
- Bergman, N. K., and D. Jenter. 2007. Employee sentiment and stock option compensation. *Journal of Financial Economics* 84 (3): 667–712. <https://doi.org/10.1016/j.jfineco.2006.01.008>
- Bertrand, M., and A. Schoar. 2003. Managing with style: The effect of managers on firm policies. *The Quarterly Journal of Economics* 118 (4): 1169–1208. <https://doi.org/10.1162/003355303322552775>
- Beutel, A. M., and M. M. Marini. 1995. Gender and values. *American Sociological Review* 60 (3): 436–448. <https://doi.org/10.2307/2096423>
- Blouin, J. 2014. Defining and measuring tax planning aggressiveness. *National Tax Journal* 67 (4): 875–899. <https://doi.org/10.17310/ntj.2014.4.06>
- Boivie, S., S. D. Graffin, and T. G. Pollock. 2012. Time for me to fly: Predicting director exit at large firms. *Academy of Management Journal* 55 (6): 1334–1359. <https://doi.org/10.5465/amj.2010.1083>
- Boone, J., I. Khurana, and K. Raman. 2013. Religiosity and tax avoidance. *The Journal of the American Taxation Association* 35 (1): 53–84. <https://doi.org/10.2308/atax-50341>
- Brymer, E., and L. G. Oades. 2009. Extreme sports: A positive transformation in courage and humility. *Journal of Humanistic Psychology* 49 (1): 114–126. <https://doi.org/10.1177/0022167808326199>
- Cain, M. D., and S. B. McKeon. 2016. CEO personal risk-taking and corporate policies. *Journal of Financial and Quantitative Analysis* 51 (1): 139–164. <https://doi.org/10.1017/S0022109016000041>
- Castanier, C., C. L. Scanff, and T. Woodman. 2010. Who takes risks in high-risk sports? A typological personality approach. *Research Quarterly for Exercise and Sport* 81 (4): 478–484. <https://doi.org/10.1080/02701367.2010.10599709>
- Chen, S., X. Chen, Q. Cheng, and T. Shevlin. 2010. Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics* 95 (1): 41–61. <https://doi.org/10.1016/j.jfineco.2009.02.003>
- Cheng, C. A., H. H. Huang, Y. Li, and J. Stanfield. 2012. The effect of hedge fund activism on corporate tax avoidance. *The Accounting Review* 87 (5): 1493–1526. <https://doi.org/10.2308/accr-50195>
- Chow, T., B. Ke, H.Q. Yuan, and Y. Zhang. 2018. *What types of publicly listed firms evade taxes? Evidence from China*. Working paper, Singapore Management University, National University of Singapore, Fudan University, and Tongji University.
- Christensen, D. M., D. S. Dhaliwal, S. Boivie, and S. D. Graffin. 2015. Top management conservatism and corporate risk strategies: Evidence from managers' personal political orientation and corporate tax avoidance. *Strategic Management Journal* 36 (12): 1918–1938. <https://doi.org/10.1002/smj.2313>
- Chyz, J. A. 2013. Personally tax aggressive executives and corporate tax sheltering. *Journal of Accounting and Economics* 56 (2/3): 311–328. <https://doi.org/10.1016/j.jacceco.2013.09.003>
- Chyz, J., F. B. Gaertner, A. Kausar, and L. Watson. 2019. Overconfidence and aggressive corporate tax policy. *Review of Accounting Studies* 24 (3): 1114–1145. <https://doi.org/10.1007/s11142-019-09494-z>
- Ciconte, W., M. Donahoe, P. Lisowsky, and M. Mayberry. 2014. *Predictable uncertainty: The relation between unrecognized tax benefits and future income tax cash outflows*. Working paper, University of Illinois at Urbana–Champaign and University of Florida.
- Cressey, D. R. 1953. *Other People's Money: A Study of the Social Psychology of Embezzlement*. Glencoe, IL: Free Press.
