research*, 29, 129-149.

[Article](#) [Google Scholar](#)

Laux, V. (2012). Stock option vesting conditions, CEO turnover, and myopic investment. *Journal of Financial Economics*, 106, 513-526.

[Google Scholar](#)

Murphy, K. J. (1999). Executive Compensation. In O. Ashenfelter & D. Card (Eds.),

*Handbook of labor economics* (Vol. III, pp. 2485–2563). Amsterdam: North-Holland.

[Google Scholar](#)

Ohlson, J. (1995). Earnings, book values, and dividends in equity valuation. *Contemporary Accounting Research*, 11, 661–687.

[Article](#) [Google Scholar](#)

Parrino, R. (1997). CEO turnover and outside succession: A cross-sectional analysis. *Journal of Financial Economics*, 46, 165–197.

[Article](#) [Google Scholar](#)

Rajgopal, S., & Shevlin, T. (2002). Empirical evidence on the relation between stock option compensation and risk taking. *Journal of Accounting and Economics*, 33, 145–171.

[Article](#) [Google Scholar](#)

Richardson, S. A. (2006). Over-investment of free cash flow. *Review of Accounting Studies*, 11, 159–189.

[Article](#) [Google Scholar](#)

Rusticus, T. O. (2006). *Executive severance agreements*. Dissertation, The University of Pennsylvania.

Stein, J. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *Quarterly Journal of Economics*, 104, 655–669.

[Article](#) [Google Scholar](#)

# Acknowledgments

---

We thank the Accounting Research Center at the Kellogg School of Management for financial support. Brian Cadman also thanks the David Eccles School at the University of Utah for financial support, and Jayanthi Sunder similarly thanks the Eller School of Management at the University of Arizona. We gratefully acknowledge helpful comments from Richard Sloan (editor) and anonymous reviewers. We also thank Ian Gow, Fabrizio Ferri, Thomas Lys, Beverly Walther, and workshop participants at the DUKE/UNC Fall Camp, the New York University Summer Camp, the FARS conference, the Massachusetts Institute of Technology, Purdue University, the University of Arizona, the University of Houston, the University of Illinois at Chicago, the University of Iowa, the University of Michigan, the University of Pennsylvania, the University of Texas A&M, and the University of Utah for helpful comments.

## Author information

---

### Authors and Affiliations

**David Eccles School of Business, University of Utah, 1655 East Campus Ctr. Dr., Salt Lake City, UT, 84112, USA**

Brian D. Cadman

**Kellogg School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL, 60208, USA**

Tjomme O. Rusticus

**Eller School of Management, University of Arizona, 1130 E Helen St., Tucson, AZ, 85721, USA**

Jayanthi Sunder

### Corresponding author

Correspondence to [Brian D. Cadman](#).

## Rights and permissions

---

## About this article

---

### Cite this article

Cadman, B.D., Rusticus, T.O. & Sunder, J. Stock option grant vesting terms: economic and financial reporting determinants. *Rev Account Stud* **18**, 1159–1190 (2013). <https://doi.org/10.1007/s11142-012-9215-6>

Published

16 November 2012

Issue Date

December 2013

DOI

<https://doi.org/10.1007/s11142-012-9215-6>

### Keywords

[Executive compensation](#)

[Stock option vesting periods](#)

[Effects of SFAS 123\(R\)](#)

### JEL Classification

[G30](#)

[J33](#)

[M41](#)

[M42](#)

## Search

Search by keyword or author



## Navigation

Find a journal

**Publish with us**

---

**Track your research**