- Crocker, K. J., and J. Slemrod. 2005. Corporate tax evasion with agency costs. *Journal of Public Economics* 89 (9/10): 1593–1610. <https://doi.org/10.1016/j.jpubeco.2004.08.003>
- Cronqvist, H., A. Makhija, and S. Yonker. 2012. Behavioral consistency in corporate finance: CEO personal and corporate leverage. *Journal of Financial Economics* 103 (1): 20–40. <https://doi.org/10.1016/j.jfineco.2011.08.005>
- Davidson, R., A. Dey, and A. Smith. 2015. Executives' "off-the-job" behavior, corporate culture, and financial reporting risk. *Journal of Financial Economics* 117 (1): 5–28. <https://doi.org/10.1016/j.jfineco.2013.07.004>
- Davis, J. S., and H. L. Pesch. 2013. Fraud dynamics and controls in organizations. *Accounting, Organizations and Society* 38 (6/7): 469–483. <https://doi.org/10.1016/j.aos.2012.07.005>
- De Simone, L., J. Nickerson, J. Seidman, and B. Stomberg. 2020. How reliably do empirical tests identify tax avoidance? *Contemporary Accounting Research* 37 (3): 1536–1561. <https://doi.org/10.1111/1911-3846.12573>
- Deci, E., and R. Ryan. 1980. The empirical exploration of intrinsic motivational processes. In *Advances in Experimental Social Psychology*, 39–80. New York, NY: Elsevier.
- Demerjian, P. R., B. Lev, M. F. Lewis, and S. E. McVay. 2013. Managerial ability and earnings quality. *The Accounting Review* 88 (2): 463–498. <https://doi.org/10.2308/accr-50318>
- Dohmen, T., A. Falk, D. Huffman, U. Sunde, J. Schupp, and G. Wagner. 2011. Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association* 9 (3): 522–550. <https://doi.org/10.1111/j.1542-4774.2011.01015.x>
- Dyregang, S. D. M. Hanlon, and E. L. Maydew. 2010. The effects of executives on corporate tax avoidance. *The Accounting Review* 85 (4): 1163–1189. <https://doi.org/10.2308/accr.2010.85.4.1163>
- Dyregang, S. D., M. Hanlon, and E. L. Maydew. 2008. Long-run corporate tax avoidance. *The Accounting Review* 83 (1): 61–82. <https://doi.org/10.2308/accr.2008.83.1.61>
- Dyregang, S. D., M. Hanlon, E. L. Maydew, and J. R. Thornock. 2017. Changes in corporate effective tax rates over the past 25 years. *Journal of Financial Economics* 124 (3): 441–463. <https://doi.org/10.1016/j.jfineco.2017.04.001>

- Eysenck, H. J., D. K. Nias, and D. Cox. 1982. Sport and personality. *Advances in Behaviour Research and Therapy* 4 (1): 1–56. [https://doi.org/10.1016/0146-6402\(82\)90004-2](https://doi.org/10.1016/0146-6402(82)90004-2)
- Fama, E. F., and K. R. French. 1997. Industry costs of equity. *Journal of Financial Economics* 43 (2): 153–193. [https://doi.org/10.1016/S0304-405X\(96\)00896-3](https://doi.org/10.1016/S0304-405X(96)00896-3)
- Feng, M., C. Li, and S. McVay. 2009. Internal control and management guidance. *Journal of Accounting and Economics* 48 (2/3): 190–209. <https://doi.org/10.1016/j.jacceco.2009.09.004>
- Feng, M., W. Ge, S. Luo, and T. Shevlin. 2011. Why do CFOs become involved in material accounting manipulations? *Journal of Accounting and Economics* 51 (1/2): 21–36. <https://doi.org/10.1016/j.jacceco.2010.09.005>
- Francis, B., I. Hasan, Q. Wu, and M. Yan. 2014. Are female CFOs less tax aggressive? Evidence from tax aggressiveness. *The Journal of the American Taxation Association* 36 (2): 171–202. <https://doi.org/10.2308/atax-50819>
- Freixanet, M. G. 1991. Personality profile of subjects engaged in high physical risk sports. *Personality and Individual Differences* 12 (10): 1087–1093. [https://doi.org/10.1016/0191-8869\(91\)90038-D](https://doi.org/10.1016/0191-8869(91)90038-D)
- Gaertner, F. B. 2014. CEO after-tax compensation incentives and corporate tax avoidance. *Contemporary Accounting Research* 31 (4): 1077–1102. <https://doi.org/10.1111/1911-3846.12058>
- Gallemore, J., E. L. Maydew, and J. R. Thornock. 2014. The reputational costs of tax avoidance. *Contemporary Accounting Research* 31 (4): 1103–1133. <https://doi.org/10.1111/1911-3846.12055>
- Gow, I. D., A. Wahid, and G. Yu. 2018. Managing reputation: Evidence from biographies of corporate directors. *Journal of Accounting and Economics* 66 (2/3): 448–469. <https://doi.org/10.1016/j.jacceco.2018.08.009>
- Graham, J. R., and A. L. Tucker. 2006. Tax shelters and corporate debt policy. *Journal of Financial Economics* 81 (3): 563–594. <https://doi.org/10.1016/j.jfineco.2005.09.002>
- Graham, J. R., S. Li, and J. Qiu. 2012. Managerial attributes and executive compensation. *Review of Financial Studies* 25 (1): 144–186. <https://doi.org/10.1093/rfs/hhr076>
- Graham, J. R., M. Hanlon, T. Shevlin, and N. Shroff. 2014. Incentives for tax planning and avoidance: Evidence from the field. *The Accounting Review* 89 (3): 991–1023. <https://doi.org/10.2308/accr-50678>
- Guay, W. R. 1999. The sensitivity of CEO wealth to equity risk: An analysis of the magnitude and determinants. *Journal of Financial Economics* 53 (1): 43–71. [https://doi.org/10.1016/S0304-405X\(99\)00016-1](https://doi.org/10.1016/S0304-405X(99)00016-1)
- Guenther, D. A., S. R. Matsunaga, and B. M. Williams. 2017. Is tax avoidance related to firm risk? *The Accounting Review* 92 (1): 115–136. <https://doi.org/10.2308/accr-51408>
- Hanlon, M., and S. Heitzman. 2010. A review of tax research. *Journal of Accounting and Economics* 50 (2/3): 127–178. <https://doi.org/10.1016/j.jacceco.2010.09.002>
- Heckman, J. J. 1979. Sample bias as a specification error. *Econometrica* 47 (1): 153–162. <https://doi.org/10.2307/1912352>
- Hodge, F. D., S. Rajgopal, and T. Shevlin. 2009. Do managers value stock options and restricted stock consistent with economic theory? *Contemporary Accounting Research* 26 (3): 899–932. <https://doi.org/10.1506/car.26.3.11>
- Hribar, P., and D. Collins. 2002. Errors in estimating accruals: Implications for empirical research. *Journal of Accounting Research* 40 (1): 105–134. <https://doi.org/10.1111/1475-679X.00041>
- Jack, S., and K. R. Ronan. 1998. Sensation seeking among high- and low-risk sports participants. *Personality and Individual Differences* 25 (6): 1063–1083. [https://doi.org/10.1016/S0191-8869\(98\)00081-6](https://doi.org/10.1016/S0191-8869(98)00081-6)
- Jia, Y., L. V. Lent, and Y. Zeng. 2014. Masculinity, testosterone, and financial misreporting. *Journal of Accounting Research* 52 (5): 1195–1246. <https://doi.org/10.1111/1475-679X.12065>
- Kirkcaldy, B., and C. L. Cooper. 1992. Work attitudes and leisure preferences: Sex differences. *Personality and Individual Differences* 13 (3): 329–334. [https://doi.org/10.1016/0191-8869\(92\)90110-B](https://doi.org/10.1016/0191-8869(92)90110-B)
- Kleinbard, E. 2011. Stateless income. *Florida Law Review* 11: 699–774.
- Koester, A., T. Shevlin, and D. Wangerin. 2016. The role of managerial ability in corporate tax avoidance. *Management Science* 63 (10): 3285–3310. <https://doi.org/10.1287/mnsc.2016.2510>
- Law, K. K., and L. F. Mills. 2017. Military experience and corporate tax avoidance. *Review of Accounting Studies* 22 (1): 141–184. <https://doi.org/10.1007/s11142-016-9373-z>
- Lennox, C. S., J. R. Francis, and Z. Wang. 2012. Selection models in accounting research. *The Accounting Review* 87 (2): 589–616. <https://doi.org/10.2308/accr-10195>
- McGuire, S. T., S. S. Neuman, and T. C. Omer. 2013. *Sustainable tax strategies and earnings persistence*. Working paper, Texas A&M University, University of Missouri, and University of Nebraska–Lincoln.
- Mills, L., M. M. Erickson, and E. L. Maydew. 1998. Investments in tax planning. *The Journal of the American Taxation Association* 20 (1): 1–20.
- Olsen, K. J., and J. Stekelberg. 2016. CEO narcissism and corporate tax sheltering. *The Journal of the American Taxation Association* 38 (1): 1–22. <https://doi.org/10.2308/atax-51251>
- Phillips, J. D. 2003. Corporate tax-planning effectiveness: The role of compensation-based incentives. *The Accounting Review* 78 (3): 847–874. <https://doi.org/10.2308/accr.2003.78.3.847>
- Powers, K., J. R. Robinson, and B. Stomberg. 2016. How do CEO incentives affect corporate tax planning and financial reporting of income taxes? *Review of Accounting Studies* 21 (2): 672–710. <https://doi.org/10.1007/s11142-016-9350-6>

- Rajgopal, S., and T. Shevlin. 2002. Empirical evidence on the relation between stock option compensation and risk taking. *Journal of Accounting and Economics* 33 (2): 145–171. [https://doi.org/10.1016/S0165-4101\(02\)00042-3](https://doi.org/10.1016/S0165-4101(02)00042-3)
- Rego, S. O., and R. Wilson. 2012. Equity risk incentives and corporate tax aggressiveness. *Journal of Accounting Research* 50 (3): 775–810. <https://doi.org/10.1111/j.1475-679X.2012.00438.x>
- Rowland C. 2013. Tax lobbyists help businesses reap windfalls. *Boston Globe* (March 17). Available at: <https://www.bostonglobe.com/news/politics/2013/03/16/corporations-record-huge-returns-from-tax-lobbying-gridlock-congress-stalls-reform/omgZvDPa37DNISqi0G95YK/story.html>
- Schrand, C. M., and S. L. Zechman. 2012. Executive overconfidence and the slippery slope to financial misreporting. *Journal of Accounting and Economics* 53 (1/2): 311–329. <https://doi.org/10.1016/j.jacceco.2011.09.001>
- Segan, S. 2013. T-Mobile and Dish's worst problem: Charlie Ergen. *PC Magazine* (December 19). Available at: <http://www.pcmag.com/article2/0,2817,2428574,00.asp>
- Shi, W., B. L. Connelly, and R. E. Hoskisson. 2017. External corporate governance and financial fraud: Cognitive evaluation theory insights on agency theory prescriptions. *Strategic Management Journal* 38 (6): 1268–1286. <https://doi.org/10.1002/smj.2560>
- Staw, B. M. 1989. Intrinsic and extrinsic motivation. In *Readings in Managerial Psychology*, 4th edition, edited by H. Leavitt, L. Pondy, and D. Boje, 36–71. Chicago, IL: University of Chicago Press.
- Titmuss, R. 2018. *The Gift Relationship (Reissue): From Human Blood to Social Policy*. Chicago, IL: Policy Press.
- Westphal, J. D., and D. L. Deephouse. 2011. Avoiding bad press: Interpersonal influence in relations between CEOs and journalists and the consequences for press reporting about firms and their leadership. *Organization Science* 22 (4): 1061–1086. <https://doi.org/10.1287/orsc.1100.0563>
- Wilson, R. J. 2009. An examination of corporate tax shelter participants. *The Accounting Review* 84 (3): 969–999. <https://doi.org/10.2308/accr.2009.84.3.969>
- Zuckerman, M. 1983. Sensation seeking and sports. *Personality and Individual Differences* 4 (3): 285–292. [https://doi.org/10.1016/0191-8869\(83\)90150-2](https://doi.org/10.1016/0191-8869(83)90150-2)
- Zuckerman, M. 1994. *Behavioural Expressions of Biosocial Bases of Sensation Seeking*. Cambridge, U.K.: Cambridge University Press.
- Zuckerman, M. 2007. The sensation seeking scale V (SSS-V): Still reliable and valid. *Personality and Individual Differences* 43 (5): 1303–1305. <https://doi.org/10.1016/j.paid.2007.03.021>

APPENDIX A
Variable Definitions

Variables	Definitions
Tax Aggressiveness and Tax/Firm Risks Measures	
<i>PRED_SHELTER</i>	Following Wilson (2009) , predicted tax shelter is an indicator variable set equal to 1 for firms in the top quintile of the estimated probability of having a tax shelter based on the prediction model: $PRED_SHELTER = -4.86 + 5.2 \times BTD + 4.08 \times DAP - 1.41 \times LEV + 0.76 \times \log ASSETS + 3.51 \times ROA + 1.72 \times FOREIGN_INCOME + 2.43 \times RD_RATIO$; where <i>BTD</i> is total book-tax difference following Wilson (2009) ; <i>DAP</i> is discretionary accruals from the performance-adjusted modified Jones model, where total accruals are measured using the cash flow method of Hribar and Collins (2002) ; <i>LEV</i> is long-term debt scaled by total assets; $\log ASSETS$ is the log of total assets; <i>ROA</i> is pretax income scaled by total assets; <i>FOREIGN_INCOME</i> is an indicator variable equal to 1 if a firm reports non-zero foreign income, and 0 for other observations; and <i>RD_RATIO</i> is research and development expense divided by total assets.
<i>PRED_UTB</i>	Predicted uncertain tax position calculated following Rego and Wilson (2012) : $PRED_UTB = -0.004 + 0.011 \times PT_ROA + 0.001 \times \log ASSETS + 0.01 \times FOR_SALE + 0.092 \times RD_RATIO - 0.002 \times DISC_ACCR + 0.003 \times LEV + 0.000 \times MB + 0.014 \times SG\&A - 0.018 \times SALE_GR$; where <i>PT_ROA</i> is pretax income scaled by total assets; $\log ASSETS$ is the log of total assets; <i>FOR_SALE</i> is foreign sales divided by total assets; <i>RD_RATIO</i> is research and development expense divided by total assets; <i>DISC_ACCR</i> is discretionary accruals calculated from the performance-adjusted modified Jones model; <i>LEV</i> is long-term debt scaled by total assets; <i>MB</i> is the market-to-book ratio; <i>SG&A</i> is selling, general and administrative expenses divided by total assets; and <i>SALE_GR</i> is the three-year average sales growth rate. The final value of <i>PRED_UTB</i> is multiplied by 100.
<i>CV_CASHETR</i>	The coefficient of variation in <i>CASH_ETR</i> is the standard deviation of the annual <i>CASH_ETR</i> from year <i>t</i> to year <i>t+3</i> divided by the mean of the annual <i>CASH_ETR</i> over the same period (McGuire et al. 2013).
<i>ADJ_CASH_ETR</i>	Industry- and size-adjusted long-term cash effective tax rate, calculated as the negative of a firm's <i>CASH_ETR</i> less the mean value of <i>CASH_ETR</i> for all firms in the same industry and same quintile of firm size in the year. <i>CASH_ETR</i> is the sum of cash paid for taxes over years <i>t</i> to <i>t+3</i> divided by the sum of pretax income over years <i>t</i> to <i>t+3</i> .
CEO Sports Risks	
<i>SPORTS_RISK</i>	Maximum of the injury rates of the sports hobbies for a CEO. Sports injury rate is measured as the injury number of one particular sport reported by NEISS divided by the total number of participants in the sport aged 25–85 based on the statistics from the U.S. Census Bureau's Statistical Compendia Branch. As the numerator and the denominator in calculating <i>SPORTS_RISK</i> come from two different sources with the participation data based on survey samples, the value of the measure is not bounded between [0,1].
<i>D_SPORTS_RISK</i>	A dummy variable indicating a CEO discloses at least one of the following extreme sports as his/her hobbies: using firearms, flying airplanes (flying engine airplanes), ice climbing, riding motorcycle/motor bikes, mountain/rock climbing, racing cars, scuba diving, ski racing, and windsurfing, and 0 otherwise.
<i>SPORTS_FATAL</i>	Sports-related fatality rate, measured by 1,000 times the sports fatality rate, defined as the number of death counts related to a sport based on whether the narratives of the disposition of the sport-related injury in NEISS include the word "died," "death," or "fatality," divided by the total number of participants in the sport aged 25–85 years old based on the statistics from the U.S. Census Bureau's Statistical Compendia Branch.
CEO Characteristics	
<i>DISCLOSURE</i>	An indicator variable that equals 1 if the CEO discloses his/her sports hobbies, and 0 otherwise.
<i>PAY_SLICE</i>	Percentage of a CEO's total pay in the year, including salary, bonus, other annual pay, and the total value of restricted stock granted, the Black-Scholes value of stock options granted, long-term incentive payouts, and all other total compensation, divided by the aggregated total pay for the top five executives in Execucomp. In cases where there are fewer than five executives disclosed, the pay slice measure is adjusted accordingly. For example, if Execucomp only discloses four executives, then we assume the fifth executive is paid the same as the fourth executive.
$\log \Delta$	Natural logarithm of 1 plus the pay sensitivity of the CEO's equity portfolio based on a 1 percent change in the share price of the firm. The CEO's equity portfolio includes stock options, restricted shares, and shares held by the CEO.
$\log VEGA$	Natural logarithm of 1 plus pay sensitivity of the CEO's equity portfolio based on a 1 percent change in the volatility of the firm's stock price.
<i>MILITARY</i>	An indicator variable that equals 1 if the CEO has previous military experience based on Who's Who search results, and 0 otherwise.
<i>CEO_DUALITY</i>	An indicator variable that equals 1 if the CEO is also the chairman of the board, and 0 otherwise.

(continued on next page)

APPENDIX A (continued)

Variables	Definitions
<i>CEO_ABILITY</i>	CEO ability measure based on Demerjian, Lev, Lewis, and McVay (2013). The data are available at https://peterdemerjian.weebly.com/managerialability.html
<i>MALE</i>	An indicator variable that equals 1 if the CEO is male, and 0 otherwise.
<i>MARRIED</i>	An indicator variable that equals 1 if the CEO is married at the time of the data collection time in 2015, and 0 otherwise.
<i>BORN_DEPRESSION</i>	An indicator variable that equals 1 if the CEO was born between 1920 and 1929, and 0 otherwise.
<i>OC</i>	An indicator variable that equals 1 if a CEO is categorized as being overconfident, and 0 otherwise. A CEO is overconfident if his/her firm meets the requirements of at least two of the following four criteria: (1) $AD_XSINVEST > 0$, where $AD_XSINVEST$ is the residual from a regression of total asset growth on sales growth, adjusted for the industry median; (2) $AD_ACQUIRE > 0$, where $AD_ACQUIRE$ is the net acquisitions from the statement of cash flows, adjusted by the industry median; (3) $AD_DERATIO > 0$, where $AD_DERATIO$ is the debt-to-equity ratio defined as long-term debt plus short-term debt, scaled by the total market value of the firm adjusted by the industry median; and (4) $RISKYDT = 0$, where $RISKYDT$ is an indicator variable that equals 1 if either convertible debt or preferred stock is greater than 0; and 0 otherwise.
$\log CEO_AGE$	Natural logarithm of the CEO's current age (in years).
$\log CEO_TENURE$	Natural logarithm of the CEO's tenure in the firm (in years).
Instrumental Variables	
<i>PUBLICITY</i>	Number of Google results from keyword searches for each CEO's publicly available biographical data, using the keyword combinations "CEO Name" and "Company Name" and "Biography or Biographical."
Control Variables	
<i>RD_RATIO</i>	Research and development expense ratio, calculated as the total research and development expense (XRD) divided by total sales ($SALE$). RD_RATIO equals 0 if the value of XRD is missing.
<i>INTAN</i>	Intangible assets ratio, calculated as the total value of intangible assets ($INTAN$) scaled by total assets (AT).
<i>PPE</i>	Total property, plant, and equipment ratio, calculated as the total value of net property, plant, and equipment ($PPENT$) divided by total assets (AT).
<i>CAPX</i>	Capital expenditure ratio, calculated as the total capital expenditure ($CAPX$) scaled by the net value of property, plant, and equipment ($PPENT$).
<i>LEV</i>	Leverage, calculated as the ratio of total debt ($DLTT + DLC$) scaled by total assets (AT).
<i>SPI</i>	Special items ratio, calculated as the total special items (SPI) scaled by average total assets. The value of SPI equals 0 if the data item is missing from Compustat.
<i>MNE</i>	An indicator variable that equals 1 if pretax foreign income ($PIFO$) is non-zero or foreign tax expense is non-zero, following Dyreng et al. (2017), and 0 otherwise.
<i>NOL</i>	An indicator variable that equals 1 if tax loss carryforward ($TLCF$) is a positive number at the beginning of the current year, and 0 otherwise. The measure is constructed following Cheng, Huang, Li, and Stanfield (2012).
ΔNOL	The change in net operating loss, calculated as the difference between current and lag tax loss carryforward ($TLCF$) scaled by lagged total assets (AT).
<i>MB</i>	Market-to-book ratio, calculated as market value of equity ($PRCC_F * CSHO$) divided by book value of equity (CEQ).
$\log ASSETS$	Firm size, calculated as the natural logarithm of total assets (AT).
<i>ROA</i>	Return on assets, calculated as net income (NI) minus extraordinary items (XI) scaled by average assets (AT).
$\log MV$	Natural log of the market value of a firm's common equity ($PRCC_F * CSHO$).
<i>BIG4</i>	An indicator variable that equals 1 if the company is audited by one of the Big 4 auditors, and 0 otherwise.
$\log ANALYSTS$	Natural log of the number of analysts following the firm.
<i>LITIGATE</i>	An indicator variable that equals 1 for all firms in the biotechnology (2833–2836 and 8731–8734), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retail (5200–5961) industries, and 0 otherwise.
<i>LOSS</i>	An indicator variable that equals 1 if the firm reported losses (NI) in the current period, and 0 otherwise.
<i>NEWS</i>	An indicator variable that equals 1 if the current-period EPS ($EPSFI$) is greater than or equal to the previous-period EPS ($EPSFI$), and 0 otherwise.
$\sigma EARN$	The standard deviation of quarterly earnings (IBQ) over 12 quarters ending in the current fiscal year, divided by median asset value (ATQ) for the period.
<i>BETA</i>	The equity beta of the market model for the past 36 months using CRSP monthly stock returns.
<i>FD</i>	An indicator variable that equals 1 if the observation is related to the post-Reg FD period (after October 2000), and 0 otherwise.
<i>INST</i>	The percentage of the company's aggregate common stock held by institutions at fiscal year-end.